Stephen Birch | Junko Ida | Sascha Gröbe (EBTA)
Zoe Brenner | Brenda Loew | Dan Zizza (TANA)
Ted Pearson (ABTA)

A Matter of Dose?

Treating Sensitive Patients

TABLE OF CONTENTS

Introduction 1

Terminology 3

Models for Understanding Dose 5

- How a low-dose treatment might work 9
- Less is better 11

Dose and the Sensitive Patient 14

- Reactions to treatment overdose 19

Clinical Implications 24

- Handling the sensitive patient 24
- Additional clinical issues 28
- Diagnostic evaluations 31
- Touching diagnosis 33

Adaptations of Dose for the Sensitive Patient 35

- Reducing the dose in root treatment 37
- Managing dose for the branch treatments 42
- Correction of treatment overdose 45
- Treatment under-dose 45

Additional Clinical Cases 48

Appendix A 67

Appendix B 76

Appendix C 81

Appendix D 108

Appendix E 109

References 111

Cover image: Photo by cottonbro studio, https://www.pexels.com/photo/a-man-holding-weighing-white-powder-8666817/

Introduction

In the practice of Toyohari, it is very important to understand how to judge the dose needs of the patient and adjust treatment accordingly (Shinoda 2005 Lecture). It is vital not to over-treat the patient by doing too much (Murakami 2010; Shinoda 2010). We are taught that after applying the four diagnoses in order to determine our pattern selection (*sho*) and treatment, we should first judge the dose needs and prognosis of the patient and make judgements about needling methods (Fukushima 1991; Takai 1995 Lecture). To do this, we require a working knowledge of what makes people more sensitive so that we can apply appropriate treatment and dosage. In this paper we will draw on lectures given by Japanese teachers and on work that some of the authors have done over the years in practice and in an effort to describe and model dose and treatment adjustment.

"Understanding dose is a lifetime of work."

Kasumi 2003 Lecture

The idea of dose is not easy to understand and even more difficult to describe. This difficulty is perhaps one of the reasons why other forms of acupuncture like TCM have said almost nothing about it over the last decades.[1] Despite the virtual lack of publications on the subject within the broader acupuncture field and the difficulty of both understanding and making judgements about dose needs, we will attempt to lay out as much detail as we can and give concrete advice to aid clinical practice. We will extend the discussions specific to Toyohari acupuncture to examine medical and scientific literature about dose and sensitivity and explore historical ideas based on Traditional East Asian Medicine (TEAM) to develop models for understanding this complicated topic.

In this paper we will outline the following:

- The role of dose
  - What do we mean by dose and sensitivity?
  - What role does dose have in the clinical practice of Toyohari?
- Models and explanations
  - Models for understanding how increased sensitivity arises and ways of modelling that increased sensitivity
  - Biological thoughts on how increased sensitivity arises
  - How to interpret over-treatment effects and adjust dosage accordingly
  - Clinical considerations

[1] One of the authors (Stephen Birch) was asked to give an in-house lecture in 2012 to the faculty of the university college in Oslo, Norway, where he holds an associate professorship. He chose to lecture on the topic of dose and sensitive patients. There were about fifteen faculty members present, each with between ten and thirty-five years of experience as TCM clinicians. He had hardly broached the subject before some of the faculty in the room started questioning what he was saying and arguing with him on the topic. Most of the arguments were along the following lines: "We don't know what you're talking about. We never see overdose reactions in our patients when we do our (TCM) acupuncture, so the whole notion seems unnecessary." Treatment overdose seemed not to be included as a way of thinking in TCM acupuncture. Dosage is a very important feature of the safe and effective practice of Chinese herbal medicine but is not usually mentioned for acupuncture (CTCMA et al. 2012). Some earlier non-TCM acupuncture literature has talked around the issue of dose by stating how needling needs to be milder for weakened patients, for example (Bischko 1986; James Tin Yau So, lecture, New England School of Acupuncture, Watertown, MA, USA, 1981), but we have found little in mainstream TCM acupuncture literature on this topic.

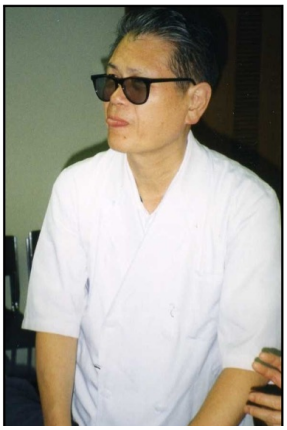
© 2023 International Toyohari Association. All rights reserved.

- Clinical signs
  - Signs that a patient may be more sensitive
  - Problems that tend to make people more sensitive
  - Signs of over-treatment
- Treatment implications
  - Adjusting the dose of treatment
  - Handling the sensitive patient
  - Ways of adjusting needling and other treatment techniques when someone is more sensitive and requires lower-dose treatment
  - Ways of adjusting the dose of treatment for more sensitive patients
  - Correcting over-treatment

Akihiro Takai

Toshio Yanagishita

Yoshio Manaka



Shozo Takahashi

Teachers who have been instrumental in helping us understand dose

Yutaka Shinoda

Kodo Fukushima

Haruhiro Kasumi

Michio Murakami

© 2023 International Toyohari Association. All rights reserved.

Terminology

As we can see in Box 1, there are a number of everyday and medical meanings for the basic terms of dose, sensitivity, and hypersensitivity.

In medical terms a patient is commonly described as being "hypersensitive" when their immune systems shows strong reactions to allergens (Basu and Banik 2018).[2] In recent years hypersensitivity has also started to be recognised in relation to broader environmental factors, including emotional responses.

In the general acupuncture research literature, it has been difficult to agree on terms and concepts of treatment dose owing to the huge variation in treatment styles, techniques, and theories. Consequently, most efforts at defining the dose of acupuncture treatment have tended to focus on more easily defined parameters such as averages and minimal number of points treated and number of treatment sessions (Birch 1997; Stux and Birch 2001; White et al. 2008). It is less common to find discussions on the dose of acupuncture treatment in relation to the intensity of treatment given and especially the process of how to handle sensitive patients (Bischko 1986; So 1981 Lecture).

Box 1: Terminology[3]

Dose

Etymology: "Middle English, from Middle French, from Late Latin *dosis*, from Greek, literally, act of giving, from *didonai* to give"

Definition (noun): "1a: the measured quantity of a therapeutic agent to be taken at one time; 1b: the quantity of radiation administered or absorbed; 2: a portion of a substance added during a process; 3: an amount of something likened to a prescribed or measured quantity of medicine <a daily *dose* of hard work> <a *dose* of scandal>"; (verb): "1: to give a dose to, *especially*: to give medicine to; 2: to divide into doses <*dose* a medicine>; 3: to treat with an application or agent"

Sensitivity

Definition: "The quality or state of being sensitive: such as a: the capacity of an organism or sense organ to respond to stimulation: irritability; b: the quality or state of being hypersensitive; c: the degree to which a radio receiving set responds to incoming waves; d: the capacity of being easily hurt; e: awareness of the needs and emotions of others"

And medically: "The quality or state of being sensitive: as a: the capacity of an organism or sense organ to respond to stimulation; b: the quality or state of being hypersensitive"

Hypersensitive

Definition: "1: excessively or abnormally sensitive; 2: abnormally susceptible physiologically to a specific agent (such as a drug or antigen)"

[2] This paper has a good overview of the types of hypersensitivity reactions and different pathways involved.

[3] All quoted material in box below from *Merriam-Webster's Collegiate Dictionary*, s.v. "dose", accessed 4 August 2021, https://unabridged.merriam-webster.com/collegiate/dose; *Merriam-Webster's Collegiate Dictionary*, s.v. "sensitivity", accessed 4 August 2021, https://unabridged.merriam-webster.com/collegiate/sensitivity; *Merriam-Webster's Medical Dictionary*, s.v. "sensitivity", accessed 4 August 2021, https://unabridged.merriam-webster.com/medical/sensitivity; *Merriam-Webster's Collegiate Dictionary*, s.v. "hypersensitive", accessed 4 August 2021, https://unabridged.merriam-webster.com/collegiate/hypersensitive.

© 2023 International Toyohari Association. All rights reserved.

Problems commonly associated with heightened sensitivity or that potentially trigger heightened sensitivity:

- fatigue
- sleep problems
- mood disturbance
- anxiety
- psychological distress
- pain

In addition, various environmentally related factors can trigger hypersensitivity—such as allergies, food or chemical "intolerances", and toxins—as can physical dysregulation such as autonomic imbalance or certain neurologic, hormonal, or autoimmune disorders. Some people are more sensitive by nature rather than this being an indication of health problems. Musicians and artists are often more sensitive. Many healthcare workers are or become more sensitive. The heightened sensitivity is not in itself a problem, but it can cause problems if the person does not understand their sensitivity and how they react to things. Whatever the reason for heightened sensitivity, when a patient is more sensitive, their dose requirements decrease. They tend to react to things more easily and strongly. Generally, we find that "less is more", although it is, of course, more complicated than that.

The relevance of understanding the heightened sensitivity of patients in Toyohari practice cannot be overstated. If our treatments are adjusted to match the degree of normal or sensitised reactions in the patient, our treatments are more effective. This is most obvious when we treat babies and small children. Delivering the correctly matched dose of treatment can trigger immediate changes in symptoms, while delivering a mismatched dose of treatment can trigger negative reactions instantly (Birch 2016—especially the examples of the two ADHD boys (57–58) and Dianne (25), in whom the overdose reactions appeared within seconds). In adults it is more common that you have to wait until the next visit to be able to judge what the impact of your treatment was. Did the symptoms or condition of the patient improve or were there signs that something was not optimal or wrong? Toyohari was developed by very sensitive practitioners evaluating very subtle signs related especially to the condition of qi in the patient or in the area being examined. We are trained to see change before the patient describes it, which helps us to observe it as it happens. Thus, although it is not always easy to do, we are able to assess what our treatment does by gauging these subtle changes: this considerably improves our ability to adjust and match the dose of our treatment to patients. In order to inform our ability to judge the dosage requirements of our patients, we need to outline what sensitive patients look like and what findings we might observe in our clinical examination so that we can develop consistent, appropriate assessment and treatment procedures. The sensitive patient can assist us in our assessments as they can, at times, describe changes in their body very precisely. Learning how to understand and make use of patient descriptions is also valuable.

© 2023 International Toyohari Association. All rights reserved.

Models for Understanding Dose

In the early pre-medical and medical literatures from China, when qi was talked about it was commonly done so with reference to the emotions (Birch et al. 2014). In the pre-medical literatures (e.g. Confucian, early Daoist) there was an implicit assumption that the expression of emotion causes or reflects disturbance of your qi.

Since for the authors of these literatures the goal was to cultivate oneself to become a better (superior) person, capable of leading the people, it was fundamentally important that one learn to control one's emotions (Sommers 2014). In the early medical literature (*Huangdi neijing*) emotions were defined with respect to the kind of qi disturbance they involve (Birch et al. 2014). Emotions disturb the qi, and this disturbed qi is the emotion. Since a primary goal of the *Neijing* literature was to attempt to empower people to take care of their own health, regulating one's own emotions in order not to disturb the qi became pivotal (Unschuld 2016; Birch 2020). Thus a fundamental underlying feature of TEAM thinking from the time of the *Neijing* was the importance of regulating one's emotions as a strategy to help regulate one's qi and thus one's physiology and health. This is the principal reason why, in meridian therapy in general and explicitly in Toyohari, the statement found in *Suwen* chapter 5 that the 'lung controls the qi' is fundamentally understood to relate to this notion of emotional regulation. The 'lung controlling the qi' is understood to associate emotional issues with the lungs. By extension, we can posit that one of the functions of the lungs is to regulate the emotions. If the lungs are weak, one may be predisposed to having a weakened ability to regulate one's emotions, with all the psychophysical or somatopsychic manifestations that can result from this (Unschuld 2003). Why is this important relative to the notion of dose and the sensitive patient?

"The qi of an organ, i.e. its resources, are depleted most easily by the emotions."

Unschuld 2016, 9

"A treatment with needles and moxibustion always serves to regulate the qi in the conduits."

Lingshu, chapter 12, Unschuld 2016, 217

A common characteristic of the sensitive patient is that they have difficulty with their emotions (Shinoda 2005 Lecture; Kasumi 2003 Lecture). Heightened sensitivity can arise across a number of fronts, both psycho-social and physical (see discussions below about possible biological mechanisms that can be involved). Difficulty regulating emotional reactions and daily emotions results in ongoing or continuous dysregulation of the qi. When someone has difficulty regulating their qi because of difficulty regulating their emotions, this naturally sensitises the person. While in babies and children this is a characteristic feature of their diagnosis and treatment, in adults it is much more complicated (Birch 2016). This common association between emotional qi dysregulation and heightened sensitivity clearly correlates with biomedical models (see below). It also correlates with the stipulated function of needling in the *Lingshu*'s "definition" of acupuncture: "Needling is (done for the purposes of) regulating the qi" (Birch et al. 2014; Rochat de la Vallée 2006). Regulation of qi is the principal purpose of treatment—Unschuld (2016) has quite clear discussions of this. When the patient is unable to control their emotions sufficiently, so that qi disturbances and symptoms are triggered, then we

© 2023 International Toyohari Association. All rights reserved.

apply needling to assist in helping restore this regulation of the qi. From our point of view as therapists, what we observe is that the qi of the sensitive patient moves more easily than that of other people. We might call the sensitive patient one who is more "qi labile", meaning that their qi moves more easily. This increased ease of movement occurs with inadequate emotional regulation—it can occur when we needle and when we touch. It can also occur when the patient is in a more rundown condition, when their *seiki* (*zhengqi* 正氣) is deficient.

Qi is often discussed in the explicit acupuncture literature in relation to hypothesised *zang-fu* functions, various subsets of qi, and so on, each with its own function and characteristic symptoms of dysfunction. But qi was also talked about in a non-differentiated manner. For example, in Toyohari it is common to hear teachers discussing the *seiki*. In addition to disturbances of the specific functional systems of the meridians, this more global qi can also become disturbed (Birch 2009, 2020; see also description of seven named types of global qi in Birch et al. 2014). This "global qi" can be deficient (often called "qi deficiency" and frequently seen in the condition we call "yang deficiency" in Toyohari). When the qi is deficient, this tends to leave the patient feeling more tired than usual or even really fatigued or exhausted. When the qi is run down, we often find that the patient also tends to become more sensitive. Fatigue, like affective/mood problems, is a common factor associated with heightened sensitivity in patients. Just as treatment is aimed at regulating the qi, which explicitly involves tonifying the meridians that are *kyo* and draining the meridians that are *jitsu*, so too does the manner of needling play a role in helping with this qi regulation. This aspect has to do with techniques and skill levels (Birch et al. 2014—esp. Sommers 2014; Chace and Bensky 2014; and Birch 2014).

Many patients who come to us for treatment either want to address mood or affective problems or have additional complaints associated with them. This is to be expected since such disturbances are very commonly associated with symptoms that patients present with such as chronic pain (musculoskeletal and neurological disorders or pain due to multiple other pathological conditions), menopausal problems, cancer-related issues, and so on. One of the other features we find in these patients is that they often complain about feeling tired or fatigued, which is also a common symptom associated with the above and many other conditions. Appendix A briefly discusses typical patterns of symptoms associated with common problems, each having at their heart associated fatigue and affective/mood disturbances.

If we think about the theories of TEAM, we can also consider a larger picture which appears to derive originally from the *Yijing* or "Book of Changes". Known to predate all the above-mentioned authors and texts, the *Yijing* describes (human) life as arising from the interaction of Heaven and Earth. This is a very old construct leading to three hypothesised levels: Heaven – Person – Earth. The influences of Heaven were seen in relation to how one improves or cultivates oneself (Birch et al. 2014) and are also associated with environmental factors such as the influences of planetary/stellar bodies, the seasons, and the weather—today in China and Japan the term weather is translated as *tianqi* (Japanese: *tenki*), literally Heaven qi (Birch et al. 2014). The period of medical developments that culminated in the *Huangdi neijing* introduced the importance of the seasons and the weather—also as part of the goal of self-empowering the individual since they can take actions to protect themselves from inclement weather and act

© 2023 International Toyohari Association. All rights reserved.

according to the seasons (Unschuld 1985, 70–73; 2016). In the context of the current discussions, the important issue is that humans interact with influences from Heaven and Earth. In those interactions some people react more strongly than others. Simple examples of this include the lung- or kidney-deficient type of person who may react more strongly and adversely to the influences of cold. The liver deficient type of person may react more strongly and adversely to the influences of a draught or wind.[4] These are examples of increased sensitivity. But this process of interaction between the individual and the environment (Heaven and Earth) also includes other people and other objects, living organisms. Heightened sensitivity can arise at many levels in this complex interplay of influences, which include physical, mental, emotional, and psychosocial factors. As mentioned above, the relationship between qi and the emotions was considered fundamental even before the *Neijing* texts, but with them these environmental influences also come to be associated with qi. The importance of this for understanding sensitive patients and adjusting treatment dose is that in addition to emotional/mental influences, the volume or amount of qi available (strong or weak *seiki*) and disturbances in how the individual reacts to things in the environment are also important in triggering heightened sensitivity or are commonly associated with it. This heightened sensitivity may be due to emotional reactions to physical events or people or to a *seiki*-deficient patient being overwhelmed by or unable to respond adequately to these physical events. It could be that the qi-based reactions are overly strong or dysregulated due to increased ease of qi mobility or weakened regulation of qi in the body. We will see below that these various factors closely match evolving thinking in the biological/medical literature about the sensitive patient and increased sensitisation.

A simple model of this can be seen in the following diagrams. Stephen Birch (SB[5]) developed these diagrams as an aid to teaching and has also found them useful for grasping the bigger clinical picture of what is happening with our patients and efforts to understand patients' clinical presentations (Birch 2009, 2014, 2016, 2020).

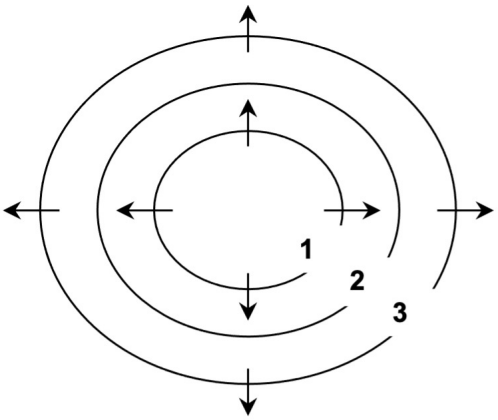
---

[4] We can expand this idea further: weather-related factors like heat and wind move more, and more quickly, than say damp and cold. Increased sensitivity to these two factors could also indicate heightened sensitivity caused by the more rapid action or mobility of the qi response. On the other hand, weather-related factors like cold and damp move less, and more slowly, so sensitivity to them might be less likely to trigger heightened sensitivity.

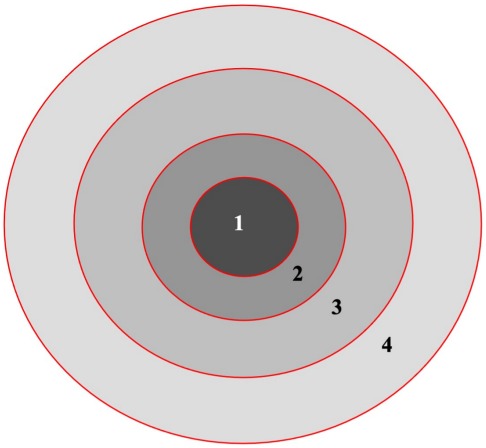
[5] The authors will hereafter be referred to in many cases using their initials only.

© 2023 International Toyohari Association. All rights reserved.

In his book on *shonishin* (Birch 2016), SB described how to handle the treatment of children and the basic goals and underlying methods involved in treating children and babies. It is particularly important to minimise or eliminate unnecessary emotional reactions in response to what we are doing, as these can interfere with treatment. We need to do as much as we can to help the child maintain emotional calmness. In the book SB modelled this, expanding earlier models describing Toyohari treatment effects at three levels (Birch 2009). Level 1 represents the functional structural systems of the body (all organs—including locomotor organs). Level 2 represents the *jingmai* or meridian system, which traditional theory tells us helps regulate the internal functional systems (represented by Level 1). Level 3 represents the vitality of the patient, their overall or global qi (e.g. *yuanqi*, *zhengqi*, *shengqi*, *shenqi*). This helps further regulate the meridian and functional systems in the levels below it.



SB then extends this model to include a further level, the mental (including emotional) level. If this Level 4 is regulated (calmed), it can help contribute towards an increased regulation of the levels below it (vitality, meridians, and functional systems).



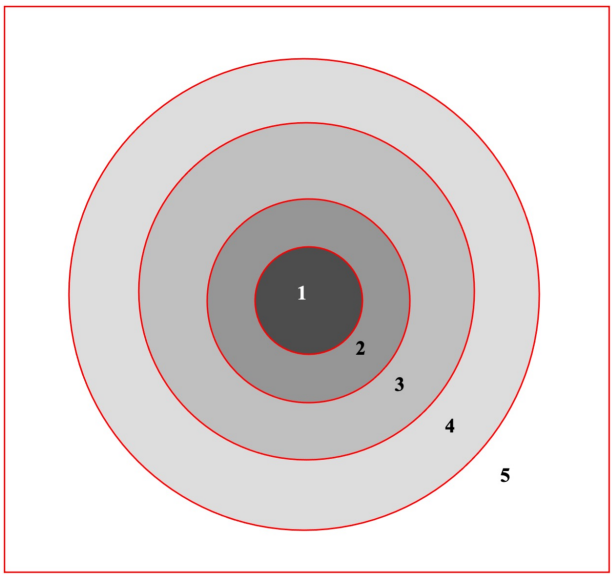
In children, the manner in which we handle the patient and try to make sure that we cause no additional upset, fear, or distress to them will affect Level 4, helping trigger some degree of increased ordering of the levels below. How we handle the adult patient, while more complicated, can also have an important impact on Level 4 and on how it influences the levels below.

In adults, we also work to keep the patient quiet and calm while we perform our root treatments (Level 4). The root treatment targets Level 2, the meridian system, but also works very much on the patient's vitality, Level 3, helping trigger increased regulation of the levels below it (Birch 2014). The various supportive treatments we use in Toyohari help further change the functional, structural, and physical systems to relieve symptoms, i.e. they work mostly on Level 1. Thus, the whole Toyohari treatment accesses and works at all four levels (Birch 2014).

In addition to our work at these four levels, we also talk with the patient and through our words, advice, and actions we may also seek to influence how the patient interacts with or responds to their environment, whether that be by increasing their emotional and physical resilience so that they can cope with things that happen or by affecting how they act around or respond to environmental factors such as the weather and so on. The model is thus expanded to include a

© 2023 International Toyohari Association. All rights reserved.

fifth level that is quite simply described as the "environment" and can include the traditional model of Heaven-Earth and all that that implies.



When our work successfully influences Level 5, it can in turn have positive influences on the other levels. In principle, we apply treatments to influence all five levels in a patient.

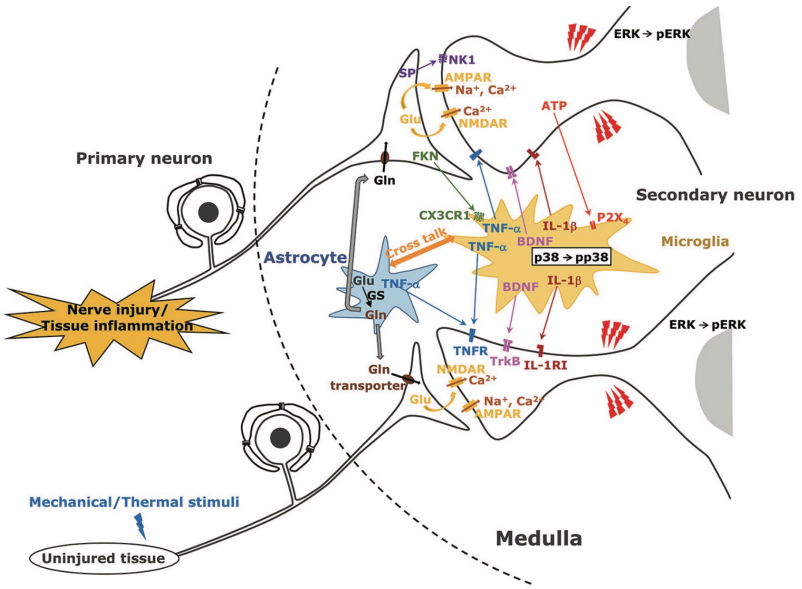
This is described here in this context because when we look at the sensitive patient, we see that it is mostly disruptions at Levels 3 (vitality/seiki) and 4 (psycho-emotional condition) that are associated with or responsible for triggering the increased sensitivity of the patient, who often has environmental sensitivities (Level 5).

How a low-dose treatment might work

Proposals for scientific/biological explanations of the sensitive patient

There are important neurological models and environmental models that help us understand how heightened sensitivity may arise and in what kind of people, as well as what kind of health problems may occur.

As expected, there are pretty obvious biological explanations for at least some of the heightened sensitivity of patients. We summarise information about the best candidates but refer the reader to the appendices which cover a broader range and give more detail. See, in particular, Appendix B and Appendix C.



Shinoda et al. 2020, 133

© 2023 International Toyohari Association. All rights reserved.

The autonomic nervous system (ANS) is clearly one of the major systems—if not the major system—that can help us understand heightened sensitivity. Many things have been written about this system, but probably the best and most thorough is Wilfrid Jänig's book *The Integrative Action of the Autonomic Nervous System*. For those wanting to learn more, we recommend this book and quote a little from it, as he states our point very clearly for us. In his introduction to the book, he writes:

> " All living organisms interact continuously with their environment. They receive multiple signals from the environment via their sensory systems and respond by way of their somatomotor system. Both sensory processing and motor actions are entirely under control of the central nervous system.…
>
> The body's motor activity and behavior are only possible when its internal milieu is controlled to keep the component cells, tissues and organs (including the brain and skeletal muscles) maintained in an optimal environment for their function (Jänig 2006, 1).

He then goes on to list the systems that this necessarily involves in the short term:

- fluid matrix of the body (fluid volume regulation, osmoregulation),
- gas exchange with the environment (regulation of airway resistance and the pulmonary circulation),
- ingestion and digestion of nutrients (regulation of the gastrointestinal tract, control of energy balance),
- transport of gases, nutrients and other substances throughout the body to supply organs, including the brain, to maintain consciousness (regulation of blood flow and blood pressure by the cardiovascular regulation),
- excretion of substances (disposal of waste),
- body temperature (thermoregulation),
- reproductive behavior (mechanics of sexual organs)
- defensive behaviors (1)

And in the long term:

- body recovery (control of circadian rhythms, of sleep and wakefulness),
- development and maintenance of body organs and tissues,
- body protection at the cellular and systems level (regulation of inflammatory processes, control of the immune system) (1–2).

The principal systems responsible for these controlling influences are the ANS and the endocrine system. This description essentially summarises the pivotal role that the ANS plays in how the individual interacts with and flourishes within their environment and the complex interplay of internal factors and external influences. We saw above that how the individual interacts with their environment is a key aspect of TEAM modelling and that the way these interactions occur can result in heightened sensitivity. The ANS also plays a key role in the manifestation and expression of emotions (492–94; see also Appendix D). We also saw above that the fundamental link between the emotions and qi is a primary trigger for how heightened sensitivity can arise. One final link between the ANS and TEAM theories requires more explanation than we have time to cover here, but there is some evidence that acupuncture influences the ANS (Ernst and Lee 1985a, 1985b; Haker et al. 2000; Li et al. 2013; Nishijo et al. 1997; Sugiyama et al. 1995; Suter and Kistler 1999; Tanaka 1996; Wang et al. 2002)—also that acupuncture whose aim is to balance the meridian system might do this by mediating the ANS

© 2023 International Toyohari Association. All rights reserved.

balance (possibly suggesting that the meridians interact directly with the ANS) (Hyodo 1975; Nakatani and Yamashita 1977; Oda 1989). Finally, there is evidence that the observed cardiovascular changes that we create with our Toyohari root treatment—confirmed by pulse changes (O'Brien et al. 2013)—must involve the ANS at least as a key player for how the effects are created (Birch 2005).

You can find more details about the biomedical understanding of heightened sensitivity in the appendices.

Less is better

How is it that less can be more effective than more?

In addition to understanding how increased sensitivity develops, we also need to understand how very low-dose treatments can work. In recent decades an old concept has been redefined that may help us understand how a lower dose of treatment may beneficially influence the patient. In the late 19th and early 20th centuries, two doctors in Germany, Rudolph Arndt and Hugo Schulz, conducted certain experiments and drew conclusions from their findings about how lower doses of a toxic substance could trigger healthful effects while higher doses trigger toxic, negative effects. This was called the "Arndt-Schulz law" (Calabrese 2016). This idea lost traction after others performed experiments that did not produce the same results in the early part of the 20th century.[6] Others have also expressed the idea that tiny stimuli or signals produce therapeutic effects: Russian doctor Alexey Speransky (1943, 347), for example, invoked the rule "that only weak degrees of irritation can have a useful significance; strong ones inevitably do damage". Although this idea did not generally catch on in the scientific community, in recent decades it has been recast under the name "hormesis". While the theory of hormesis is gaining traction in the scientific community, it is not yet widespread. However, for our purposes, it points to an evolving understanding of how a very low dose of treatment might trigger big changes under the right circumstances. This is important because in modern medicine the concept of dose of treatment is by and large influenced by pharmacological thinking. Much of modern pharmacology is based on assumptions rooted in scientific experiments about how to calculate the required dose of a drug for it to be effective in a patient. Factors that influence

"Hormesis is a term used by toxicologists to refer to a biphasic dose response to an environmental agent characterized by a low dose stimulation or beneficial effect and a high dose inhibitory or toxic effect. In the fields of biology and medicine hormesis is defined as an adaptive response of cells and organisms to a moderate (usually intermittent) stress."

Mattson 2008

[6] In the early 1980s, when SB was working with Kiiko Matsumoto, she reported that acupuncture schools in Japan taught the Arndt-Schulz law as a way to help understand how acupuncture might work. She was both surprised and disturbed when none of us had heard of this "law" and was only persuaded to stop talking insistently about it when SB tracked down a series of studies and papers in German at the Harvard Medical Library dating from the early 20th century, which, once translated, turned out to "disprove" the "law" since the results were not reproducible.

© 2023 International Toyohari Association. All rights reserved.

these decisions about the correct dosage of a drug (the number of milligrams in each pill) and the frequency that the drug must be taken include the following: known levels of action on target receptors in the body and optimal blood concentrations to achieve the correct dosage; rate of absorption of the drug from the gut; rate of breakdown or elimination of the drug from the bloodstream. We know that the prescription of a drug for an adult will tend to fall into prescribed ranges based on extensive research and experience and that the doses are lower for patients like children.[7] But in general there tend to be prescribed and fixed approaches that do not always adapt well to the needs of individual patients. For example, it is not uncommon for a patient to tell us that they could not tolerate the medicine they were prescribed and that they started cutting it in half or into quarters and that the drug works well for them at these lower doses. There is considerable variation in how practitioners in different medical communities deal with or handle such patients. These prescriptive approaches will change as the new medical approaches of systems biology and "individualised medicine" become more common, but that is not yet relevant here (Hamburg and Collins 2010; Nicholson 2006).

The healthful responsiveness of patients to low-dose stimulus or input is a key feature of Yoshio Manaka's (1995) brilliant theories regarding acupuncture and the X-signal system. He developed evidence for and arguments about how enfolded within the body are ancient pathways and mechanisms of action that operate at very low levels of energy and were fundamental in early evolutionary times and more primitive organisms and early embryological states. He argues that these mechanisms/pathways have not disappeared; rather they have been eclipsed by more developed and efficient structures, pathways, and mechanisms such as nerves, hormones, and so on. He provides evidence for the notion that the descriptions of qi, the meridians, and the rules of their behaviour (characterised in terms of *yin-yang*, five phases, and so on) appear to be or may be related to or even part of this low-level energy-signalling system. Their principal roles biologically would be communication and regulation. Clinically, in Manaka's system of therapy "Yin-yang channel-balancing therapy", to diagnose the condition of this signalling system, we palpate the body (in a different manner to the methods of Toyohari, but strongly paralleling them) and we apply very gentle treatment methods with low energy content (again similar to and parallel to Toyohari's basic methods). Manaka (1995) argued that a well-delivered, mild (low-dose) treatment can influence the body's information-regulation systems to produce global regulatory effects on the body.

We can see different potential explanations of how more can be less. Above we describe two: one is related to how the body can respond at a cellular level to low doses of substances or input that at higher doses would be challenging or damaging to the body (described above in terms of hormesis); the other is related to background whole-body signalling systems that can assist in whole-body regulatory effects. Both of these models require low-dose input. Our teachers in Japan frequently contrast what we do in meridian therapy with the more typical forms of acupuncture used by others, what they call stimulation therapy—the general term for this in Japanese is *shigeki ryoho* (Birch and Minderhout 2010). This stimulation therapy is seen in

[7] Of course, prescriptions are also influenced by other factors such as economics and drug company profits, practice styles dictated by insurance companies, state regulatory bodies, and so on.

© 2023 International Toyohari Association. All rights reserved.

modern Chinese-influenced styles of acupuncture that needle with so-called *deqi* (Birch 2015) and is even more obvious in the multiple types of electro-stimulation acupuncture.[8] While these stimulative forms of acupuncture may trigger some of the biological responses described above, it is more likely that the dominant effect is one of antagonistic response, such as the well-documented endorphin release to block the discomfort/pain of the needling/electro-stimulation. Normally we can think of milder Japanese acupuncture approaches as tending to produce less of the stimulative mechanisms and more of the regulatory-type responses. In the Toyohari form of meridian therapy, the root treatment especially will most likely use predominantly regulatory types of response[9]—some of the supportive treatment can be more stimulating, thereby triggering the more antagonistic types of response. In general, most sensitive patients cannot tolerate the more stimulative techniques and the mechanisms that they trigger. Effective therapy requires carefully constructed and modified mild techniques that allow for controlled responses based on regulatory mechanisms. In more sensitive patients, these mechanisms are more sensitised or potentised so that extremely small input, in the form of very low-dose treatment can create positive healthful changes. This is most obvious in the paediatric patient, where an extremely low dose of treatment can trigger incredible changes (Birch 2016).

The material in the appendices describes a range of ideas and thinking to help expand this discussion. Appendix B explores models of biological thinking about what makes someone more sensitive. Appendix C is Sascha Gröbe's thesis paper for the 2018 advanced programme, which also explores sensitivity from neurophysiological and clinical perspectives. Appendix D presents the range of psychophysiological changes caused by different forms of fluctuation in the autonomic nervous system. Appendix E briefly attempts to weave together scientific and qi-based models.

We have not put forward a more general theory or description of the role of emotions here since this is not so easily done. You do not have to look far to find that from a scientific perspective there is as yet no clear scientific consensus on emotions, with many competing theories (Damasio 2000).[10]

[8] The following anecdote may help illustrate the difference between Japanese and Chinese-TCM methods of needling: at a WHO research meeting in the late 1990s about how to do research on acupuncture, the conversation was, as usual, dominated by the argument that TCM style was the "real" acupuncture and that techniques like shallow needling should be considered a good form of "placebo-control sham" needling. Japanese researcher Professor Kazushi Nishijo had had enough of this and stood up to proclaim that as far as he was concerned it was TCM acupuncture that was really the placebo! The point is that TCM-style needling is seen to produce known neuro-stimulatory effects that are considered the "basis" of acupuncture, so simply avoiding this stimulation should be a good control treatment. This stimulatory type of acupuncture (*shigeki ryoho*) has become more common and widely accepted and taught both in and outside Japan.

[9] Little research has been done to date, but one Australian study (O'Brien et al. 2013) might be a good indicator of these regulatory effects.

[10] See also *Wikipedia*, s.v. "Emotion", last modified 13 March 2023, 19:27, https://en.wikipedia.org/wiki/Emotion; Kendra Cherry, "The 6 Major Theories of Emotion", updated 27 February 2023, https://www.verywellmind.com/theories-of-emotion-2795717.

© 2023 International Toyohari Association. All rights reserved.

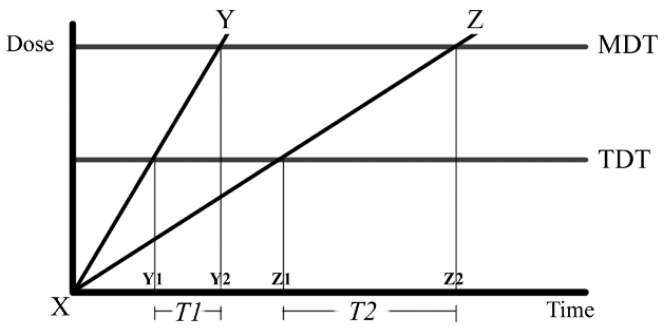
Dose and the Sensitive Patient

In mainstream medicine it is generally well understood that there is an optimal dose range for a particular drug to be effective. The concentration of the drug in the blood should lie roughly between two values for it to be effective. Below the lower value, the drug is less effective or not effective. Above the upper value, the drug is in too high a concentration and can cause unwanted side effects or lead to a treatment overdose. This general idea is quantitatively based, where the optimal dose range is often based on body mass and the upper and lower dose ranges are numerical values. But it is possible to extend this idea to a more qualitative illustration of dose needs. We say that it is qualitative since we have no laboratory value to measure; we can make qualitative estimates of need only. The following ideas are extensions of explanations that Yoshio Manaka et al. (1995) made about dose of treatment in relation to intensity of stimulation delivered, first published by Stephen Birch (2016) in his book on *shonishin*.

> Grappling with the dose requirements of our patients is complicated and needs to be carefully judged case by case.

Dose curves with different intensity treatments

When a therapy reaches the therapeutic dose threshold (TDT), the therapy starts to have its expected therapeutic effects. If the dose of the treatment builds up too much so that it crosses the maximum dose threshold (MDT), the patient may start to manifest unwanted side effects due to over-treatment, i.e. an overdose of treatment. With a medication, the dosage taken and the intervals between times that the medication is taken are often matched so that the concentration of the medication in the blood remains in the optimal dose range—between TDT and MDT on the graph.



TDT = Therapeutic Dose Threshold
MDT = Maximum Dose Threshold

With an acupuncture treatment we interpret this diagram a little differently. Two treatments, TCM needling (Y) and milder Japanese needling (Z), are charted. Both treatments start from point X. Treatment Y has a relatively high-intensity stimulation, the dose build-up is quicker than treatment Z which delivers a milder-intensity stimulation. Y1 and Z1 are the times at which treatments Y and Z respectively cross the TDT; Y2 and Z2 are the corresponding times for the MDT. The time that the practitioner of treatment Y has to judge the correct dose of treatment is T1 (the distance between Y1 and Y2), while the time that the practitioner of treatment Z has is T2 (the distance between Z1 and Z2). Since T2 is longer than T1, it is therefore easier and safer to apply treatment Z. There is less risk of reaching overdose with treatment Z than with treatment Y. Manaka proposed this model to help explain why Japanese acupuncture

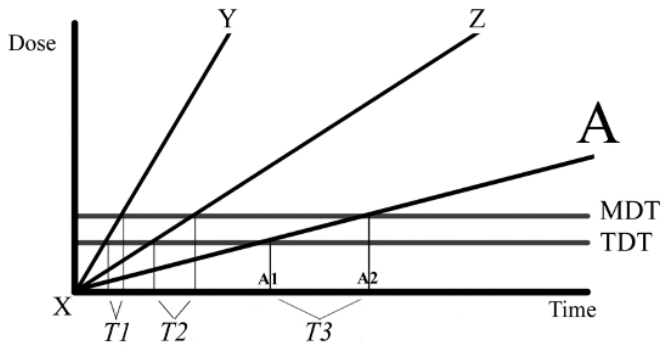
© 2023 International Toyohari Association. All rights reserved.

(Z) is, in general, better than modern TCM Chinese acupuncture (Y). We can see important considerations relative to general practice.

Of course, this is also a gross oversimplification. For example, what about a therapy like homeopathy where the lower the physical dose of treatment (the more diluted), the higher the therapeutic dose (energetic)?[11] Manaka hinted at these things with his X-signal system model of acupuncture. A lower-intensity form of acupuncture (as physical stimulus) is not necessarily a lower-dose treatment. Low-intensity stimulus approximates the energy-level content of physiological systems, which can make it more therapeutically active (i.e. the less physical the stimulus is, the more direct the action is on the signal system). See Manaka's *Chasing the Dragon's Tail* (1995) for details of this idea. But for our purposes here, if we assume that within the context of a particular treatment model the above graphical representation of the doses of treatment are applicable, then we can illustrate what happens with sensitive patients.

A sensitive patient will typically show two characteristic differences compared to the typical patient. First the therapeutic dose threshold drops and can be very low, meaning that it takes very little to start triggering change. The second is that the width of the optimal dose range narrows considerably so that it takes very little therapeutic input after the TDT is crossed for the treatment to cross the MDT. Of course, it is possible that the sensitive patient may be very healthy where the TDT is very low, but the MDT is not lower so that the optimal therapeutic range remains very wide. These are our most ideal patients; one literally needs to do almost nothing to start triggering healthful effects in the patient and one can do a lot more without any adverse effects. These patients are, in our experience, very rare. Most sensitive patients that show a lowered TDT also show a lowered MDT. This can be seen graphically in the next figure.

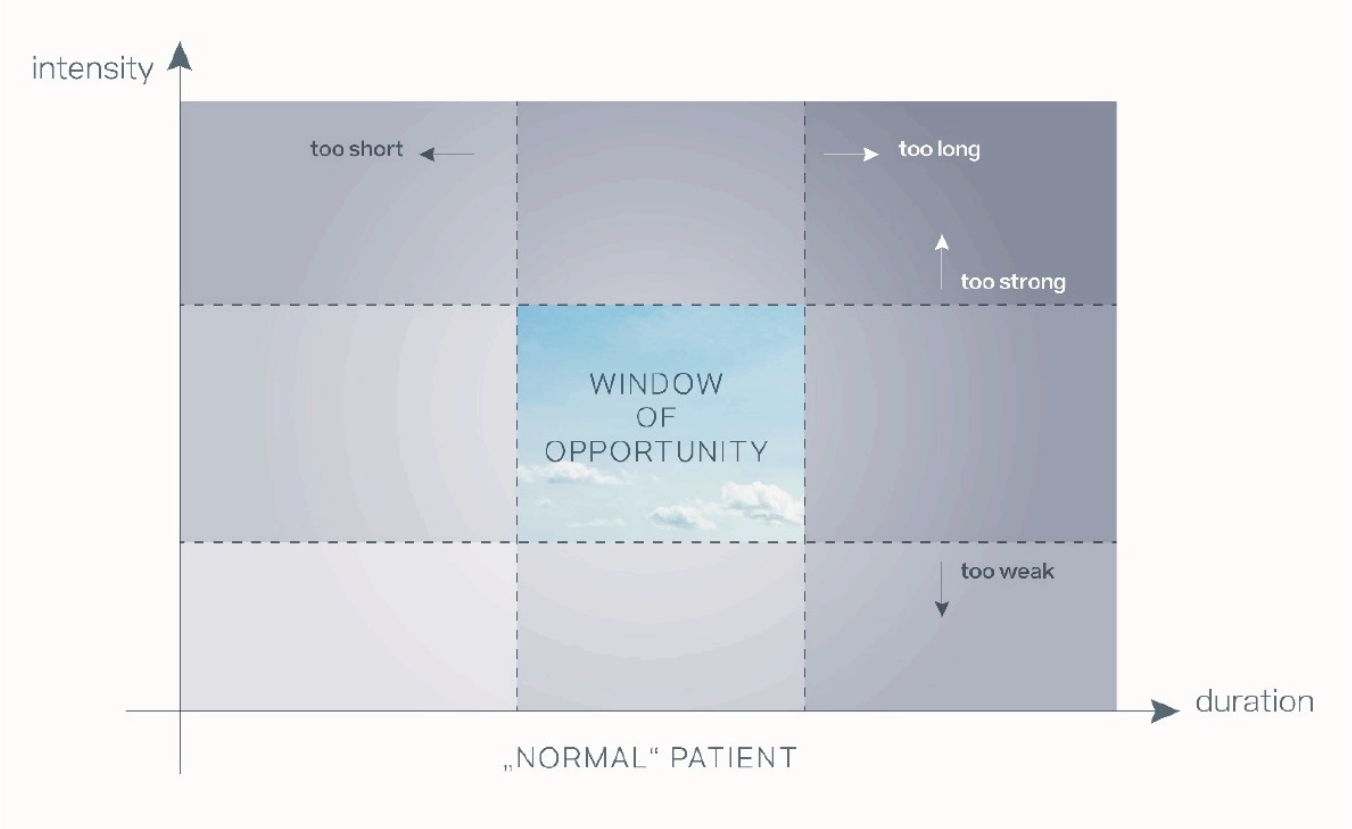
Dose curves with a sensitive patient



If treatment Y from the first figure were administered on this sensitive patient, the time one has to judge the proper dose, T1, is very small and treatment overdose is hard to avoid. Even treatment Z, which has a lower intensity of treatment, would be difficult since T2 is still very small. One needs to administer an extremely low-dose or low-intensity treatment— treatment A—if one wants to have any chance of avoiding overdose with this patient. Here the time to judge treatment dose, T3, is much larger than for treatments Y or Z. The use of a very low-intensity treatment allows the dose to build up much more slowly so that one has more time (T3) to make the clinical judgement to stop treatment because enough has been done. Sascha Gröbe has developed a different, more sophisticated way of modelling dose in treatment (see Appendix C).

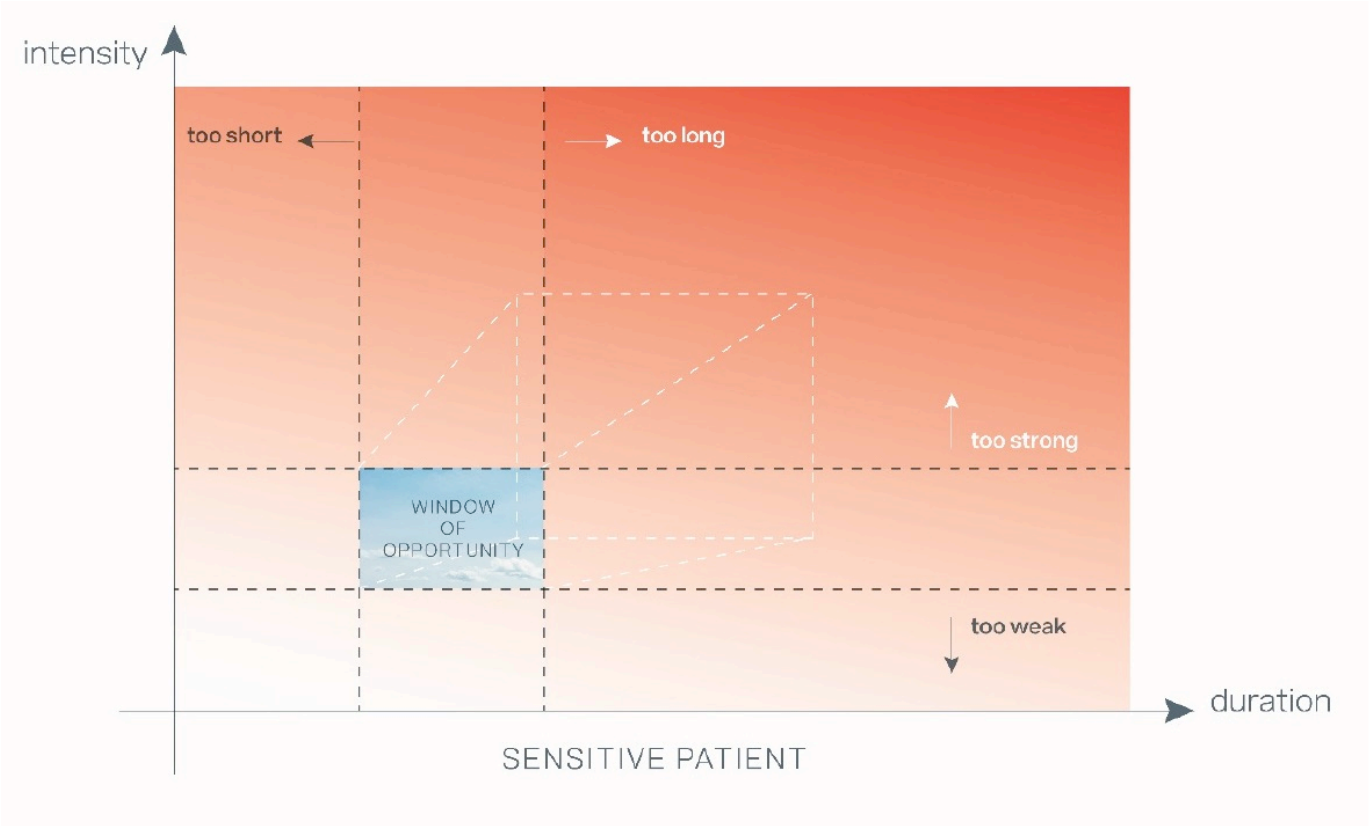
[11] Clinical examples of this are given in later sections; see the example of JL on p. 18 below.

© 2023 International Toyohari Association. All rights reserved.



Window of opportunity: Normal patient

He models the treatment as windows of opportunity. The normal patient is seen in the following diagram:



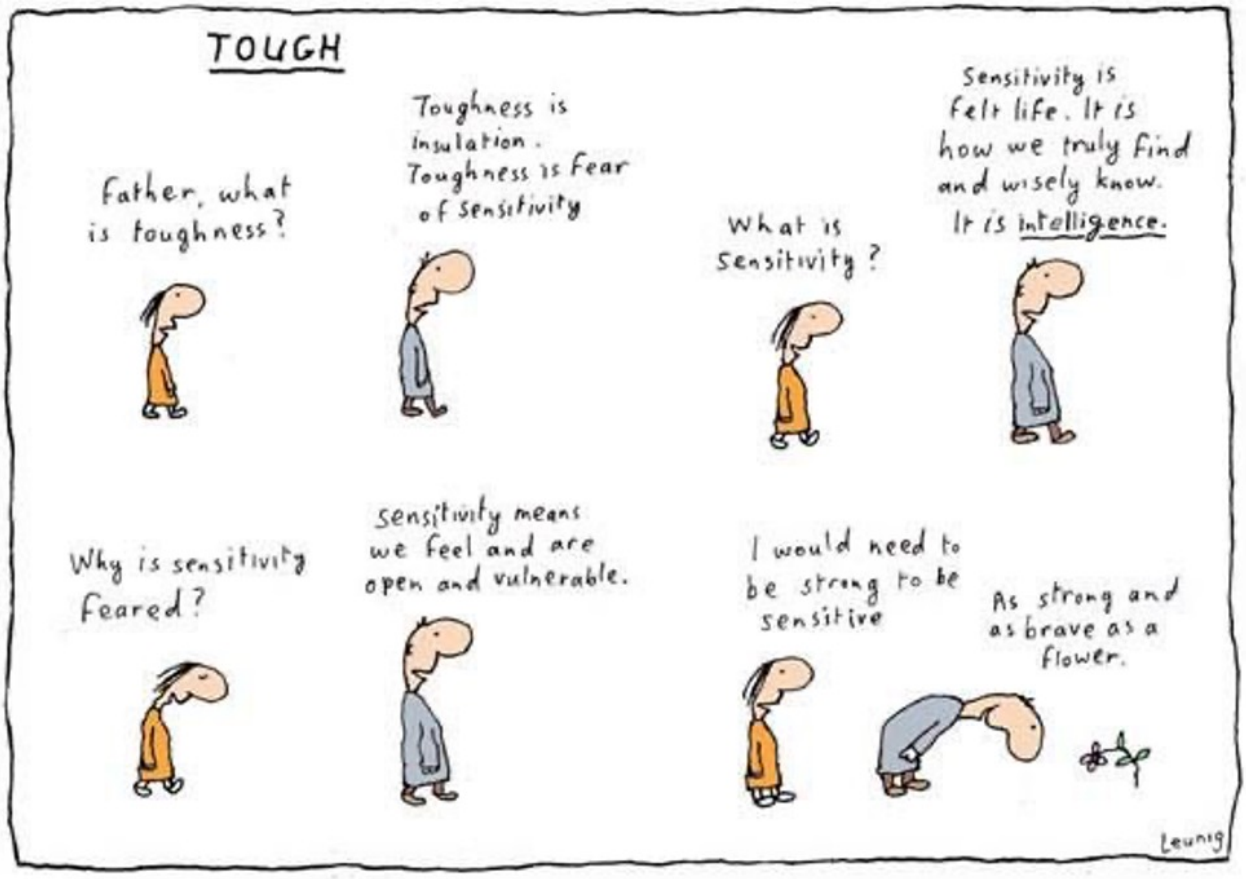
Window of opportunity: Sensitive patient

© 2023 International Toyohari Association. All rights reserved.

The next diagram explores how the sensitive patient has a smaller moving target for the window of opportunity:

Here, the "'window of opportunity' for sensitive patients is very likely smaller and has shifted towards lower intensity and duration margins". We will explore these different dimensions in the clinical discussions below.

In addition to thinking about dosage in linear, quantitative terms (geared to "amount", "time", etc.), there are additional dimensions that show the limitations of all our models. This is to do with what appear to be paradoxical experiences of the kind hinted at above.



© Michael Leunig 2018: "Tough Sensitive", 5 April 2013, https://www.leunig.com.au/works/recent-cartoons/591-sensitive

© 2023 International Toyohari Association. All rights reserved.

Future models

The problem is best summarised in the following case from SB.

Clinical Example 1

JL was 45 years old. She had many complaints such as headaches, back pain, premenstrual tension, menstrual pain, asthma, various airborne and food allergies, psychological stress, sleep problems, and depressive tendencies. She had also been diagnosed with early-stage multiple sclerosis which caused her periodic paraesthesia in the forearms and hands. She was very sensitive and could not tolerate many treatments, including Manaka's IP cords, Toyohari's *kikei* with copper-zinc discs, intradermal needles, and so on. To illustrate her sensitivity, on one visit the usual treatment room was not available and a new room needed to be used. As we walked into the room, JL stopped at the door declaring that there was a magnet in the room and that I needed to find and remove it before she could come into the room. I asked how she knew and she described the immediate onset of a familiar paraesthesia associated with things like fridge magnets. I searched the room and eventually found a 1,000-gauss magnet stuck on the underside of the metal treatment cart on which were placed the acupuncture needles and supplies. As soon as I threw the magnet out the window, JL declared that the paraesthesia had stopped and that she could now enter the room. She generally responded well to Toyohari treatment. Usually we could use a silver needle if I was careful about doses. On days where her condition was in a more heightened state, I would use the *teishin* for the treatment. If she reached a more heightened state of sensitivity, she could not tolerate the use of the *teishin* either. On those days I applied *chishin*-style meridian therapy root treatment (with 0.12 mm-gauge needles inserted painlessly to a depth of 1–2 mm) and tended to use slightly thicker needles (0.18 mm needles inserted to a depth of anywhere between 4 mm and 2 cm without *deqi* depending on the location and target symptom) for the supportive treatment. She felt better during these episodes when I used more physically stimulating techniques, but in her normal "sensitive-but-not-hypersensitive" state, treatment was managed with a usual low-dose treatment approach. This is paradoxical because in order to reduce the dose of treatment for her, I had to increase the level of physical stimulation.

There clearly seems to be a biphasic dose-response model that is capable of capturing physical dose parameters—higher or lower amounts of physical dose and how patients respond to them—and a more energetically mediated dose-response model.[12] As the physical dose is reduced, it may be that the levels of treatment input operate at physiological energy levels that may directly influence the regulatory systems and mechanisms in the body—where a lower dose can produce regulatory effects without overstimulation (Manaka et al. 1995). Conversely, overstimulation problems may lie more at the regulatory systems level rather than at the level of the physical/physiological systems themselves. In patients whose heightened sensitivity is due more to disorders of the subtle regulatory mechanisms and systems in the body, the usual lower-dose treatment that targets those levels may produce a higher dose, creating greater disturbance on those levels. Perhaps the more physically stimulating treatment creates less disturbance of the regulatory systems or it may create a kind of grounding or stabilising influence in the body that is beneficial to hypersensitised and disturbed regulatory systems. SB's case example of NB below further illustrates the possible grounding effects of the *chishin*-style root treatment. What is said here is hypothetical and needs to be developed further. It is also

[12] These models are captured in the diagrams above.

© 2023 International Toyohari Association. All rights reserved.

very difficult to describe.[13] This section is titled "future models" because the model is only clear so far as a vague outline. Hopefully it will become more fleshed out over time. Of critical importance is that there is a therapeutic basis for what our teachers have emphasised in our Toyohari training:

- Normally we use a thin silver needle to apply root treatment.
- If the patient is sensitive, you can use a thinner needle.
- If the patient is more sensitive (cannot tolerate thinner silver needles), use a *teishin*.
- If the patient is more sensitive and cannot tolerate the *teishin*, lightly stroke along the meridian over the treatment point with an *enshin*.
- If the patient cannot tolerate this lower dose of treatment, use inserted needles for the root treatment.

These recommendations may be relevant to the paradoxical cases described above.

Reactions to treatment overdose

The above ideas and models can be important and clinically helpful. Let us turn now to understanding more about the consequences of encountering a sensitive patient and what happens if we over-treat the patient.

Sometimes a patient returns to us or calls us following a treatment to say they are having a difficult time. Their symptoms are worse, new symptoms have occurred, they just feel bad or are exhausted, etc. Our job is to figure out what happened and to correct it if possible. Distinguishing signs of over-treatment from those of improper treatment, a healing reaction to treatment, the natural course of a disease or reactions that have little to do with your treatment but are related to the patient's lifestyle issues can sometimes be complicated and difficult. To understand when reactions are likely to be caused by over-treatment it is necessary to briefly discuss when reactions are due to these other factors.

The most common signs of over-treatment are that the patient feels more tired than usual or very tired. This tiredness can last the rest of the day in which case it is not so bad and may just be a normal healthy reaction to treatment, but if it persists into the next day and especially beyond, you can suspect that you over-treated the patient. Spending more time applying treatment, doing too many things, leaving intradermal needles, doing cupping or bloodletting seem to be the most common causes of this reaction. It is better to try to be more succinct and spend less time applying treatment. Not leaving intradermal needles and instead using milder tools like press spheres or the Pyonex press-tack needles may be advisable, as can having the patient remove the intradermal needle by the next day or no later than two days after treatment: see below for further discussion of this.

[13] Of course, it is tempting to quote the *Daodejing* here: *dao ke dao fei chang dao* 道可道非常道 (The *dao* that can be spoken of is not the *dao*)—a convenient truth that allows us to be inadequate or wrong! 😊 There is, however, a formal statement to this effect made by Han dynasty physician Guoyu, who, when talking about the fine and difficult art of needling acupoints, stated, "A kind of spirit connects the physician's heart with his hand, and that is something I can know but cannot explain" (Scheid 2002; see also Birch 2014, 211). The subtle skills of advanced palpation and needling are beyond words.

© 2023 International Toyohari Association. All rights reserved.

On a few occasions we have had patients report that they felt overexcited or hyper for a few days or the whole week. Sometimes, a patient reports that they had difficulty sleeping all week following treatment. In these cases you must consider that you over-treated the patient and need to think about what you did that produced this reaction. We have seen intradermal needles sometimes produce this hyper reaction. Not using these things for the next treatment or taking much less time for treatment is usually enough to stop the reaction. With this hyper reaction it can take as many as one or two more treatments to figure out what was causing the reaction and to select the most appropriate treatment methods to get the right treatment dose. While these overdose reactions are fortunately much less common, they can be very complicated clinical cases to handle.

Typical signs of over-treatment

We often do not have to wait until the patient comes back the next week to see signs of over-treatment. It is better if we can judge this before the patient experiences over-treatment signs during the week so that we can adjust or fix the treatment at that time and hopefully prevent or reduce any adverse post-treatment effects. But often we do not become aware of over-treatment reactions until the patient reports them the next week. Above, we identified possible ways of explaining reactions to help discriminate between true over-treatment and something else. Here we report signs that can be observed during the treatment session and common descriptions from the patient when they return for the next treatment.

There are typical signs of over-treatment while you are treating the patient such as the skin becoming moist or the breathing or heart rate becoming more rapid. The following is a list of the wide range of signs of over-treatment that can occur while you are treating a patient:

- Sweating
- Flushing (especially on the face)
- Goosebumps
- Shivering
- Fixed gaze, pupils dilated
- Increased stiffening of the body
- Unwanted changes on the abdomen—cooler, harder, more uneven (regional differences)
- Contrary changes in the pulses—faster, harder, more floating

The patient may exhibit or complain about certain symptoms, for example:

- Emotional outbursts (e.g. crying, expressing acute distress)
- Feeling more emotionally vulnerable
- Feeling some kind of instability
- Feeling weaker
- Coughing
- Feeling tightness in the chest
- Shortness of breath
- Dizziness
- Feeling faint
- Feeling nauseous
- Headache

© 2023 International Toyohari Association. All rights reserved.

If the patient exhibits these changes while you are treating them, you can adjust your treatment to try to compensate or apply treatment to correct this if necessary.

While there are typical signs of over-treatment that the patient may report to you on the next visit, such as feeling very tired for the rest of the day or into the next day or having a feeling of heaviness in the body, there are a wide range of complaints that you might hear from the patient at the next visit or by phone:

- Worsening of current symptoms
- Appearance of new symptoms
- Appearance of old symptoms
- Feeling really tired over the week
- Feeling really wired over the week
- Having poor concentration over the week
- Appearance of or worsening of sleep problems
- Feeling "off" for all or most of the week
- Feeling more emotional or emotionally vulnerable during the week

If we can catch signs of over-treatment during our treatment, we have the chance to try to eliminate or minimise these effects. We can also adjust our treatments in future sessions. If we do not catch the signs of over-treatment until the next week, we can start to adjust our treatment at that time. In both cases we also need to think about what we need to do and what to say to the patient. The issue of handling sensitive patients is covered in the next section.

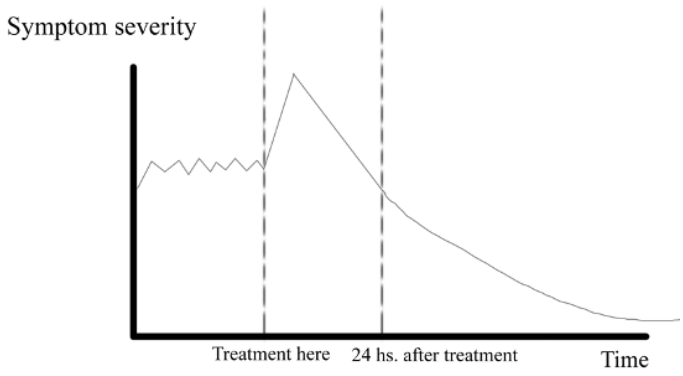
As a general rule, when you first see a patient for treatment, don't do too much treatment, keep it very light and simple, so it is easier to figure out what to change if there is some reaction to your treatment. But are all reactions to treatment signs of "over-treatment"?

Mengen —a healing reaction

Chinese medicine has the concept of a healing reaction; in Japan in the field of *kampo* (herbal medicine) it is called *mengen* (めんげん). It doesn't seem to happen very often and most schools of TEAM therapy never talk about it or only mention it in passing. There has been debate within the Toyohari Association about whether this herbal medicine construct is valid and occurs in Toyohari acupuncture or not. If this *mengen* reaction happens, why does it occur and how would it manifest?

In simple terms we can consider that most patients are in a stable state in which symptoms are occurring. We have an idea about a different state that they could be in where they have fewer or no symptoms. Our treatment tries to move the patient's system from its current, not-so-healthy, stable state to a healthier stable state. However, the body of the patient has the view that its current state is normal, so it resists this change, trying to maintain its status quo. Sometimes this process of resistance triggers some reaction to treatment, such as a worsening of symptoms. A second explanation is that the treatment succeeds in pushing the patient's system out of its unhealthy stable state but not yet into the targeted healthier stable state. So it stops temporarily in a different stable state in which new symptoms arise or old symptoms recur. It is not important for us clinically which of these speculative explanations might be correct. What is important is what we see clinically that characterises a *mengen* reaction.

© 2023 International Toyohari Association. All rights reserved.



The typical sign that a *mengen* type reaction has occurred is that the worsening of symptoms, occurrence of new symptoms, or recurrence of old symptoms lasts no longer than twenty-four hours and that this is then followed by a clear and distinct sustained improvement in the symptoms of the patient (Birch 2016, 26–27).

Modelling the *mengen* response

If, instead, the patient experiences a worsening of symptoms that extends beyond the approximate twenty-four-hour post-treatment period, this is probably not *mengen*. If there is a worsening of symptoms for shorter or longer than twenty-four hours and it is not followed by a prolonged clear improvement in the symptoms, it is not *mengen*.

Sometimes this improvement is long-lasting (i.e. continuous and "permanent" from that point onwards) and sometimes only short-term (it starts to wear off after some days or weeks). Understanding if *mengen* has occurred is not always straightforward. Patients often call you as the symptoms worsen or develop. It is very difficult and not advisable to make any judgements about it too quickly. To understand if *mengen* is indeed what has happened requires a longer-term look at the pattern of changes. If the patient calls on the day of a treatment to say that things are bad, it is often impossible to know what is really going on. It is better to advise them to wait until the next day and see if the situation has settled down. If the patient calls the next day and things are still bad with no sign of settling down and it is more than twenty-four hours since the treatment, you can start to suspect that it is not a *mengen* reaction and that something else is going on—perhaps you did something that was not so good, administering the wrong treatment, over-treating the patient, or leaving a press-tack or intradermal needle, etc. In that case, you may want the patient to return to see if you can help them. If, for example, you have left something like an intradermal or press-tack needle in the patient, you can instruct them to remove the needle. If this triggers an improvement in their complaints, you can then suspect that the intradermal/press-tack needle was either an inappropriate treatment method (which occasionally occurs) or created a treatment overdose (a more common explanation). This helps you understand that the patient is more sensitive than you had thought and that you shouldn't use intradermal/press-tack needles again or use them differently.

However, if a patient returns the next week for treatment reporting a short-term worsening or development of symptoms following the treatment without having called you about it, it is easier to unpack what may have happened. With the time frame of a week, you can see the pattern of changes more clearly.

A cautionary note on this topic: We have had a few patients that have suffered some form of brain damage, such as a blow to the head or a cerebral viral infection, or have lost the normal compensatory mechanisms for processing sound, as is seen in hyperacusis. When the normal neural adaptive mechanisms have been damaged or are not functioning properly, we have

© 2023 International Toyohari Association. All rights reserved.

occasionally seen the phase of *mengen* last several days rather than less than twenty-four hours. It is even more difficult in these cases to know that this is, in fact, what may have happened, but we have suspected this on a few occasions. Treatment overdose can also trigger effects that last longer than those seen in people without neural damage.

Reactions due to improper treatment, the disease process, or patient behaviour

In addition to the relatively common problem of treatment overdose and the less common *mengen* as an explanation of reactions to your last treatment, there are several other options that you need to rule out. One might be that you applied an inappropriate treatment. For example, on the last session you applied bloodletting on the patient when she was still menstruating. Previous use of bloodletting had been helpful for the patient, but it was inappropriate to use it during menstruation and this triggered a reaction. Another possible explanation for worsening of the patient condition is progress of the disease process—which has nothing to do with your treatment but is part of the unfolding progress of their disease. To understand this, you need to have a thorough understanding of pathology, the patients' condition, red flags, and so on. Another possible explanation is that since your treatment made them feel better the patient prematurely resumed normal activities or engaged in an activity they have not done for a while because they felt stronger, and this triggered a worsening of their condition or a flare-up of their symptoms.[14] In cases like this, we need to know about patient activities to be able to judge if it was their actions and not our treatment that caused a worsening of the symptoms.

Additional signs of heightened sensitivity

Sometimes the sensitive patient tells you about their sensitivity in interesting ways, which some have speculated may be partly to do with the origin of acupuncture theory. In the 1980s in China a big movement began studying "propagated sensations along the channels" (PSC). Some people describe moving sensations in the body while being needled with TCM (*deqi*) needling and researchers started cataloguing these descriptions as evidence of the existence of the meridian system (Li 1984–85). Japanese researchers have also studied this (Manaka et al. 1995, 52–53). It is to be expected that the sensory stimulation associated with this needling might trigger a cascade of related nerve signals in the peripheral and central nervous systems and in the brain, and in some people these secondary signals are experienced as sensations that are felt to move in the body. But when we apply Toyohari needling, no such sensory stimulation from needling occurs. We train hard to learn to feel and understand the qi responses so that we can maximise our needling effects. But some patients also feel these responses. A common description of this is that when you are needling, say, SP 3, the patient describes how the sensation runs up the inside of the thigh into the abdomen and then passes up into the shoulders and neck, which relax as the feeling arrives there. They describe these

[14] SB: I recall a huge man with back pain and sciatica. He had to stop moving pianos because of the pain. He responded very well to treatment and even though I instructed him not to move pianos until he was stable, the next treatment was cancelled as he was in hospital for surgery due to a progressed back problem. At first, I thought I had messed up, but then I found out that he had felt so much better so quickly that despite my warning, he had tried to move a piano—on his own!—which, of course, exacerbated the back problem.

© 2023 International Toyohari Association. All rights reserved.

sensations not as nerve sensations (which the PSC sensations are commonly described as) but rather as like a light trickle of something that flitters along the body in a very comfortable and relaxing way. If you have a patient that starts describing such travelling sensations, you can start to assume that the patient is more sensitive and if you have not yet thought about the need to regulate dose of treatment, then think about starting to do so. This is not a negative sign or a sign of over-treatment; rather, it is an additional clinical indicator of increased sensitivity. But a word of caution: It is possible for you to accidentally turn this against your treatments. You may be intrigued by these descriptions and start to ask the patient to describe their sensations every time you needle or ask other patients to do the same. Do not do this! First, you may create unrealistic expectations; second, when the patient does not feel something, they may start thinking, "It's not working" or "I'm not good enough for it to work." You really do not want to accidentally trigger these kinds of thought processes in a patient as they can lead to negative effects in the clinic.

Clinical Implications

Management, diagnosis, and treatment

A good rule of thumb to remember for handling the sensitive patient can be found in the words of Bunkei Ono, a brilliant Meridian Therapist who developed his own style called *Tohokai*. He was a friend of Fukushima, Manaka, and many of the older generation of acupuncture therapists. As part of the original meridian therapy group, he had been practising meridian therapy since the late 1930s.

Bunkei Ono

Handling the sensitive patient

In 1990 Stephen Birch and Junko Ida met Ono at his clinic; at that time he was 86 years old. After receiving treatment from him, they were talking and asked him about what he thought was really important in practice. He said that the key to it is qi: not only do we apply needling to regulate the qi of the patient but all of our actions, all of our words affect the qi and need to be about regulating it. What are the implications of this?

In the mid-1990s Birch had the good fortune to work with a research group at Yale Medical School, where, attached to a methadone programme, he helped treat (within research studies) cocaine-addicted, methadone-maintained patients using the NADA detoxification protocols. It was really obvious that the role of the acupuncturist was to apply the needles; there was no meaningful way to talk

"Always remember that everything you do in treatment is about qi."

Bunkei Ono

© 2023 International Toyohari Association. All rights reserved.

with the patients about their problems, as we normally do with our patients. The psychosocial circumstances and history of these patients was generally pretty horrible. Any attempt to get them to talk about their problems could lead to an acute increase in the use of cocaine products since this was the way that they had developed to handle their problems, Acupuncture is a very useful therapy in these circumstances to help the patient become more sober, with fewer cravings, and calmer so that the really important therapies of individual and group counselling can work better.[15] Since SB is not a trained drug counsellor and not trained in psychotherapy, it was inappropriate for him to talk with the patients in the manner one normally does. For many of us, it seems unacceptable to not talk with the patient about their problems, especially if you have some training in some form of talk therapy. But, in some circumstances you also have to know when this is inappropriate because your good intentions can actually exacerbate the patient's problems.[16] This story is recalled to stress the point that we need to evaluate how we use our words and what we talk about carefully if we are to achieve the goal of qi regulation. The history and psychosocial circumstances may help us predict when we should be more attentive to this issue, but we should also recall what kind of circumstances can heighten the sensitivity of a patient. Sometimes we are confronted with a patient where we not only need to significantly lower the dose of the Toyohari-related treatment we apply but we also have to be exceptionally careful about how we talk to the patient, since every word affects their highly sensitised qi.

---

[15] The NADA protocols are quite widely used within the US as an adjunctive treatment for addicted patients; for more on this, see SAMHSA, http://www.samhsa.gov/treatment/mental-disorders. Modified versions of the treatment have been developed within the military in the US to deal not only with pain (https://www.va.gov/PAINMANAGEMENT/index.asp) but also with the stress and psychological problems that many veterans experience (https://www.ptsd.va.gov/). The UK government has been using the NADA protocols in the prison system to help addicted inmates and to help inmates deal with their stress, anxiety, and depression problems (see https://webarchive.nationalarchives.gov.uk/ukgwa/20150401180955/https://www.justice.gov.uk/youth-justice/effective-practice-library/auricular-acupuncture). It is worth reading more about how acupuncture is used in these circumstances.

[16] SB: I recall here a case where the NADA protocol was invaluable. CM was 63 years old. She was coming for management of chronic back and joint pain problems and to help cope with stress and its sequelae. She was doing well with treatment. One day she turned up after three weeks and was *really* stressed out. In the last week she had heard news that her husband's medical condition had taken a major turn for the worse. The next day she heard that her mother's health condition had significantly declined, and the following day she and her husband heard bad news about their business. Understandably she was completely freaked out and on the edge of a major panic attack. She had tried to reach her psychotherapist but she was not available for a few days. Around the age of 20, CM had "died" of complications from deep vein thrombosis and had been saved and revived in the emergency room at the hospital. As is usual for patients who have had a near-death experience, this triggered important changes for her. It had made her stronger and more sensitive. Over the years she had coped well with the various events that life threw at her. I knew she was very sensitive but I also knew she was very strong and could cope really well with things. But on this day, I could see that her life challenges were more acute and severe than usual and that I needed an acute change in my treatment to help her. As soon as she lay down on the treatment table, I placed needles in the five NADA protocol points in each ear. I did this to calm her down and get her settled. After this, I then proceeded with my usual diagnostic assessment and Toyohari treatment to regulate qi. Within a few minutes of placing the needles she was really relaxed. At the end of the combined treatment she was calm and focused—she had found her usual strong and capable self.

© 2023 International Toyohari Association. All rights reserved.

The following case is from SB.

Clinical Example 2

JD was 43 years old. She came into the treatment room quickly without speaking. Although she was bundled up in her overcoat, as she walked past, I saw that she was very skinny, pale, and with a lacklustre appearance. As soon as I closed the door to the treatment room behind her, I detected a distinctive and strong body odour. She was reluctant to shake hands (her hand was very cold). When I sat down and asked what she came for, she immediately became more tense and started describing her panic reactions and severe hyperventilation problems. In the process, her voice became louder and louder, as she attempted to talk about her problems. An initial panic reaction was followed quickly by a very noisy hyperventilation episode, so that within less than a minute she was gagging and her voice had risen to become a mixture of shouting and crying with a pained quality. It was obvious that she was unable to talk about her problems without triggering an episode, so I chose to start talking about mundane things. Staying very calm myself and making sure I showed no outward changes in my appearance, I asked for her full name, street address, age, and so on; within a short time I was able to get her to calm down and focus on something else that was not challenging for her. Gradually I was able to ask about more personal, medical matters. Each time she started to react, I quickly changed to other more mundane topics. After a while she was able to reveal that she had a significant history of depression and was terrified of being hospitalised again. She had seen a number of psychologists over the last months to help with her current problems. Each had politely asked her to go to the hospital after triggering the panic attacks, which they had not been able to deal with since they each insisted on trying to make her talk about her problems. It was obvious that these failed treatment episodes were contributing to her problems and that she needed to become centred and calmer so that she could handle her problems. Eventually I could get her to take her coat, jacket, socks and shoes off and lay on the treatment table. As soon as I started touching her arms and legs, the reactions began. This was rather like treating a frightened baby or small child, and I needed to collect my information via instantaneous one-time touching. She had a full-blown attack again when I tried to palpate her abdomen. This immediately alerted me to the likely cause of her problems: unfortunately, over the years I have had many female patients come for treatment who were abused (most commonly sexually) as children.* There are certain reactions to being touched that I have found with all these patients, and these reactions are usually much worse when attempting to palpate or treat the abdominal region. I developed a strong suspicion that she had been sexually abused/raped as a child and that she was showing heavy PTSD reactions to this. As a result, I resolved that my role would be to help her become calmer and more centred while I also helped her find a competent psychologist who was experienced in treating PTSD patients without freaking out.

Diagnosis: The patient's pulse was difficult to read since each finger caused pain as I gently tried to press the pulses, thus I had to take a very rapid first impression. I chose a kidney *sho* with secondary spleen and possibly heart meridian involvement. There were very strong counterflow signs so *he*-sea points were selected.

Treatment: I decided at first to treat her the way I do babies and small children using a basic *shonishin*-type approach, stroking lightly to direct the qi downwards. Using a silver *enshin*, I stroked very lightly down the outsides of the arms and down the stomach meridians on the legs. After a short while she became a little less tense and reactive. I located KI 10 on the left leg (leg yin meridians on the left side descend). As I touched the point, she cried out in pain and started to show signs of an attack, so I placed the five-metal *teishin* very quickly on the point and removed it as soon as I felt contact with the qi.† I repeated this on left LU 5. The pulse was hard to reassess as it caused her pain to palpate, but I had the impression that the spleen was *jitsu*, so I applied a brief *shaho* technique on right SP 9. I then tonified left TB 4 since the surface of her body was quite *kyo*. After she turned over, I stroked very lightly down the bladder meridians on the back and legs, after which I immediately had her turn back over to check the pulses and finish treatment.

Note: In general, I used a super-low dose treatment for JD on each visit. Most of the time it was difficult to use much, if any, supportive treatment. She could not tolerate it if I left anything like a press-tack on her. She could not bear trying to talk to me about the details of her problems, so we found a way to

© 2023 International Toyohari Association. All rights reserved.

manage that, using similar strategies to those described above. I used this simple model of "child-like" treatment with her on a weekly basis. During this time she could start to handle things better. By the third month she was able to get an appointment with a psychologist who specialised in treating PTSD and especially veterans injured in war.‡ Once that therapy started, her condition improved more rapidly but not without significant ups and downs depending on what the therapist was helping her expose and deal with. It was very helpful that he was a competent psychologist and knew how to handle and treat her. I treated her over a period of roughly one year. By the end of that time the history of childhood sexual abuse by her father surfaced and the psychologist helped her process and deal with that. I have seen her a few more times over the last several years as different issues have come up. Although she is doing much better, is able to work again, and deal with day-to-day life better, she still struggles with more challenging issues.

*A 2009 meta-study (Wihbey 2011) found global rates of child sexual abuse before the age of 18 at 7.9% of men and 19.7% of women. The highest prevalence rate of child sexual abuse geographically was found in Africa (34.4%). Europe showed the lowest prevalence rate (9.2%). America and Asia had prevalence rates between 10.1% and 23.9%. For women, seven countries reported prevalence rates above 20%: Australia (37.8%), Costa Rica (32.2%), Tanzania (31.0%), Israel (30.7%), Sweden (28.1%), the United States (25.3%), and Switzerland (24.2%). Add to this adult sexual violence with global estimates that about 35.6% of women have experienced sexual violence (Borumandnia et al. 2020). This problem is often not clearly identified or talked about, especially among men who have been abused. As clinicians, we need to be more aware of the prevalence of this and understand more about how to identify the problem and how to help the patient deal with it if they have not yet done so. Sadly, it is a common contributor to creating increased sensitivity among our patients.

† I did not spend time making contact and gathering the qi as I usually do; rather, I treated the point in much the same way I would on a baby. As soon as I felt the contact with the qi, I removed the *teishin* and closed the point.

‡ In Holland it can take some time to get an appointment with a qualified psychologist.

JD is an extreme example of heightened sensitivity and the need to adjust dose of treatment. In her case, I applied treatment as I would for a child. I did not talk to her about her problems. I focused on trying to get the qi to descend and centre. When I talked, I did so in a manner that would help her keep her qi centred in the body and not provoke it to rush upwards in counterflow. I focused on using only a super-light root treatment and concentrated on remaining calm and staying with her no matter what. In general, when the patient is distressed, do not react but stay calm and centred (just as you do when you are treating a scared child who is fighting you and the mother as you try to apply treatment).

Lessons to learn: In some patients you should not try to talk about things that you are not qualified to talk about, especially with highly sensitive patients who are already struggling to deal with or control their problems. We are qi-regulation therapists and we need to know not only how to administer this therapy with needles and how to adapt it to sensitive patients but also what we should not do that might undermine our efforts.

The clinical example from Ted Pearson below—patient BH—shows how complex psychological issues can naturally start to be addressed once the patient reaches a place of strength and calm.

Discussing heightened sensitivity with the patient

Most patients want to be a "sensitive person" and many find it appealing to be recognised as such. Sometimes how one uses the label can be therapeutically helpful as it can bring a patient to understand something about themselves that had always made them feel different, odd, weird. But overuse of this label or misuse of the label can have consequences that are confusing

© 2023 International Toyohari Association. All rights reserved.

and unhelpful. Sometimes a patient might expect to be treated differently by their therapist in unreasonable ways and start making difficult demands. Sometimes it triggers unhelpful changes in the behaviour of the patient (unhelpful to themselves and to those around them). We think it is therefore advisable to use this label judiciously and think about how you explain heightened sensitivity to the patient. We recommend that when you have concerns about the dose of treatment for a particular patient, you do not launch into a full scale description to the patient of how they are a very sensitive type; rather, it is generally better to let them simply know that you need to do a little less for the first treatment or two while you figure out what their proper dosage needs are. Once you have a better handle on the needs of the patient and how well they might understand what you say, you can then think about how best to broach the topic with the patient. Premature discussions or overstatements might tend to make some patients more neurotic and difficult to work with.[17]

There are some patients where it will be helpful to explain this sensitivity, in terms of helping them understand more about themselves and potentially about your role as a qi therapist. For example, you may have a female patient with whom it becomes obvious that she has been given the impression, through family, upbringing, and attempted relationships, that she is very neurotic and difficult to deal with, and you observe that her confidence in herself is compromised. If this person is very sensitive and you can clearly identify that, it is sometimes very beneficial to help her understand why she reacts and behaves the way she does by explaining a little about her "sensitivity". As well as applying the label and an explanation of it, you can consider helping her by discussing alternative ways to approach situations that don't trigger her biological responses to stimuli that she has a harder time coping with. In general, we recommend caution in how you discuss the issue of dose and sensitivity with patients, trying to find ways of using these discussions as therapeutic tools. Appendix C has further discussions related to this.

Additional clinical issues

In clinical practice we generally have to exercise some degree of caution and use our clinical judgement with any patient that we treat—we do not use everything we know to treat a patient, we figure out what is more suitable and likely to work and use those things for treatment. There needs to be even more of this caution when treating the sensitive patient. We have to be very cautious about how we respond to patient requests and desires and have to learn to trust our treatment system.

[17] SB: Being British, I am probably handicapped talking about these things with patients, so I tend to offset that with a more humour-driven approach. If I'm discussing with a patient that they seem to be a bit more sensitive or are a sensitive type, I usually add, "It's great to be sensitive, but it sure can be a pain in the ass!" In addition, I remind the reader what I have raised repeatedly at workshops. When we practise all day, it is not uncommon for some of us to have funny reactions after all the attention, palpation, and needling. We all want someone else to fix that for us, but I think it is better for us to think about our role: "If you do not regulate your own qi, who do you think is going to do it for you?" This comment of mine is to help us remind ourselves that we are each ultimately responsible for our own qi regulation. Interestingly Unschuld's comments in his introduction to his *Lingshu* translation highlighted that this self-regulation of one's qi was a key feature of acupuncture at its inception.

© 2023 International Toyohari Association. All rights reserved.

What other factors help us recognise a sensitive patient and what is meant by that designation? One aspect is that their qi tends to move quickly and easily, and they have rather narrow parameters of what feels good or they have relatively nuanced senses and feel things more acutely. Often these patients say exactly what is happening with the treatment as it goes along. These people often come with a long list of symptoms, which are usually very detailed (examples can be seen in Appendix A).

"Practitioners who don't have a lot of clinical experience tend to exceed the correct dosage because they are too eager to consider the patient's condition. They try using too many points, such as symptomatic points with specific effects or traditionally famous points. The practitioner may also be overly influenced by what the patient says, with the result that the dosage exceeds the correct amount without their awareness. In such cases the patient's condition gets worse and sometimes they can't even move. To avoid such things, we need to analyse how we should adjust the dosage for the individual patient."

Shinoda 2005 Lecture

The first thing to think of when you hear a long list of complaints is "go simple". It is crucial to find an accurate root treatment and important to find the underlying pattern and see how the patient responds. If you try to address all the issues, you will get confusing responses and not as good a reaction. Acknowledge the array of symptoms but explain that it is strategically important to find the simple pattern that underlies these symptoms and assure them that we can add treatments that specifically address the symptoms that are not changing so much. Explain to patients that trying to do too much at once can cause a bad reaction. And in fact these people have often been to multiple practitioners who have applied many treatments. Sometimes in their story one can track that a particular (often extreme) treatment has caused a reaction. And then something has to be done to help with that, etc. Then you can't tell if you are dealing with a genuine sign from the person or something that is a reaction to treatment. One kind of treatment may be counteracting another treatment. Urge them not to have too many treatments concurrently.

Another characteristic of patients with this complex presentation is that the person may seem desperate in that they are saying the symptoms are severe and they are asking for more treatment. Do not be swayed by this or you will over treat. People who are sensitive often feel their symptoms more acutely and may be ignored because they are considered "oversensitive" or "hypochondriacal", which then makes them state their situation more emphatically. Usually people are telling you the truth but it is important to relativise their expression of the situation. Once someone feels heard, they usually calm down. Such patients have often been over-treated in the biomedical context as the doctors listen to the extreme presentation and do not interpret it as a sign of sensitivity; they then respond with a lot of treatment.

For the sensitive patient it is a good idea to listen carefully, because they are often very precise or nuanced about what they are saying about themselves. They will correct you if you don't get it. If you do not pay attention to that, you risk having them give up on you understanding them. We don't need to know every detail, but patients are often detailed about what they experience.

© 2023 International Toyohari Association. All rights reserved.

That is the world they live in, and that is where you have to meet them. This can be more complicated because another key indicator for heightened sensitivity is that the patient tells you precisely what is happening while you are treating them. That is not always the case with a sensitive person, but if they do describe what's going on—saying, for example, that they feel something moving from the place you are touching to some other parts of the body, or that they feel the whole body responding and relaxing as you needle them—this indicates that the patient may well be more sensitive. When these things happen, be very careful with dose in general. You should also refrain from asking the patient to say what they are feeling as you treat them. The sensitive patient will tend to tell you these things without being asked. You have to learn to listen without reinforcing their experience, provoking it, or dismissing it. If you insist on asking the patient to tell you what they are feeling while you are needling them, first of all you may interpret everything as a sign of sensitivity and then apply under-dosed treatment because you have misjudged the patient's dose requirements. A second consequence can be that if the patient does not feel something or is unsure what they are supposed to feel, you can make them start doubting that you know what you are doing or that they are good enough to receive the treatment or that the treatment is working, thus reinforcing their more neurotic tendencies.

Another criterion that can inform how sensitive a patient is relates to how quickly you observe their qi respond and how quickly the whole pulse changes. When the qi responds more quickly and the whole pulse changes more easily, this can indicate a heightened sensitivity.[18] You can often observe this in children as well as in sensitive adults.

Expect that fewer points will be used and less supportive treatment, at least at the beginning. As the qi stabilises with root treatment, the changes are not so disruptive and the patient can tolerate more treatment when needed.

Summary of key points in handling sensitive patients

- Keep calm and carry on.
- Start low and go slow (especially with regard to your own expectations).
- Try not to help too much (stop trying to make the patient feel better).
- Focus on your feelings and not on your thoughts.
- Stay in the here and now.
- Breathe slowly, concentrating on your exhalation.
- When you talk, do so slowly and in a lower voice, making sure to bring your pitch down at the end of the sentence.

[18] Of course, we also need to weigh our own level of development and experience. Our skills as Toyohari practitioners develop over time after we start practising and there will be various stages in that development (Birch 2014). Sometimes big changes that are difficult to reproduce occur because of other circumstances, but gradually over time these changes occur more often and more reproducibly, and this is more skill-related. Thus, as you weigh the observed changes in the patient in order to decide if they indicate a heightened sensitivity, you also need to contextualise these observations relative to your usual daily practice observations.

© 2023 International Toyohari Association. All rights reserved.

Judgements of dose in the sensitive patient

In his lecture on treatment dose at the 2016 Cherry Blossom Workshop in Tokyo, Haruhiro Kasumi identified the relative lack of material in the textbooks on the topic of dosage; notwithstanding, Toyohari teachers in general have addressed this lack of literature more thoroughly than others. In a number of publications that we have found, they have described various different factors that are important in helping correctly identify the dose needs of each patient (Fukushima 1991; Takahashi 2010; Kasumi 2010). Kasumi summarised these well in his lecture. He emphasised, once again, that the key to appropriate dosage is evaluation of the condition of qi and blood, plus other factors such as constitution, environmental factors, and the patient's symptoms. Kasumi highlighted that we must note the patient's constitutional type: sensitive or not sensitive, and whether their work and lifestyle involve more mental or physical labour. We must also note whether the illness is acute, chronic, at an organ level, or musculoskeletal.

Sensitive and more robust patients

Appropriate dosage assessment can be gathered during our *sho* determination process. Patients that come in looking more *kyo*, with a paler and more gaunt look, thinner skin, a tendency to sweat easily, a more flaccid *kyo* abdomen, and a rapid, poorly defined, floating pulse are more likely to have heightened sensitivity. In addition, more shallow rapid breathing, and a more nervous anxious affect are also indicators of greater sensitivity.

On the other hand, people with thicker skin, a more *jitsu* build and affect, a slower, sinking pulse, deeper, slower breathing, and a more easy-going personality may tend towards being less sensitive to treatment. While this is generally true, we have all seen big strapping *jitsu*-seeming individuals become faint or break a sweat during the course of treatment indicating excessive or inappropriate dosage. Diligence to patient response is essential during treatment, and knowing when to stop and leave good enough alone becomes a fine-tuned art in itself.

Signs and characteristics of the sensitive patient

In very simple terms we can say that when a patient presents with one of the following histories or appearances, we can start to suspect that the patient may be sensitive:

1) the psychologically or emotionally distressed patient
2) the psychotic patient, an extreme form of 1)
3) the very weak/run-down patient
4) the more seriously ill patient
5) the patient that seeks to modulate their qi deliberately (with meditation, yoga, martial arts, etc.)
6) the patient whose character type is more artistic, musical, quiet, and thoughtful

For a more detailed description of the indicators summarised below, which can help refine our judgement further, see Appendix C.

© 2023 International Toyohari Association. All rights reserved.

Table 1 Factors associated with heightened sensitivity

Physical appearance	Blue eyes, white skin / red hair, white skin (higher sensitivity to pain)
Ethnicity	Caucasian
Touch	Soft and thin skin
Hara	Cool skin / moist skin / lack of lustre / pulsation of aorta visible / quick changes with touching
Pulse	Fast/floating/*kyo*, quick changes with touch or needling
Symptoms	Multiple symptoms, not related to a particular disease · Emotional and affect-related problems · Allergies · Digestive problems · Autoimmune disease · Anxiety · Flushing easily · Shyness, introversion · Sensitive to loud noise, strong smell, certain fabrics, crowds, medications · Low energy, easily exhausted
Medical history	Childhood neglect, early separation, mental illness of caregiver · Abuse (emotional, physical, or sexual) · Preterm birth · Complicated birth · Early surgery, hospitalised over extended periods · Accidents · Major surgery · Life-threatening disease · Death of a close family member / friend · Head injuries · Brain infections (meningitis)
Professions (often predisposed to sensitivity)	Professional musicians (especially classical) · Actors/singers · Artists, writers · Psychologists / medical doctors / acupuncturists 😀 · Social workers
Aggravating factors (temporary)	Menstruation, especially on the first day · When feeling hungry / hypoglycaemic · Premenstrual syndrome · During, sometimes just before (aura) a migraine attack · Pregnancy (especially sensitivity to smell) · Menopausal situation
Associated conditions	Multiple sclerosis · Any kind of infectious or traumatic brain damage · Fatigue (chemotherapy, radiotherapy) · Burnout · Depression · Anxiety, panic disorder · Multiple chemical sensitivity (MCS) · Allergies · Irritable bowel syndrome · Chronic untreated or insufficiently treated pain syndromes · Psychiatric conditions like borderline syndrome, psychosis, schizophrenia · Autism spectrum disorders · Post-traumatic stress disorder (PTSD)

It may be helpful to look at the examples in Appendix A, which explores complex medical conditions and the range of issues that they might manifest, each of which might predispose the patient to heightened sensitivity.

Acute heightened sensitivity

There are many situations that temporarily trigger increased sensitivity and the need to be more careful about dose of treatment. This temporary change can last for as little as a day or for two or more months. It depends on the patient's response to the challenging situation.

Examples of situations or circumstances that can trigger heightened sensitivity include:

- Distressing news such as illness, accident, job loss, death of a loved one
- Arguments at work or with one's partner or close friend
- Recent accidents or falls

© 2023 International Toyohari Association. All rights reserved.

- Poor sleep or lack of sleep the night before can trigger heightened sensitivity at least the next day; this increases the more acutely disturbed nights of sleep.
- Menstruation usually increases sensitivity—it is not uncommon for the patient to experience needling and other techniques we apply like *okyu* as more painful or distressing: this is a sign of increased sensitivity.
- Recovery from an acute illness such as flu or a gastrointestinal infection (stomach bug) can leave the patient temporarily more sensitive for a while after the symptoms finish—this seems to be especially so if the problem has been acutely debilitating.

In summary, we can say that problems that trigger feelings of tiredness or fatigue for a short while can trigger temporary increased sensitivity. The same is true for problems that are psychologically distressing. These shifts tend to be more pronounced and potentially longer-lasting in patients who are already sensitive.

TOUCHING DIAGNOSIS

Stephen Birch

A very important characteristic of Toyohari is that we touch the patient to directly evaluate the condition of their qi. Our teachers have taught us to understand this through the language of lustre. We touch an area/meridian, and we feel lustre and say this is a good sign. We touch an area and feel less lustre or feel that it is lustreless and say that this is a worse sign. By and large we use this as a subtle prognostic indicator. We use this subtle examination when palpating the meridians and palpating the abdomen in the process of *sho* selection and when palpating the *naso* and *muno* regions and the affected area or areas where there are symptoms. Thus, while the observation of lustre by touch is a prognostic indicator, it is also a tool for helping select the *sho* and for evaluating treatment options for the symptoms. It is important too as a feedback tool for judging how our treatment is progressing. When we initially feel an area has less lustre and, after needling or applying specific treatment methods, we observe the area to have more lustre, we take this as a sign of making a good step in the right direction.

For beginners this very subtle touch examination is difficult to grasp, so there is a tendency to repeatedly touch the area(s) in order to try to arrive at a better understanding. *The problem with this kind of touching is that you are directly interacting with the qi of the patient.* The more you touch, the more you influence it! It is very important to learn to do this subtle touch examination with single non-repetitive light touch. Repeated touching can change the condition of the patient. We have all observed this in Kozato practice groups. First, the area that was touched changes, so that others can no longer feel the same finding, such as lack of lustre. Second the pulse quality can change, a lot sometimes. As a result, others in the group cannot feel the same thing, which generates a lot of disagreement about what to do. In clinical practice on your own, this repeated touching can make things more unclear, causing you to doubt your judgement, rather than bringing clarity as you had hoped. But it is different with the sensitive patient with labile qi, for whom the following scenarios are possible:

- The repeated touching triggers overdose treatment reactions before you start to apply treatment;
- The repeated touching creates a degree of change that leaves little space left for your treatment to take effect without leading to overdose reactions; you can do less treatment and it is more likely for such reactions to occur.

Touching effectively

We want our touch to be effective so that we achieve our treatment goals at that moment. In diagnosis, effective touch involves getting information about the patient without creating change. During treatment, the way that we touch the meridian and the point is part of what makes the needling effective. There are thus two kinds of effective touching, one

© 2023 International Toyohari Association. All rights reserved.

related to obtaining information and one related to helping create the desired changes. In both forms of effective touching being able to stay still and quietly focused, being able to "invite" or "welcome" the qi (as the *Neiye* describes) is fundamental (Birch 2009, 2014). Actively engaging the qi requires a kind of quiet, still focus, in both diagnosis and treatment. This is something that is trained extensively in Toyohari: we all get better at this the more we practise and the more we learn from each other during study sessions and during Kozato practice sessions. Below, we will focus on the details of effective touch during diagnostic assessment.

Neutral touching

When we touch, we must apply neutral touching. When we are needling, we need to have good posture, relax, and be quietly focused for our needling to be more effective, and when we touch for diagnosis, we should adopt the same physical/mental postural stance. Once in this physical state, we also need to touch without trying. There is no intention to do something, we need to be passive. We need to touch as though we are not doing anything, while at the same time remaining grounded, retaining our posture, and quietly observing what we feel. We should not allow ourselves to react physically or emotionally to what we sense, merely feel, observe, and move on.

Those of us who have spent time around our experienced blind teachers have noticed that their hands observe things we need to work hard to understand and reproduce. In recent years there are more sighted teachers who have been through this process and have been developing a more detailed language and set of instructions, techniques, and information to aid us. This trend is emerging in Japan. Probably one of its leaders is the current academic dean Mr Takashi Nakayama. What can we say here while we wait for these details to be disseminated?

In touching there are probably three aspects to pay attention to:

- the condition and feeling of the skin
- the condition and feeling of the tissues directly under the skin
- the feeling of qi (reaction/movement)

The first two relate to subtle *sensory* observations one can make about the tissues of the skin and their underlying tissues. The third can occur independently of or in addition to these and refers to *non-sensory* information or observations. We have already briefly discussed the sensory information that might indicate more sensitive patients: the skin is thin or feels fine, it is soft and/or loose, it feels *kyo*; the subcutaneous tissues and fluids feel empty or *kyo*. With light touch one can understand these things relatively quickly both when studying and practising. Observing how they change with each treatment technique helps us understand more about these sensory-based observations.

But what about the feeling of qi assessment? We say that this is *non-sensory* information because it is a kind of more primordial sensing than the sensing dictated by the sense organs; it is more something that you feel in your body rather than as a localised sensory perception. We can say it is something you feel in your qi. This is not easy to do and, as Zhuangzi implied, it is the work of the more advanced practitioner/person.[19] As you practise more, over time this additional sensing can start to come into play. You cannot force this: if you focus on what you are feeling, your imagination can easily make you feel something and then you may start to project your own desire-driven observations onto the person you are observing.[20] This kind of sensing occurs in stillness and emptiness, in *not* trying. It naturally starts to occur over time through repetitive practice. The trick is to learn to start paying attention to it. Then as you begin to build an experience-driven confidence in this, you can start to use it more deliberately. But even then, you cannot expect that this kind of observation will occur; rather, you

---

[19] The reader is referred to the important passage from Zhuangzi that discusses stages of development: "Make your will one! Don't listen with your ears, listen with your mind (心). No, don't listen with your mind, but listen with your vital energy (氣). Listening stops with the ears, the mind stops with recognition, but vital energy is empty and waits on all things. The Dao gathers in emptiness alone. Emptiness is the fasting of the mind" (Yang 2003; see also Birch et al. 2014 and Birch 2014). Listening with your qi places you in direct contact with the qi of the thing you are observing (listening to).

[20] How many of us have imposed our own observations or feeling of sensitivity onto the patient—which often leads to under-treatment as we over-estimate the sensitivity of the patient!

© 2023 International Toyohari Association. All rights reserved.

learn to observe it "out of the corner of your eye", not by looking at or for it. You have to learn to "notice it happening" rather than look for it. If you look for it, you may accidentally impose it.[21] If it happens, you need to be prepared to observe it, understand it, and know what to do with the information.

The feeling of qi lability

What does this third subtle aspect feel like? The first thing to acknowledge is that just as we all have to find out for ourselves what and where we feel something when we are needling successfully—be it in the left hand, right hand, belly, or wherever, a feeling of tingling, pressure, expansion, relaxation, or whatever. This is individual for each of us. The feeling of qi lability is likely to start wherever in our bodies we experience working with qi. Maybe you are lucky and feel it as per the Nanjing: in the fingers of your left hand. Maybe, like me, you have learned to observe it happening in your body and gradually come to map it out over time.[22] The qi of the qi-labile patient who manifests heightened sensitivity will often show a more rapidly moving qi, a qi that moves much more easily. What do you feel? You may feel something like the sensation you have when you are interacting with the qi of the patient with needling, when you are gathering the qi—you may feel this happening in your body very quickly or very easily. You may have just placed your hands on the yin meridians of the legs to apply touch diagnosis of the meridians and as you do this you should be still, not thinking, quietly focused and you notice those things that inform you about qi moving or changing quickly in your body when you are not trying to create change. Do not look at that feeling or follow it, do not engage with it—observe it quietly out of the corner of your mind, note it, and remove your hands. Learn from this. If you are standing there with your hands still touching as you process what you are observing, you are already doing too much. This is something that you must *de* 得 (of *deqi* 得氣 fame)—you must grasp it quickly.[23]

Again, it is important to say that this is not something you can just do—it is something that gradually develops over time. It is not something that will occur often even when you are able to do it: it happens when it happens and if you are quiet and still, you can "hear" it (as Zhuangzi says). Note what you observe, respond to that with appropriate actions, and move on. As a relative beginner, you may feel that this sounds difficult, overwhelming. Don't worry about it. If something starts to happen that makes you think about this, pay attention to what we have said here. Over time you can try it out with your colleagues in study groups and see if what you are feeling matches what others are feeling or describing. This sense grows organically over time with practice. So practise!

Adaptations of Dose for the Sensitive Patient

In the 2018 publication about the treatment of patients with cancer, the issue of dose was highlighted in some detail with various discussions that can be found there (Birch et al. 2018). SB's 2016 book on *shonishin* includes extensive discussion on the treatment of babies and children with a lot of attention given to the issue of dose and the need to modify dose

Always do a lower-dose treatment on the first treatment with EVERY patient.

It is better to apply a lower dose of treatment and then over successive treatments add more things and increase the dose incrementally to figure out what works for the patient. This reduces the risk of over-treatment and allows you to more systematically evaluate what you are doing and how the patient responds.

[21] SB: As I write this, I remember many experiences over time. As a slow learner, I had to make many mistakes before I started to understand this. Some of you will be quicker than me and be better prepared to grasp this. But…even slow learners can get there by paying attention and going step by step over time.

[22] SB: I have observed that people who have done a lot of sensitive work with their hands like pianists and artists are more likely to feel this in their hands, while engineers and more scientific types like me have to figure out where in the body to feel it.

[23] Some of you may remember Robert Heinlein's *Stranger in a Strange Land*. The protagonist had learned to "grok" things. This sense of *de* as grasping or understanding is like "grokking".

© 2023 International Toyohari Association. All rights reserved.

(Birch 2016). It is good to read these publications for specific details relative to paediatric patients and patients with cancer.

Junko Ida breaks down the key issues relating to the question of dose and the adjustment of treatment into two main aspects: the quantitative and the qualitative.

1) Quantitative aspects include: the number of points treated, the time spent for each needling, the thickness of the needle, the use of different kinds of needles, the use of different kinds of moxibustion (*okyu, chinetsukyu*, etc.), bloodletting (the amount of blood taken), tonifying the secondary *sho* (*sokoku*) by mistake (when it is a single *sho*);
2) Qualitative aspects include: needling technique (leaking qi, in particular), using the wrong technique (needling, moxa), the way you touch the patient's body, the lack of a smooth treatment flow, too much intention on the part of the practitioner to make the patient's condition better.

In his paper on the sensitive patient, Sascha Gröbe lists common factors we can work with to lower the dose of treatment (see Appendix C):

Table 2 Lowering the dose

Treatment duration	Short treatment time · Less frequent appointments · Mild and short stimulation (e.g. for *hoho*)
Treatment intensity	Fewer number of treated points · Thinner/softer needles · Less draining techniques (*shaho*) · Shallower insertion · Flat angle of the needle · Use of the *teishin* · Use of techniques designed for treating children (*shonishin*) · Less symptomatic treatment
Feedback signs from patient	Sounds from belly movements (borborygmus) · Deeper breathing, longer exhalation · Slower breathing rhythm · Less muscular tension · Warmer skin, especially hands and belly · Colour of skin more red/pink and/or more evenly distributed, especially on the face · Smiles, little sounds of relief · Tender/soft gaze · *Hara* warmer, more even temperature, softer · Pulse slower and sinking, firmer (more consolidated)

© 2023 International Toyohari Association. All rights reserved.

The following case from Zoe Brenner tells its own clear story about the difficulties we can encounter when working with a sensitive patient:

Clinical Example 3

MF is a 60-year-old woman. She was having lots of fatigue, aches, and some anxiety. She was brought to me for a consultation by another practitioner who was having trouble treating her. She was so sensitive. The acupuncturist wanted her to see if she could tolerate the contact needling.* I did one point and she said it was fine. Then they decided that perhaps I should treat her for a while.

Diagnosis: I felt that she was a kidney *sho* with perhaps a light *ko* or even *waho* in the spleen. I proceeded to do *hoho* on KI 7 with a #1 silver needle. She said that was enough. I tried to discuss with her the idea of a root treatment and to explain that it is all part of a balanced treatment. She said, no, that was enough. She came back the next few weeks and the same thing happened. I suggested that perhaps we could do the treatment with a *teishin* and she said, no, she wanted the needle. By the next treatment I really was feeling that I needed to balance the other part of the root and persuaded her to let me do a spleen point. She said OK but was not sure about it. She called me an hour later and said that she didn't do well. When she returned the next week, I said that I was sorry that it hadn't worked out with a second point. She said she knew it was difficult for me not to do more because I was trying to help her. I said I also felt bad that she was driving an hour each way for one point. She let me know that she was sure she was right with this. She said something I have never forgotten: "I am paying you for your restraint."

Comments: She was correct—it is very difficult not to do more. To restrain yourself from doing even just a little bit more is more difficult than going ahead. She knew that and she knew what she needed.

* The term "contact needling" refers to the use of a needle such that it contacts the skin without penetrating it. It is used by other acupuncturists and researchers to refer to a range of techniques that can include Toyohari root treatment, *sanshin* technique and so on. An important study was just published demonstrating blood flow changes following the application of root and branch "contact needling" methods (Ogawa-Ochiai et al. 2020).

Type of needling

In the discussions above, we summarised the steps for selection of needling technique to lower the dose. These are repeated here in Box 2 below.

Box 2: Techniques for lowering dose

Normally we use a thin silver needle (0.16 mm or 0.18 mm in diameter, 40 mm or 30 mm in length) to apply root treatment.

1) If the patient is sensitive, use a thinner and longer needle.*
2) If the patient is more sensitive (cannot tolerate the use of silver needles), use a *teishin*.†
3) If the patient is more sensitive and cannot tolerate the use of a *teishin*, lightly stroke along the meridian over the treatment point with an *enshin*.
4) If the patient cannot tolerate this lower dose of treatment, use inserted needles (0.12 mm inserted to a depth of 0.5–2 mm) to lower the dose further for the root treatment.

* Use of a thinner and/or longer needle essentially increases the flexibility of the needle. The less rigid the needle, the less the dose of treatment it generally delivers. This is the case for a needle with a sharp point.

† The *teishin* is naturally more rigid, but has a round end, not a sharp point. The round end produces a much lower dose. The greater the diameter of the round end, the lower the dose.

© 2023 International Toyohari Association. All rights reserved.

For most sensitive patients adjusting the root treatment by using 1 or 2 is sufficient. The third option comes up occasionally, the fourth very rarely.[24] See descriptions of the use of the teishin in the chapter on needling in Birch and Minderhout (2010, 195–220).

Steps of needling

In the root treatment we have been taught to apply *hoho* to two treatment points for the primary *sho*: for example, for the lung *sho* patient, we apply *hoho* on one side of the body—to LU 9, then to SP 3. We then evaluate the changes and determine the secondary *sho* and apply *hoho*, *shaho*, or *waho* to a single yin meridian point on the other side of the body. Then we evaluate changes and determine which yang meridians to treat, most commonly applying some form of *shaho* on one or more yang meridian *luo* points (Birch and Minderhout 2010; Maksymenko and Mühlemann 2020, 1).

But on the sensitive patient we need to reduce the amount of root treatment and some of the techniques we use. In various lectures Yanagishita explained that we do not always have to apply *hoho* to two points for successful treatment of the primary *sho* (as theory predicts). For example, if after applying *hoho* to LU 9 on a lung *sho* patient, we observe that the pulse quality is much better and that the lung and spleen pulses are both clearly stronger, we may skip use of the second point for lung *sho*, SP 3. The sensitive patient tends to respond more strongly to our treatment and if you have done your needling well, this kind of big change may occur. This allows you to lower the dose by skipping the second point. Please note, however, this is not theoretically predictable—it is only if your needling produced those changes that you can try this.

In more sensitive patients, who have a tendency to react very strongly, it is sometimes better not to do *shaho* until you are more experienced treating the patient and have a better understanding of how they respond to your treatments. Very *kyo* patients are often more sensitive. A treatment strategy that is recommended for very *kyo* patients is to only apply *hoho* to build the patient up, and then at a later time when their system is stronger, start to carefully apply milder *shaho* techniques. Thus, on the *kyo*-type sensitive patient you will probably follow this approach anyway and not apply any *shaho* on the patient. If the patient is sensitive but not very *kyo* and you are in the early stages of your treatment, where you are still figuring out how the patient responds to your treatment, how are you to deal with signs of *jitsu* if you do not want to use *shaho* techniques? We have been taught that for an unresolved *ōkijitsu* (relative excess) condition we can apply the *yusha* or "transfer needling" method. If, for example, we see the liver to be *jitsu*, for the *yusha* technique we apply *hoho* to the gallbladder meridian (e.g. GB 37) to counterbalance the liver *jitsu*. If we see the stomach to be *jitsu* we can apply *hoho* to the spleen meridian to counterbalance that *jitsu*. But if we do not want to do that because we have, for example, already treated the spleen meridian, we can use five-phase controlling cycle needling. If the stomach meridian is *jitsu* we can apply *hoho* to the wood or water points (ST 43 or ST 44) to counterbalance the *jitsu* of the stomach meridian. If the stomach meridian is *jitsu* and the

[24] SB reports that on very rare occasions he has had some patients present whose qi system was so sensitive it was virtually unstable. Use of painless inserted needles appeared to work better because it seemed to have a kind of anchoring, stabilising effect. BUT at the same time as recognising this possibility, it is good to realise that the need for this is very rare. Don't start being lazy with your root treatment!

© 2023 International Toyohari Association. All rights reserved.

bladder feels a little weak, we can also try doing a mild *hoho* to the bladder meridian (e.g. BL 64) to try counterbalancing the relative *jitsu* of the stomach meridian. While not a perfect solution for the elimination of actual *jaki* (*jajitsu*), on the sensitive patient, it can be a good compromise (and temporary) solution.[25]

Sometimes the issue of dosage comes up because of our enthusiasm with respect to treatment. The patient may not be overly sensitive, and we have not felt the need to reduce the dose of treatment. But when examining the pulses to determine which yang meridians need *shaho*, we sometimes get carried away. Rather than stopping when a clear improvement has happened, we keep chasing after every little sign of *jitsu* in the pulse, applying *shaho* repeatedly to create the perfect pulse—and in the end, we over-treat the patient. Speaking of this at the 2003 Cherry Blossom Workshop in Tokyo, Yanagishita said that when we apply treatment, we should stop when there is a clear sign of improvement, when we have put the patient on the right track, rather than keep treating to try to walk the patient to that destination. Take the positive change as a good sign and make sure to keep the gains you have made.

Also do not forget the variable speed of qi movement. On the yang meridians, we experience the *qi* as moving most quickly; next is the lung meridian, next the heart and pericardium, next the spleen, next the liver and slowest is usually the kidney meridian. This means that we should modify the time we spend on each meridian for the needling, with the least amount of time spent on the *yang* meridians, followed by the lung, heart, etc., and the longest time, in relative terms, devoted to the kidney meridian. With the sensitive patient all these needling times are reduced. Thus, to enact and complete the needling technique more quickly for *hoho* on a sensitive patient, advance the needle as usual so that you feel it contact the *qi* at the best level, then, as soon as you feel the *qi* start to gather, remove the needle and close the hole. Do not wait and build up (gather) the qi in the normal manner. The *hayate zashi* needle technique (below) is an extension of this with specific components and uses. Here we are talking about starting out with a lower dose by shortening the time spent gathering the *qi*. In later treatment sessions, once you have a sense of how the patient responds to what you are doing, you can linger a bit longer on the points while you gather the qi.

Additional approaches for root treatment

We have been taught additional ways to adjust for energetic dosage when needling. If the person is very sensitive; try reducing the angle of the needle so that it is flatter to the skin. Kasumi (2016 Lecture) also suggested paying attention to the needle depth in relation to the meridian and organ systems: for example, the lung is the most superficial, and the needle angle should be shallowest (relatively) and less needles should be used, whereas the kidney is the deepest, so the needle should be angled more deeply and the overall number of needles may increase.

"The more sensitive the patient, the more horizontal the needle."

Nagaoka 2018 Lecture

[25] Temporary in the sense of recognising that it does not directly address the *jaki* that is present, but it at least contributes to a kind of balancing of the meridians, which is part of the goal of root treatment. The *jaki* will probably need to be addressed at a later stage when you feel the patient is better able to tolerate *shaho* techniques.

© 2023 International Toyohari Association. All rights reserved.

Another suggestion is to make sure that the left-right pressure (*sayuatsu*) of the *oshide* is not too tight because in the very sensitive patient it can make the pulse too firm. Sensitive people often have more nuanced qualities in their pulse and if you make the pulse too firm, it may not conform to them and you may trigger increased anxiety, for example. It is not that you want to make the pulse unconsolidated but rather that the pulse's consistency needs to be congruent with the patient. This can be a form of over-treatment. Japanese teachers have often told us that for depressive-type patients it is usually better to not try to consolidate the pulse too much, so we make less use of left-right pressure and closure of the bottom surface of the *oshide*, both in our intention to achieve "consolidation" and physically in how we apply the technique of *hoho*.

There is also a technique called *hayate zashi* or quick technique which is a modified version of *hoho*. This is not only used when the pulse is very fast but has also been recommended for when a patient's qi moves very quickly or easily (Birch 2010, 217–18). In psychologically distressed patients, the qi can move very quickly or be more disordered in its movement. This can also be the case in the very sensitive patient. But not all very sensitive patients manifest very rapid and/or disordered qi movement. Thus, if you have the sense that a specific sensitive patient shows this tendency, the *hayate zashi* may be a more appropriate method for *hoho* needling. For the *hayate zashi* technique, angle the needle with the flow of the meridian, advance a little quicker than with the usual *hoho*, apply left-right pressure; as soon as *qi* arrival is felt and starts to build up, ask the patient to inhale and at the end of the inhalation remove the needle quickly, closing the hole rapidly. In the *hayate zashi* technique everything is done more quickly *and* needle removal is timed with the end of the inhalation.

In the sensitive patient we need to pay attention to these ways of adjusting the needle technique; otherwise, we risk generating a kind of energetic overdose. The person can become more anxious or agitated and tense, and they experience their symptoms more noticeably. The pulses can become tighter and perhaps less fluid. While these reactions may result from an incorrect diagnosis and root treatment, if you see these reactions, it is more useful to suspect that the problem was dose rather than the selection of *sho*. If it is to do with the dosage of treatment, adjusting your dose for the next treatment usually improves the condition and prevents this kind of reaction.

On the other hand, it may have been a problem with the selection of *sho*. This is likely if:

- when you were diagnosing the patient, you did not see signs that made you suspect the patient to be more sensitive;
- in the selection of *sho* you had difficulty deciding because the patient's findings were complex or unclear;
- you had decided to start by treating one *sho* to see how the patient responded—which is usually a way of postponing a final decision on the *sho* until you see how the patient responds to treatment of one or the other *sho*.

Of course, in some patients reactions to treatment can occur due to both treatment overdose and problems with selection of *sho*. But this is not common. It is much more common that reactions to treatment occur because of an overdose in how the root treatment was applied *or* because of the total amount of treatment delivered, which includes the supportive treatments.

© 2023 International Toyohari Association. All rights reserved.

Treating the wrong *sho* much more commonly leads to a mild response or no response to treatment of one *sho*, with a much clearer positive change when the correct *sho* is treated. *Very* occasionally you may see the patient have negative reactions to treatment of the wrong *sho*; usually the reaction is the absence of any effect.

Frequency of treatment

The frequency of treatment is another factor that can help modulate the dose of treatment. It is not common that we need to pay attention to this and perform treatments at a lower frequency, but it can happen in some patients. The following clinical example from SB illustrates how reduction of dose was achieved not only at the time of each treatment but also overall by doing treatment less frequently.

Clinical Example 4

AL was 52 years old. She suffered from post-traumatic stress disorder. She was anxious, fearful all the time with recurrent depressive thoughts. She had difficulties with sleep and low energy. She was struggling with daily life. She was undergoing psychological therapy to assist her. The PTSD had started because her son was suicidal. He had tried to kill himself three times in front of her. On the last occasion he had tried jumping off the balcony, she had rushed forward and caught him by the legs. He was hanging there for a while screaming at her to let go before a neighbour came to help rescue him. This last episode was the "straw that broke the camel's back".

She had a lung *sho*. I judged her to be very sensitive and that I should apply a low dose of treatment. I diagnosed a lung–liver *sokoku* pattern and tried treating her with a short silver *teishin* (tonifying right LU 9 and SP 3, and left LV 3) and tonifying left TB 4, right ST 36. Light *hoho* was applied with the *teishin* in the *naso* and *muno* regions as supportive treatment. When she was face down, light *chishin* needling (0.16 mm needles) was applied to GB 20, BL 18, and BL 23, which were stiff. Treatment was finished after this.

On the second visit she reported that she had been very tired for the rest of the day and a bit into the next day but generally felt a bit better after that. I wondered if this was a sign of over-treatment or if it might be a kind of *mengen* reaction. I repeated the treatment hoping that it was a kind of *mengen* reaction. She came back a week later reporting similar post-treatment reactions but clear improvement in her symptoms. I repeated treatment again. On the fourth visit she reported that, yes, overall she was better but the total treatment seemed too intense. She asked what we could do to reduce the intensity. During our conversation about how to proceed she suggested that perhaps doing treatment, say, once every three weeks instead of every week or every other week might work better. After further discussion we agreed to try this. This strategy of reducing the total dose of treatment by reducing frequency of treatment worked well for her. She experienced very clear improvements in her condition while reporting a virtual elimination of the bumpy progress that she had experienced at first.

Comments: I do not have many cases where reducing the dose of the total treatment by doing treatment less frequently comes up. In this case it was the correct approach. We had a treatment that was working. We both evaluated the dose of treatment to be about right, but that she experienced it very intensely. We agreed that it needed to be modulated in a different way to achieve the next stage of progress. Of course, I was also lucky that she was very mature and very insightful in a completely non-neurotic way and that we could work out this strategy between us.

Another example from Junko Ida in the clinical cases below (MB) illustrates the decision to apply treatment less frequently to regulate dose.

© 2023 International Toyohari Association. All rights reserved.

Managing dose for the branch treatments

We have a number of supportive treatments to choose from. Focus on what is most crucial to address for that patient. Giving the person too many messages by applying too many supportive treatments can create an overdose and confuse things. The analogy is that if you engage in too many tasks, they often don't get done well. Sometimes there is something that supports the process and really improves the situation; at other times you may be straining to decide what to do next, which is a sign not to do anything. Are you doing it just to do something based on your or their expectations, or do you clearly feel that this is the appropriate treatment?

During supportive treatment, focusing on too many points and locations and/or applying sloppy technique in *naso/muno* can result in over-treatment. Always assess the skin and *qi* of the *naso/muno* areas carefully with the left hand as you treat to be sure that the dosage is appropriate. Stop when you feel clear improvements. The same can be said for using the back-*shu* and front-*mu* points to support the root treatment.

It is during branch treatment that we can most easily make mistakes leading to over-treatment. As healers we always want to help our patients; unfortunately, our zeal to try to help can actually make things worse for our patients as we become too "fix-it-minded" or end up chasing symptoms. To avoid doing too much, it is essential to reassess the pulse and skin and pay close attention to the patient's breathing and state of mind throughout the treatment process. The pulse should not lose its shape and definition or become harder or more floating and rapid (unless, possibly, the pulse was too sunken and slow at the beginning of treatment). The skin should have a healthy amount of moisture and a bright lustre; it should not look duller or start sweating or become more tense or flaccid. The patient's breathing should become slower and deeper and they should remain relaxed and not become agitated—see the feedback signs of good treatment listed above.

When there are multiple symptoms and we go from area to area trying to relieve them, we can easily fall into over-treating. It is best to trust root and supportive treatment to bolster the patient's *seiki*, thus helping them overcome the multiple symptoms, and apply branch treatment to focus on just one or two of the symptom areas. Concentrate here on limiting your use of branch techniques to one or two per treatment, e.g. *kikei* and *sanshin* or *chishin* and *okyu* or *shiraku* and *chinestukyu*.

With ongoing treatment, a sensitive person's qi stabilises, and they can tolerate more supportive treatments than they could at the beginning.

Naso-muno

If the patient is sensitive and you have used a *teishin* for the root treatment, then continue using the *teishin* for the *naso-muno* treatment and focus on applying *hoho* to *kyo* areas. The *naso* region is quite sensitive so be careful to apply treatment judiciously here. It is good to monitor

© 2023 International Toyohari Association. All rights reserved.

changes in this region during the root treatment. Observing how the findings change can provide information about how to apply subsequent treatment there.[26]

Kikei

The use of copper-zinc is tolerated by most sensitive patients, but in some, depending on what has caused their increased sensitivity, the use of *okyu* may be not well tolerated. Thus, for sensitive patients it is usually easier to start applying *kikei* using only copper-zinc discs, retained for a few minutes; then at a later session, if the patient had tolerated the copper-zinc, try adding a mild form of *okyu*. On some patients you can use *chinetsukyu* moxa cones, providing a mild sensation of heat, instead of the smaller *okyu* cones that risk giving a stronger (potentially disturbing) pinch of heat. In this case you can try two *chinetsukyu* cones where five *okyu* cones would be applied, and one *chinetsukyu* cone where three *okyu* cones would be applied.

Shigo

If the patient is very sensitive, it is possible to use a *teishin* for *shigo* treatment. Normally for the *shigo* technique we apply *hoho* to the treatment point for a longer period of time than we would doing *hoho* in the root treatment; it is important to also pay attention to this—probably a shorter time than usual is better. To help with this judgement, make sure to position yourself so that you can palpate the affected area/meridian while doing the *shigo* needling. As soon as you observe the affected area/meridian start to change, stop the technique, removing the needle and closing the point.

Sanshin

This is a very helpful technique to improve the circulation of qi. If the patient's qi is very sensitive and moves very quickly or erratically, apply the *sanshin* carefully and more slowly to try to counter that and avoid provoking reactions.

Chishin

Retained needling is usually not a problem for sensitive patients. It is important that the technique is painless (so make sure to use a thinner needle and to press with the guide tube at the time of insertion). When using *chishin*, use as few points as possible and leave them for less time.

Okyu

Moxa is a very useful treatment tool but sometimes the stimulation of the *okyu* is not well tolerated by sensitive patients. If you have good technique and are able to routinely apply a very mild form of *okyu*—e.g. 70% or 80% styles[27]—then it is OK to try *okyu* on the sensitive

---

[26] SB has noticed that a number of us feel that ONLY the *teishin* should be used to treat the *naso* region. This is not correct: the silver needle is usually chosen for treatment there. However, the *teishin* is a means of reducing the dose and you should certainly use it for *naso* treatment if you used it for root treatment. Alternatively, you may have applied a good amount of treatment to the patient with the silver needle and noticed that despite all the other good changes, a particular reaction in the *naso* region has not changed. You want to treat it but have now become concerned about the dose already delivered; using the *teishin* to address this reaction is a useful strategy, while keeping the dose lower.

[27] This involves letting the moxa cone burn down around 70–80% so that there is only a mild, comfortable sensation of slight heat (Birch 2016, 81–82). If you are unfamiliar with this technique, practise it on yourself extensively, so that you understand how to apply it and can control the heat sensations precisely.

© 2023 International Toyohari Association. All rights reserved.

patient to see how they respond—but you must know how to do this technique and practise it before trying it on the patient. You *cannot* use the bamboo tube for this technique, and you need to know how the cone burns and when the patient is starting to feel the heat.

Chinetsukyu

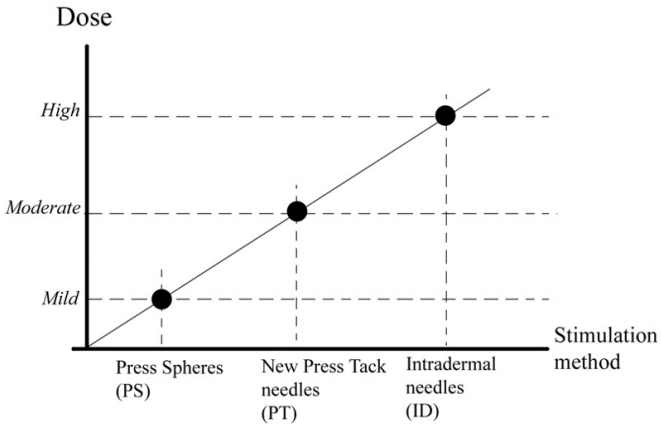
This is a very appropriate technique for the sensitive patient. The lack of heat sensation and stimulation from this technique and its effects on the qi of the patient make it a suitable treatment tool for helping rectify over-treatment in a sensitive patient (see below). It can also be used routinely on the very sensitive patient towards the end of treatment to help target and produce regulatory influences on the "vitality" of the patient (see figures above). If one can positively influence Level 3 (*seiki*), it helps further regulate Level 2 (meridian system) and Level 1 (functional systems). In a patient who is run down or whose *qi* is in a more disordered state owing to a lot of physical and emotional pressures (two common causes of increased sensitivity in a patient), *chinetsukyu* to points like GV 14, GV 3, and the lateral *pigen* points (below and almost at the end of the twelfth rib; Birch 2016, 89) can be very helpful.

Ryu – Empishin – Hinaishin

Retained dermal stimulation includes the three techniques of:

a) press-spheres (*ryu*)
b) Pyonex press-tack needles (*empishin*)
c) intradermal needles (*hinaishin*).

We usually scale the use of these techniques in relation to dose so that we can choose the appropriate tool for each individual patient. This is seen in the following graphic, which gives an approximation of the dose output for each technique (Birch 2016, 93):



The press-sphere is considered the lowest dose provided it causes no skin irritation. Recent experience has shown that the 0.3 mm length Pyonex press-tack needles seem to be equivalent with almost no risk of skin irritation (based on SB's personal experience) and are thus the easiest and safest to use. We place the 0.6 mm Pyonex press-tack needle in the middle of the graph and the 0.9 mm Pyonex press-tack closer to the intradermal needle on the graph (Birch 2016; Birch and Ida 1998).

But be aware that the dose is also time dependent. The longer any of these tools are left on the body, the higher the dose, so as well as choosing, for example, 0.3 mm press-tack needles to give a low dose, it may be judicious to only leave them for a short time (e.g. two days)—this is routinely how we use these three treatment tools on babies and children where we very carefully modulate dose of treatment (Birch 2016, 78). On adults the same principles apply, but finding the best tool and best length of time sometimes takes a few attempts.

© 2023 International Toyohari Association. All rights reserved.

Kyukaku

Cupping can be used on sensitive patients if one pays attention to modification of the technique to reduce the dose (Birch and Ida 1998, 189–93). The dose of the cupping can be adjusted according to a) the degree of pressure (partial vacuum) used to get the cup to adhere, b) the length of time the cup is retained, and c) the number of places that the cupping is applied. We use only pumped or squeeze-top cups, not fire cups.

Shiraku

Bloodletting dose is adjusted routinely so that it can be used on a wide range of patients. Some sensitive patients do not tolerate bloodletting at all (probably a psychological reaction), but provided the sensitive patient can tolerate the technique, it is OK to apply it so long as you follow the guidelines for its use. There are three major forms of bloodletting that we use (Birch and Ida 1998, 211–42): *jing* point bleeding (221), vascular spider bleeding (229–30), and *ranshiho*-type bleeding (233–34). Details on how to modulate dose are given for each of these techniques in the relevant sections of Birch and Ida's *Japanese Acupuncture* (as noted here in brackets). See the case of GD below for an example of its use on a sensitive patient.

Correction of treatment overdose

Correction of treatment overdose is something we do during the treatment in an effort to undo some of the problems we have accidentally caused when we have over-treated the patient. But it can include the modification of treatment dose at the next and subsequent treatments. For more on this, see the discussions above and the various clinical cases.

For correction during the treatment session: A simple and effective way to help correct treatment overdose is to very gently stroke down the back and legs with the *enshin*. Applying *chinetsukyu* is the easiest method of helping to correct over-treatment. For this purpose, it can be applied in one of two different ways. Here it depends on the patient and at what stage in the treatment you have realised that they may have been over-treated—when still face-down on the table or when face-up. Apply one or two cones of *chinetsukyu* to either GV 14, GV 3 and the lateral *pigen* points on the back or to CV 12, CV 4 or CV 6, and ST 25 on the abdomen. Both of these help regather and centre the patient's qi after over-treatment.

This may be quite helpful to get some stability back for the patient at that treatment, but it is also a lesson to be careful in the next treatment and to keep assessing the results with each point. After an over-treatment reaction, you may not be able to get back to the best condition in that treatment, and it is best not to try because that may cause more over-treatment. The idea is to recover some equilibrium.

Treatment under-dose

It is always better to apply less treatment on the first visit. Then, as we have explained above, we build up the dose in successive visits until we find the dose and/or techniques that constitute a

© 2023 International Toyohari Association. All rights reserved.

kind of treatment threshold where changes start to stay longer in the body so that the patient tells us they feel better. This seems very simple and logical but can be complicated. Our ability to judge where we have got to during the treatment process is informed by many factors. For the patient the main issues are "Do I feel better?" "Is my symptom clearly better?" "Has my symptom gone?" There are times where we are really dependent on patient feedback to enable us to make a best-guess/better-informed judgement of how the patient is doing, but many beginners tend to rely too much on this, often thinking that it seems more "objective". The problem is that patient reports can be coloured by factors which may or may not reflect reality or what is going on.[28] Thus, as practitioners, we also have to assess the condition and progress of the patient through our clinical assessments to reduce our dependency on patient reports. Toyohari excels in describing details of bodily condition and change that can help inform our assessment of patient progress.

If a patient's condition has not yet improved, that may be expected. If you have followed the guidelines we have been describing, you will have started by deliberately under-treating the patient. If with a deliberately lower dose of treatment the patient described an improvement, you need to assess whether that is due to their being sensitive and thus responsive to a lower dose of treatment and/or whether this is a complex psychosocial response (including placebo) that will wear off by the next visit. The answer to this question is not always straightforward, and you may misjudge this and continue applying the same lower-dose treatment, which will not show signs of continued effectiveness; the improvements may even go into reverse since they were as much (if not more) to do with the patient's report as they were with change effected in their condition. These kinds of scenarios require your careful attention and assessment. If the treatment is repeated and the symptoms now return, you might suspect you are under-treating the patient and gradually increase the dosage with additional or modified measures.

If the patient's condition has shown no sign of change after only deliberately low-dose treatment, *and* there are no signs of reactions (such as feeling a bit hyper, feeling much more tired, or other signs of a mild overdose), then you can think about increasing the dose with modified measures and/or additional techniques. This can be applied incrementally for a patient you had thought may be more sensitive in your initial evaluation. In the patient where you had judged there were no signs of heightened sensitivity, your stepping up of the dose can be much greater with more additional measures, etc. But be aware that you are also judging what techniques and methods work for the patient: if you add three new things (e.g. supportive treatment techniques) and the patient shows clear improvement but has some signs of being a little overdosed, it is harder to judge which of the supportive techniques caused that.

---

[28] Examples of issues that we have to deal with include: i) Patient expectations—Are these realistic given the nature of the health problem and the stage of treatment? ii) The capability of the patient to report bodily sensations/experiences accurately or in a nuanced way—many patients experience their symptom in a binary way (e.g. pain / no pain) and cannot describe changes in degree or do so very imprecisely; iii) Psychosocial factors of differing degrees of complexity—for example, Is this a "failed treatment patient", as is often seen with cases of "chronic pain syndrome" etc.? Such patients manifest and describe their problems in challenging ways; iv) The nature of the patient's health problem, their health history, and their overall health status colour our assessment of prognosis—we must know what change to reasonably expect in a patient's condition if we are to assess how well our treatment is progressing. The authors will work on a detailed paper about prognosis at a later date. Appendix A gives a few examples of how patients can manifest complicated conditions that can colour our assessment of treatment progress.

© 2023 International Toyohari Association. All rights reserved.

A treatment under-dose can occur because of issues around how we judge what the therapy can do. Some of our very senior teachers rarely use draining techniques and use hardly any supportive treatments—we may be inspired by that and their seemingly spectacular results. But then some of us think that we can reproduce the same effects as though that is normal—rather than the result of the forty or more years of treatment experience and study that teacher has gone through. Like most things in life, Toyohari is skill based: the more you do it and the more you study, the better you can become. Studying Toyohari is not like having someone plug a program into your head in the way you see in movies like *The Matrix*. You cannot suddenly be that good. If you have a tendency to think that it is in the nature of Toyohari treatment that such huge changes occur and you create your expectations to match this, you will under-treat your patients on a regular basis. Don't do this. The best approach is to keep studying and strive to become as good as you can.

One of the factors in under-treatment is related to how our *hoho* technique affects the *jaki*. We may have a good *hoho* technique, but the patient's condition is such that only gradually does the *jaki* come up—because the patient is very *kyo*, for example, or you are deliberately applying very mild *hoho* in order to regulate the dose of treatment. If the *jaki* does not come up much with the *hoho*, then we will not be doing much *shaho* to help eliminate the *jaki*. This is a kind of under-treatment. At the very least be aware that this can happen and pay attention to how your *hoho* is dredging up *jaki* so that you can apply *shaho*. If you are only doing *hoho* on a patient for a prolonged period of time, you may be at risk of under-treating them because you are not draining the *jaki*. Of course, in a very deficient patient our strategy may be to apply only *hoho* for a while until the body is strong enough to push up the *jaki* and we can start to apply *shaho* techniques—in such cases don't forget that the goal is to make the body strong enough so that we can start to apply the requisite *shaho* techniques. It may also be that we are only applying root treatment to support the patient through a difficult process (Birch 2019)—or, more specifically, we are only applying root treatment for palliative care (Birch, Bovey, et al. 2020). In such cases we usually deliberately apply lower doses of treatment and are not seeking to increase dose over successive treatments. We very carefully follow our plan and do our best not to deviate much from it.

In general, if the patient reports that their symptom or condition does not improve or you notice that their condition is not improving, treatment dosage is, of course, an issue to pay attention to. But don't forget that this lack of progress may be more of a prognostic sign (usually in more ill patients). It could also be related to a problem with selection of *sho* (and in root treatment that also includes other factors like point selection), or inadequate use of supportive treatments. You need to weigh these factors and figure out how to proceed.

Conclusions

Our sensei stress the importance of dose in relation to what we do as Toyohari practitioners. The critical issue in practising Toyohari and avoiding treatment overdose is to properly evaluate the constitution and

"To practise meridian therapy, one must grasp the *kyo* and *jitsu* and regulate them by *ho* and *sha* accordingly."

Kodo Fukushima

© 2023 International Toyohari Association. All rights reserved.

> **"Unless you have the pulse-taking skills to confirm the diagnosis, the ability to regulate the qi and the knowledge to recheck the pulse for the effects of your needling, you cannot succeed in clinical practice."**
>
> Katsuyuki Kozato

state of the patient's qi, monitor the changes of qi after the application of each and every therapeutic input, and stop when the pulse quality has responded positively and sufficiently. Just because your patient has coped with the treatment dose of the preceding session does not automatically confirm that it is safe to repeat the same dose. At every session the treatment effects must be monitored at each stage and the dosage adjusted to suit the circumstances, which may change profoundly week by week. This issue contributes to our efficacy in treatment and requires highly developed clinical skills, as well as the courage to follow our findings and to apply restraint to avoid overdose. These clinical challenges are what make Toyohari such a fascinating, demanding, and effective art.

Additional Clinical Cases

Case 1 (SB)

Patient: NB, 30 years old

History and main complaints: He was struggling with chronic daily headaches and pain and had difficulty regulating his insulin needs. He was trying to reduce the occurrence and risk of grand mal epileptic seizures and was always very tired. He was taking strong anti-epileptic medication on a daily basis. He had been born as a girl. At the age of 16 he started hormone treatment in preparation for having sex change surgery, which was done at the age of 18. This surgery partially failed, and he had a strip of flesh about 6 cm wide removed from his left forearm starting about 4 cm proximal to the wrist, to rebuild the penis structure. During the intensive periods of hormone therapy and surgeries he became schizophrenic and was hospitalised for this. Once released from the hospital, he developed a heroin habit. He struggled with psychiatric disease and addiction problems from this time. At the age of 28 he suddenly and unexpectedly developed full-blown insulin-dependent diabetes *and* grand mal epilepsy. Prior to coming for acupuncture, he had spent a very difficult two years struggling with these problems. At the time of the first appointment, he was free of heroin usage but struggling with addiction issues. He was afraid of dealing with doctors for his psychiatric problems, which were now labelled "borderline personality disorder", and was *not* taking any medication for this. He was living with his mother who brought him for treatment. He spoke with a very weak and unclear voice. Some of what he said left me wondering about accuracy and relevance, and I looked to his mother on a number of occasions for clarification. I already suspected it would not be easy to trust his reports of what was happening.

Diagnosis: It was difficult to select the *sho* because the removal of the strip of flesh just proximal to the left radial pulse made the pulses on the left side very difficult to feel. The abdomen showed weakness in all areas. If the pulses on the left are weaker than on the right, this could be

© 2023 International Toyohari Association. All rights reserved.

liver *sho*, but in a heart *sho*, the heart and liver pulses will be weak and the kidney *could* also be weak. Thus it was possible he could have either *sho*. On the other hand, perhaps the pulse readings on the left wrist were simply distorted, and the *sho* was spleen, lung, or kidney? I selected the liver *sho* for the first visit. I identified him as being very sensitive, selecting a short silver *teishin* for treatment and resolving to try to do as little as possible.

Treatment: Using a short silver *teishin*, *hoho* was applied to right LV 8, KI 10. On checking the pulse again, the lung was *kyo*, so left LU 9 was tonified with the *teishin*. All the pulses were still generally *kyo*, so *hoho* was applied to bilateral TB 4. I applied very light *hoho* with the *teishin* to left-right *muno* and *naso* regions. On the back I applied *hoho* only to BL 18, BL 23 and did very light *enshin* stroking down the back. While his overall response was not clear, he did seem quite relaxed. I took this, on balance, to be a positive response.

On the second visit he reported feeling a little more settled. His mother stated he complained less about headaches and pain and had seemed slightly more stable. I repeated the treatment without an increase of dose. Treatment proceeded like this, with weekly visits. On one occasion he complained strongly about his headache, so while he was face down I decided to try applying a mild *shaho* with the *teishin* to GB 20. This triggered an immediate grand mal seizure—while I was in the middle of the technique—which lasted only a few seconds! Fortunately, his mother was able to help me secure him to the table while we rode this out. I did not apply *shaho* again on him and got his agreement that treating symptoms may not be the right thing to try. Over time his mother described him as being more stable, complaining less of pain, and his sugar levels and insulin use were gradually becoming more balanced. In this case, progress was made slowly and gradually, and we all needed to be very patient. On occasion he was so unstable that using the *teishin* for root treatment triggered further instability. I countered this by using *chishin*-style *hoho* for the root treatment instead, thinking that this might be more grounding for the patient—and thought that this strategy worked on those occasions.

Comments: It was unclear how much progress could be made given the poor prognosis signs he presented with. It was also unclear how to assess progress as his reports were often not dependable. Fortunately, his mother almost always came with him for treatment. The seizure episode from attempting to apply a non-inserted light *shaho* left me worried that other techniques could provoke similar responses. It was frustrating to be scared to apply any additional treatment measures. However, my keeping calm and staying focused on the root treatment, with little to no supportive treatment, allowed him to make gains over time. I tried treating the heart *sho* on one occasion. Symptomatically, he fit the picture and with *kyo* findings in the heart (as well as all abdominal areas) and the whole left pulse being weak, I thought it good to try this. But it seemed to irritate his condition that week and certainly did not add any extra therapeutic benefit, so I never tried it again.[29] Eighteen months after treatment had started he was no longer coming for treatment, but his mother called to say that he had suddenly become free of the epilepsy. I like to think my treatment contributed to this, but I suspect the borderline personality disorder he had been diagnosed with had more to do with this change.

---

[29] The paper by SB on heart *sho* explains more details of the pattern and why the presence of relevant symptoms such as psychiatric problems is not necessarily an indicator of heart *sho* (Birch 2020).

© 2023 International Toyohari Association. All rights reserved.

Case 2 (SB)

Patient: GD, 50 years old

History and main complaints: She complained of dental/jaw pain on the left side. She had had some dental work done a few months earlier. A couple of months after the work was completed, she developed a sharp nerve-like pain that was quite distressing. On examination, the dentist could find nothing and thus could not offer any treatment other than recommending the use of NSAIDs such as paracetamol and ibuprofen to control the pain. GD had no significant medical history and did not like taking any medicine. She was a professional singer performing in opera and other classical forms of music. When questioned further, she disclosed that she had stiff shoulders chronically and experienced stress a bit more easily than she would like.

Diagnosis: She showed a clear lung *kyo* with liver *jitsu sho*. She showed signs of some darkening of the skin on the face (due to probable blood stasis). On palpating her limbs and abdomen, I was not surprised to feel her qi move easily—in Amsterdam we have been fortunate to treat many musicians, especially classical musicians, who tend to be very sensitive and require a lower-dose treatment approach.

Treatment: I chose to do minimal treatment on the first visit, focusing on low-dose treatment and planning to build up the dose depending on response. Using a short silver *teishin*, I treated her for lung *kyo* (right side) with liver *jitsu* (left side) and applied draining to a couple of yang meridians. After this I did light *hoho* over the *muno* and *naso* regions. When she turned over, I applied *chishin* needling to stiff reactive points on the neck/shoulders/upper back (e.g. around GB 20, GB 21, BL 43) and to BL 18 and BL 23. After confirmation that the pulses were better, treatment was finished. Next week she reported feeling OK and said that the dental pain might be a bit better, but this was not really clear. I repeated the treatment adding 0.3 mm Pyonex press-tack needles around GB 21. She reported the next week that while she felt a bit better overall, she seemed to be somewhat overstimulated at times. I repeated the treatment but did not leave any press-tack needles, fearing that she did not tolerate them as well as I had hoped. On the fourth visit she reported a similar response: overall, she felt some improvement in the dental pain and this week did not feel overstimulated. On this treatment I chose to increase the treatment by using 40 mm #2 silver needles for the root and *naso-muno* treatment instead of the *teishin*. She reported a similar reaction as after the second treatment. There was a small improvement in the dental pain but at times she felt overstimulated. My judgement was that she was proceeding OK with a low-dose root treatment and simple supportive treatment but that progress was a bit slower than I had hoped since the symptom only very gradually improved. I wondered if this was due to the blood stasis or the nature of the dental problem. I followed this basic approach of very light root treatment, proceeding with caution and wary of applying additional treatments. By the tenth session I decided to bite the bullet and try something a bit stronger again. I explained to her that progress might speed up if I tried increasing the dose but that her responses to doing that previously made me cautious. I suggested trying bloodletting as a specific treatment for the dental problem—I explained my experiences of success using bloodletting on patients with dental/gum problems. She gave me permission to try. I repeated the same light treatment after first bleeding left LI 1, squeezing only five drops from the point.

© 2023 International Toyohari Association. All rights reserved.

On the next visit she reported that there was a clearer change in her symptom, more distinct than at any other time, when there had typically been small incremental changes. She explained that she did not experience any feelings of overstimulation. I repeated the treatment and after a little more discussion also added bloodletting of the small vascular spider on the back of the left shoulder, using squeezing method only rather than cupping.[30] She returned the next week explaining that she had experienced a very clear and major change in the symptom with rapid effect: she finally experienced periods with no pain. With a couple more sessions we got her free of the dental pain.

Comments: I was correct in my judgement that GD was sensitive. But her reactions did not easily follow the lucky curve where the sensitive patient responds dramatically and positively to a very light treatment.[31] In GD's case her response was not unusual for the sensitive adult patient: starting with low-dose treatment and attempting to increase the dose produced some signs of over-treatment. This made me hesitate to apply much symptomatic treatment. On a typical patient I would start bloodletting for this kind of dental problem early on in the treatment series—my experiences have been consistently positive. But her reactions made me hesitate. Paradoxically, when I plucked up the courage to try bloodletting as a higher-dose treatment, thus adding a physically increased dose of treatment, this did not provoke over-treatment reactions. But when I previously tried increasing the qi-related dose of treatment, this did provoke over-treatment reactions. I cite this case not only to show how increasing the dose can be achieved and how sensitive patients can respond to low-dose treatment but also to illustrate the complexity and apparent paradoxical nature of dose calculations. As described and hinted at above, dosage seems to operate on two levels: a physically mediated level and a qi-mediated level. Sometimes we might mix these up and mistake or delay our judgements. At other times the distinction between the two is clear and we can achieve our results sooner. But generally this is a complex issue where it is difficult to make clear judgements.

Case 3 (SB)

The following case shows what can happen when the dose of treatment is judged correctly along with the selection of *sho* and targeted supportive treatments.

Patient: PN, 63 years old

History and main complaints: Seven years earlier she had fallen down concrete stairs, banging her head (with concussion and associated mild brain trauma and partial memory loss)—she suffered broken ribs, a broken right elbow, broken facial bones, a traumatised lumbar spine, probable whiplash and a lot of contusions. She was hospitalised after the fall and, as is often the case with such injuries, took a number of months to recover enough to be able to go home from rehab. Since this time the symptoms of the brain trauma had slowly improved and what remained were chronic pain problems. She had constant back pain with frequent pain radiating to either leg. She described the back pain as affecting the whole back, with more severe pain around the

[30] We describe regulating the dose of treatment in bloodletting in *Japanese Acupuncture* (Birch and Ida 1998, 221, 233–34).

[31] Cases of this kind of treatment response are more easily seen in paediatric patients (Birch 2016).

© 2023 International Toyohari Association. All rights reserved.

sacroiliac joints. Most days she still had headaches. She had neck/shoulder stiffness with frequent pain, more on the right side than the left. Her sleep was disturbed because any movement in bed would wake her up with the pain. She had a history of endometriosis when younger and had had early menopause (in her forties). Since this accident she had also been having issues with hot flashes in the morning. She had done a lot of physiotherapy and recommended exercises. She had been to a special pain clinic and tried the various medications they had suggested. She had seen a psychiatrist to help her cope with the pain. None of these things had been very helpful in controlling it. Now she was using paracetamol only when the pain was more unbearable as she had not found stronger analgesics to have longer-term effects and did not like the way medications like opioids made her feel. She had not been free of pain since the accident and had a very poor quality of life. Her diagnosis was "chronic pain syndrome" (see Appendix A).

Diagnosis: Abdominal diagnosis found the lower abdomen to be more *kyo* than the upper abdomen. The pulse was overall weak and deep. I thought she was either liver *sho* or kidney *sho*—on this first visit I chose liver *sho*. With her history of problems I judged her as needing a low-dose treatment approach.

Treatment: *Kikei* was applied to left BL 62 (copper) and right SI 3 (zinc). In the style of Yanagishita, I left the zinc-copper pellets on until the root treatment was finished. Following the application of the pellets, *hoho* was applied carefully with a silver #2 needle to right LV 3, KI 3 (*Nanjing* 68—*shu*-stream points are good for joint pain) and left LU 9. *Jaki* was identified and removed from two yang meridians: ST 40 and TB 5. After having her carefully turn over, light *chishin* needling was applied to GB 20 and GV 14, with *chishin* and heat lamp applied to BL 23, lateral to right BL 27 and left BL 28. The *naso-muno* areas were not treated so as to keep the dose lower. On the second visit she reported that the pain had been overall a little lighter but that on the day of treatment she was *very* tired—which was not good since she travelled two hours each way for treatment. I wondered about whether I had over-treated her or whether the *sho* should have been kidney *sho*. Following careful examination, I did not apply the *kikei* treatment, and after tonifying KI 3, I thought the liver pulse was now stronger than the lung pulse and treated her as a kidney *sho*. The rest of the treatment was similar. On the third visit she reported that the back and neck pain had been worse. I used *kikei* on SI 3 and BL 62 again and went back to the liver *sho*, using *shu*-stream points. Her pain was such that lying on her abdomen was not possible so instead, after root treatment followed by light *naso-muno* treatment, I had her sit up and placed two intradermal needles, one in the left ear (back area) and one on the left hand (Korean hand system back area). On the fourth visit she reported being much better and that she had had several days with periods of no pain for the first time in seven years. Treatment was applied another nine times over the next four months using *kikei* (SI 3/BL 62), liver *sho* with secondary lung and yang meridians. Supportive treatments involved the use of light *naso-muno*, light *chishin* needling on the neck/shoulders and back, and intradermal needles on the ear and hand points. During those additional nine treatments she became completely free of pain and could increase her activities without any flare-up. Over the years she had tried many therapies and interventions. The doctors had informed her that she needed to learn to live with the problem. A carefully balanced Toyohari root-and-branch treatment defied these

© 2023 International Toyohari Association. All rights reserved.

expectations. She could start returning to more normal activities and even begin thinking about work again.

Comments: It is common in complicated cases that you do not get the *sho* right at first or have questions before you settle on your decision. In sensitive patients you often have clearer guidance about this—she was definitely worse when kidney *sho* was treated. It is also normal that you get close in your dose judgements but do not get it precise enough until after a couple of treatments. However, application of lower-dose supportive treatments to match the patient symptoms can work very well and very quickly when the techniques and dose of the treatments are matched to the patient *sho* and dose needs of the patient.

Case 4 (SB)

The following case illustrates how simple adjustments in treatment can modulate the dose to create an overall treatment that is better tolerated.

Patient: BK, 36 years old

History and main complaints: She had chronic back pain that affected her left leg and sleep. This problem had worsened after the birth of her daughter three and half years earlier. She worked as a teacher and had previously worked in theatre. She did a lot of yoga and exercise: starting eight weeks prior to coming for acupuncture, this no longer helped the back but seemed to irritate it. She had also had asthma since childhood, controlled well by medication, and was susceptible to catching cold with many airborne and dietary allergies/sensitivities, and she made daily efforts to limit her exposure to them.

Diagnosis: She showed a general softness on the surface of the abdominal wall, which could be a sign of some degree of overall *kyo* or of increased sensitivity or a not uncommon post-partum sign. I judged her to be slightly sensitive and that it was OK to do a slightly below-normal dose of treatment and to see how it went. She was lung with liver *jitsu sho*.

Treatment: After applying the root treatment carefully using a silver 0.18 mm needle (LU 9, SP 3 on the right, *ko* technique on left LV 3, BL 58, and right TB 5), *chishin* was applied to the asthma *shu* points with *chishin* and heat lamp also applied for a few minutes to both BL 23s and lateral to both BL 28s. She seemed to respond well to treatment so to help the back pain, 0.6 mm press-tack needles were left at bilateral BL 23.

On the next visit she reported that her back pain was much better but that she had been more breathless all week and had some gastrointestinal symptoms (which were at this time new). I judged that the overdose had probably come from the use of the press-tack needles and applied a slightly lighter version of the same treatment but did not leave any press-tack needles. On the next visit she reported that while the back was not quite as good, it was still better than when we had started and that the other symptoms had settled down. Treatment proceeded like this with no press-tack needles. On the fifth visit she reported that while everything was better, she was experiencing more respiratory symptoms, which she thought was a loosening up of very old phlegm in the lungs—for her a good sign! She also reported that she had been trying to get pregnant.

© 2023 International Toyohari Association. All rights reserved.

On the next visit she reported that she was over six weeks pregnant. The asthma symptoms were better and the back was better and very stable. As is usual in a pregnant patient, treatment became lighter with lower-dose and less treatment time each session. She proceeded very well with the treatment and the pregnancy. Curiously, after about thirteen weeks of pregnancy, her system settled and she exhibited less sensitivity, as though the pregnancy had grounded her qi (my interpretation). Around halfway through the pregnancy (twenty-three weeks) I informed her of my usual treatment procedures for pregnant patients and said that I wanted to try the press-tack needles again at BL 23. She had no problem tolerating the 0.3 mm press-tack needles, which were placed at the end of each treatment throughout the rest of the pregnancy to support the pregnancy.

Comments: I thought her sensitivity was not due to any particular disturbances of the body and qi, but more to do with her being a sensitive person. The early signs of overdose are normal in such cases and are easily dealt with by stopping use of what you suspect to be the offending treatment method (in this case, the press-tack needles). It was interesting that her sensitivity seemed to settle down during the pregnancy. I understood that to be confirmation of my original idea that she is by nature a sensitive person, not sensitive because of qi disturbances. If she had been the latter, I think her sensitivity would have acted up more since pregnancy naturally places pressures and additional burdens on the body. When her baby was two months old, she came for further treatment since she felt some sacroiliac joint instability. Two similar light treatment sessions—with the addition of *kikei* applied very briefly to TB 5/GB 41 (copper/zinc) and mild *okyu* to *josen* (which showed a slightly swollen and stiff/spongy pressure-pain reaction)—helped the ligaments in the low back to firm up very quickly. Application of the right low-dose treatment on a sensitive patient can trigger very rapid changes.

Case 5 (JI)

Patient: MB, 54 years old

History and main complaints: She was single and worked as a coach for a few hours a week. Her main complaint was chronic migraine, which had become worse over the last year. The migraines generally lasted from two to three days and were worse during menstruation, changes in the weather, and periods of stress. She had had an appendectomy when she was 10 years old and a surgery for reduction of the breasts when she was 19. Other symptoms included irregular menstruation during the last years, hot flashes, and long-term feelings of depression (perimenopausal symptoms). Her appetite, bowel movements, and sleep were all good, but she needed to sleep a lot (eight to nine hours) and take a daytime nap for one hour. She also had stiffness in her neck and shoulders, cold feet, and a painful right bunion. She exercised regularly. She was tall and of medium weight. She had a soft voice and spoke quietly. Emotionally, she seemed stable.

Diagnosis: The lung and spleen abdominal areas were *kyo*. The pulse was slightly sinking and *kyo*. The lung, spleen, and liver pulses were *kyo*. I selected lung-liver *sokoku sho* with treatment starting on the right side.

© 2023 International Toyohari Association. All rights reserved.

Treatment: After the second treatment she reported that she did not have any migraine, but more hot flashes. So, at the third treatment I added *kikei* treatment (KI 6/LU 7): she had only one mild headache, and the hot flashes were a bit better. After the fourth treatment the migraine was still better, but she reported that she felt tired and lacked strength. After hearing this, I changed the *sho* to spleen *sho* with liver *waho* and also suggested seeing her two weeks later to reduce the dose—we had been doing weekly treatments. She came for the sixth and seventh treatments two weeks apart. On the seventh she reported that she was still tired physically but felt more lively mentally overall. Her main complaint, the migraine, had considerably improved and the main problem now was feeling tired.

Comments: The seventh treatment on 9 March 2020 was the last treatment because we had to stop on account of the Covid-19 restrictions. She had been consistently very happy with treatment and told me that she would look forward to the treatment. Overall, her main complaint improved significantly. She does not seem to connect her fatigue with the treatment, but I am pretty sure that my treatments are causing her fatigue. I reduced the frequency of treatments from once a week to once every two weeks (the last two treatments) to see if that would help. I thought that it had, at least a little. I used *kikei* treatment twice, but I stopped using it to reduce the dose. Hopefully I can restart treating her sometime soon and then see how she has been doing (with migraine and fatigue). But if the fatigue problems seem to be ongoing and I still feel this may be a slight over-treatment reaction, I am thinking of trying to use the *teishin* to lower the dose another level and to see if it will create more change without the reactions.

Case 6 (ZB)

Patient: KM, 40 years old

History and main complaints: The patient was a female attorney who had to retire on disability. About eight years previously she had fallen and broken her left ankle and had started having pain. Then she had problems with her right forearm including subsequent reactions to the placement of an intravenous needle on that arm. She also had significant left hip pain. The pain generalised and was diagnosed as RSD (Reflex Sympathetic Dystrophy). Currently she was using medical marijuana to cope and was not able to work. She had been referred to me by a colleague because she was reacting too much to her acupuncture and thought contact needling might work better. Obviously she is very sensitive and having a lot of pain. Emotionally she did not seem very defensive. But much later in treatment, I found out that she had grown up with a very abusive mother who she refused to talk with. I think that her not revealing this was significant.

Diagnosis: Her colour was black and yellow. Her pulse was extremely deficient especially in the kidney but overall was very fast, tight, hard, and thin. I thought she was a kidney *sho*. I decided to use a silver #1 needle and to work with a very gentle *oshide*.

Treatment: For the first treatment I did a very gentle *hoho* on right KI 7 and waited. I then decided to do *hoho* on left SP 3. I waited and decided to do a light *ko* on left GB 37 with a 30 mm silver #1 needle because of the hip pain and the really tight pulse. At the next treatment she said she

© 2023 International Toyohari Association. All rights reserved.

was tired after the treatment and her hip pain was better for five minutes. Her kidney pulse was slightly more perceptible. I did *hoho* on right KI 7 and LU 5. Then I did a light *ko* on left SP 9 as she wouldn't let me do SP 3 since it was too tender. I performed a very light *ko* technique on ST 40 and TB 5 and she remarked that made her feel relaxed. I had felt that the tightness was important to address along with her pain. I repeated the kidney and spleen part of the treatment at our next meeting and she came back reporting her pain was better. Her pulse was stronger than before and softer. I treated the kidney again but this time I applied *hoho* on SP 3. She smiled and said, "This time it wasn't too much." Each treatment I had to wait to see her reaction, and we would then assess whether I should do more. She was always torn between wanting as much treatment as possible and being realistic about what she could tolerate. She came back and said that she felt like she had been hit by a truck after treatment but that the next day was better with little pain flare-ups during the week. It has been a very long, slow process with her, but I was able to figure out at that point that I had to do very simple tonification of kidney and lung and then spleen as *sokoku*, and that I should not try to address the tight pulses that related to her pain. Gradually I could do a few more points and her kidney pulse got stronger and more present. She eventually told me about her mother and all the anger and hurt she had. At that point it was possible to do very light *shaho*, which helped open the meridians and relieved the pain. She made a lot of slow progress and decided she was going to move away, which was really difficult but she was ready.

Comments: This was difficult because she was in pain, desperate to get better but so sensitive. So, I was trying to address the pain as well as the root. Assessing the response was hard because she could bump her arm and be in pain for days. It took several treatments to realise that I had to do three points with only *hoho*. She responded well. I could not do more. I had to keep that in mind and let her know she was improving, which she was. She was a lot less reactive and became more resilient. After a while she let me know she could handle more because her pulses were getting stronger and she told me about some of the background of the pain—both emotional and physical. At that point I could add a few draining points on the yang meridians where she had symptoms.

Case 7 (ZB)

Patient: MF, 46 years old

History and main complaints: The patient had had a stroke. She had been having headaches for a few years. Then suddenly she had a massive headache and ended up in the hospital in the stroke unit. It was a blood clot in her head from birth control pills. She had been quite healthy before that. She was finally released from the hospital but had trouble with speech and periods with hearing problems, and her right eye drooped. A lot of the more severe symptoms were on the right side. She had a few bad months after that. The neurologist thought that she would not improve much more. She came at that point for treatment.

Diagnosis: She was quite dark in colour with some yellow, and there was some groaning in her voice. Her kidney and lung pulses were weak, and her spleen a bit *jitsu* because it was thin and tight. Overall, her pulses were quite weak. I diagnosed her as kidney *sho* with spleen *jitsu*.

© 2023 International Toyohari Association. All rights reserved.

Treatment: I started with *hoho* on left KI 7 and LU 5, and she immediately felt better in her head. From this I knew how sensitive she was. After the tonification of KI 7 and LU 5, the spleen showed up as *kyo* which gave me a clue as to what would soften the tension at that point. So I then applied *hoho* to SP 3 and PC 7 on the right, followed by a light *ko* technique to right BL 58 and GB 37. There were big changes in her pulses and she was more relaxed. I finished with some *sanshin* in the *naso* area using a silver *teishin*. She felt like she was making considerable progress as I proceeded with the same basic kind of treatment. Her neuro-ophthalmologist was quite impressed. But one time she came in with a bit more of the headache, and I felt that her wood pulses were relatively tighter, even though they were still weak and thin generally. So, I changed the *sho* and treated left LU 9, SP 3, with *ko* technique on right LV 3, followed by *ko* on right GB 37. When she came back, she told me that it had taken nine days to recover from the treatment but that she then had much less pain. Her pulses felt better in that they were a bit stronger and more fluid and not quite so tight. I very carefully repeated the treatment in essence, keeping in mind how sensitive she was. She came back reporting that she felt a bit better overall and her muscle flexibility was better. Then I realised I was being so careful not to over-treat her that I had missed something. The issue was a blood clot. Her pulses were so weak generally, that I had not considered that I needed to do a blood-level (*ken*) technique. So I carefully did the technique with gentleness in mind but also trying to influence the blood level. She said everything changed. She felt really different. We continued treatment for a short while, but she was so much better and pretty much back to normal.

Comments: This is a different kind of dose case as it has to do with paying attention to the dose that is correct for the patient while not confusing that problem with the type of *shaho* technique needed. I was thinking that *ken* was too strong for someone who was sensitive and was anyway making good progress. But it wasn't that *ken* was too strong a technique, only that it had to be done carefully with her sensitivity in mind. But it was the correct technique for treating the blood-level issue (the clot).

Case 8 (SG)

Patient: MW, 55 years old

History and main complaints: The patient had had a history of multiple sclerosis for many years. Her symptoms were a lack of strength in her right leg, numbness on the right side from her cheek to her toes, general fatigue, and problems focusing on her work. Recently she had started suffering from urinary incontinence. She was overweight and had a general lack of muscle tone. She was living alone and worked part-time at an office.

Diagnosis: Her skin was very soft; the *hara* was very soft all over and cold around the navel. I could palpate a rock-hard myoma approximately 7 centimetres in diameter in her left lower abdomen. The pulse was sinking, a little fast, and very *kyo*. Given her medical history and the clinical findings, it seemed likely that she was very sensitive.

Treatment: I chose a long gold-plated *teishin* and treated belly points for clarification (no change). I decided she was spleen *sho* and proceeded to use the *teishin* for *hoho* at left SP 3, PC 7. The pulses still felt *kyo*, so I continued *hoho* to right LV 3 and to ST 36, TB 4. I then applied *hoho*

© 2023 International Toyohari Association. All rights reserved.

lightly in the *naso* and *muno* areas. There was still no apparent change in the pulse, so I stopped the treatment at that point feeling a bit lost.

On the next visit she reported that she had to cancel work the day after the treatment because she was so tired that she could hardly move; in addition, she reported a slight headache and worsening of her right-sided symptoms. I concluded that I had not only over-treated her but must have also made a mistake (the liver wasn't *kyo*).

This time I treated left SP 3, PC 7 with *ko* technique on right LV 3 using the pointy end of the *teishin*. I did not treat any more points and gave the patient 10 minutes of rest under a warm blanket. After that time the pulse felt more balanced and consolidated. Following that treatment, she felt more stable without adverse effects.

From that treatment on, I continued to take a break for five to ten minutes after the root treatment and then check the pulse for change and to assess the need for additional treatment. I slowly added one or two yang points that I would tonify. Occasionally I used up to three cones of *okyu* on CV 3 or CV 4 with good results. I treated MW many times; no treatment ever exceeded six points and twenty minutes of overall time on the table. Super-sensitive patients like her can usually tell very precisely what felt good or worked out OK for them. That feedback became my guide, sometimes in contradiction to theory and my own clinical judgement.

Comments: MS patients can be incredibly sensitive. To start with over-treatment and a mistaken treatment wasn't nice. A much better approach would have been to start with a super-low dose and then gradually increase dosage. I kept the total number of treatment points low and the treatment time short, with the intention, in both cases, of lowering the overall dosage. I tried to perform the treatment in close consultation with the patient. Here, the pulse changes were considerably delayed and therefore not a reliable guide for steering the treatment in real time. To my knowledge, this phenomenon is uncommon.

Case 9 (SG)

Patient: SW, 41 years old

History and main complaints: The patient was tall and skinny, with shoulders slightly bent forwards. She had pale skin with dark rings under both eyes. She complained about recurring bladder infections with pain in her lower belly and frequent urination. She had loose stools three to six times a day, belly cramps and pain, flatulence, and lactose intolerance and reported weight loss of 7 kilograms in the last six months. Additionally, she felt tired, with a lack of overall energy; she easily got cold and had cold hands and feet. She felt very irritable and moody and had "no self-confidence whatsoever".

The patient was divorced after twenty-five years of marriage. She had a new boyfriend, an 18-year-old son with disabilities (Asperger's syndrome), and a new job (at the reception desk of a physio clinic) and was trying to make ends meet.

She had been a small-for-date newborn. She had a psychotic mother and was separated from her directly after birth. She was partly raised by her grandmother but was often sexually molested by her stepfather in childhood. Her mother committed suicide.

© 2023 International Toyohari Association. All rights reserved.

Diagnosis: Her hands and feet were ice-cold and extremely sweaty. All the yin meridians on the forearms felt *kyo*; on the feet and lower leg, the spleen meridian felt the most *kyo*. Her forehead felt slightly hot. Her skin was overall very soft, slightly puffy, and lustreless.

Abdomen: The area around CV 6 was sunken, cold, and lustreless; the area around CV 4 was sunken and lustreless, the lung area lustreless, and the liver area uncomfortable to deeper palpation.

Pulse: Sinking, *kyo*, rapid. The pulse can only be felt when the fingers are pressed down deeply; the vessel feels very narrow, with some hardness all over, mostly in the liver position.

Treatment: I considered her to be very irritable and run-down, so avoiding over-treatment was my main concern. I decided to use a long gold-plated *teishin* and started with a spleen *kyo* liver *jitsu* pattern. Draining on the liver meridian was done by stroking down the meridian three times from approximately LV 6 to LV 1 with the *teishin* hardly touching the skin. The patient reported feeling more relaxed and tired but somehow nicely tired.

On the second visit she reported that she had felt relaxed and tired after the treatment but had had no problems doing her job two hours after treatment. She still had loose and frequent stools but was not that exhausted any more. She did not mention any bladder problems.

Despite the somewhat successful treatment, I questioned my diagnosis and reassessed all the signs and decided on a lung *sho* with secondary liver *jitsu*. While I was touching the clavicle region and the front of her neck to check the *naso* region, the patient became very stiff, closed her eyes, and turned her head away. I stopped and stepped back to ask what was happening. She reported that she felt fearful, paralysed, and ashamed. It took us some time to let the symptoms settle down and track the origin of these reactions. In the end it was obvious that me touching her neck triggered traumatic memories of her stepfather choking her while raping her. We made a deal that I would not touch her neck any more until she tells me otherwise.

In the following treatments I added some *kikei* with *chinetsukyu* to target symptoms and some single cone *chinetsukyu* on back-*shu* points. Liver meridian draining was replaced by the *yusha* technique on the gallbladder meridian. After seven visits overall she told me that she now felt well enough to stop treatment.

Comments: This patient was one of the most sensitive and run-down patients I have ever treated. The history of her traumatisation started even before birth (her psychotic mother did not eat during pregnancy, because she did not want to get fat), and this continued for decades. Her improvement was very impressive, especially given the fact that the treatments were extremely light in dosage and that she could only afford one treatment per month. My main concern throughout was not to overdose her. I did hardly any draining technique. That might have done the trick and helped to create a more trusting client-practitioner relationship. Regardless of what treatment methods you use, fostering a relationship in which the patient can rely on and trust you as practitioner is probably the cornerstone in any work with traumatised individuals.

© 2023 International Toyohari Association. All rights reserved.

Case 10 (DZ)

The following case illustrates how you may need to reduce the dose of treatment temporarily while you address an acute situation. This case involved correcting a mistaken treatment caused by treating the wrong *sho*.

Patient: MK, 46 years old

History and main complaints: The patient came for treatment on and off, though with some regularity, for neck and lower back pain, some fatigue and mental fogginess, and tightness of the abdominal musculature following cancer surgery and then abdominal hernia repair years later. In 2019 she came for treatment reporting improved energy, mental clarity, a greater sense of relaxation and well-being, and reduction of body pains following weekly vitamin B12 injections.

Diagnosis: I had always treated her as a kidney *sho*, but upon inspection of the abdomen, meridians, and pulse this day, and considering the changes she reported following the B12 injections, I diagnosed her with lung *kyo* with liver *jitsu sho*. My decision was based upon a tightness in her pulse and forearm palpation, pressure pain findings at right LV 3 and on the abdomen at left and right ST 27 areas (Kiiko Matsumoto's so-called *oketsu* area) and in the abdominal liver reflex area, and a tightness in the liver pulse position. I started by clarifying the pulse with the *teishin* at the four points on the abdomen, CV 12, ST 25, and CV 4. This helped me confirm the primary lung *sho*.

Treatment: I applied *hoho* with a silver 40 mm #2 needle to left LU 9, SP 3 and the basic *shaho* technique with a stainless steel #1 needle to right LV 3. The pulse quality and abdominal findings appeared to improve including a significant reduction of pressure pain at right LV 3, left ST 27 and the liver reflex area on the abdomen. While assessing the yang meridians I found *jitsu* in the bladder and stomach meridians. I treated BL 58 with basic *shaho* and ST 40 with *ko*. This was her root treatment. For supportive and branch treatment I started with *muno* and used the *teishin* on tight areas in the inguinal and subcostal areas and then applied *sanshin* to the abdomen. I also used the *teishin* in the *naso* area particularly on the right and contact needling at BL 10 and GB 20. I applied *hoho* to left BL 13 and BL 20 and a gentle *shaho* to right BL 18. To help relieve symptoms, *kikei* treatment was used at right GB 41 (copper disc) and TB 5 (zinc disc) followed by three moxa cones to GB 41 and two cones to TB 5. I also used the *teishin* on the right side of the neck and right gluteal and sacral areas to release these chronically painful areas. I finished treatment by applying the *enshin* on the neck and back and down the legs. The patient was very happy with the treatment and reported feeling great upon leaving my clinic.

The next morning I received a phone call. Her symptoms had all flared up that morning, and in addition she had new symptoms of chest tightness, difficulty with drinking water, haemorrhoid flare-up, anger, poor concentration, and pain with bending forward. I considered this a clear sign of incorrect treatment due to selecting the wrong *sho* and suggested she come back in to try to correct this mistake. She eagerly agreed. She looked very distressed and pale when she arrived at my clinic and upon inspection when she was on my treatment table, her pulse was sinking, rapid, and *kyo*. Her abdomen very clearly showed a depressed, soft, and flaccid area in

© 2023 International Toyohari Association. All rights reserved.

the kidney reflex region around CV 4, tension and pressure pain around the navel in the spleen reflex area, and her kidney meridians felt cold and clammy, while right SP 9 had a marked pressure pain reaction. Her six-position pulse comparison analysis revealed a primary kidney *kyo* with spleen *jitsu sho*. Considering this a correction treatment for the mistake made the day before, I knew to keep the treatment very simple and the dosage reduced. I treated the root with a Yanagishita *teishin* applying *hoho* first to the four points on the abdomen and then to left KI 7 and LU 5. A simple *shaho* with the *teishin* was applied to right SP 9. Right BL 58 was also treated with the *teishin* using a *shaho* technique. I finished the treatment by using the *enshin* on the right side of the neck, lower back, hips, right flank area and the abdomen and subcostal areas. Inspecting her abdomen and pulses revealed a resilience to both and a renewed balance and evenness. Upon getting up from the table, the patient reported feeling much better in all the areas she had previously commented on. I consulted her by phone the following day. She said she continued to feel better.

Comments: In this case, even though it seemed as though I found confirmation of my initial *sho* determination, the treatment results revealed that I had selected the wrong *sho*. This illustrates the danger of altering the *sho* when one is getting good consistent results with a previous *sho*. To correct this mistake, I knew I had to go back to her usual *sho*, and since this follow-up treatment was only to correct a mistaken treatment, I knew that I had to keep my treatment light and the dosage low. Utilising the Yanagishita *teishin* to conduct the root treatment served this purpose well and then finishing treatment by only applying gentle stroking with the *enshin* to her neck, back, and abdomen was enough to settle and correct her *qi* flow.

Case 11 (DZ)

Patient: MG, 62 years old

History and main complaints: The patient had come recently for treatment. She has worked as a massage therapist for many years. She has a daily meditation and yoga practice and also works out regularly with weights and a cardiovascular routine. She presents herself as mostly healthy and states she wants treatment for "energy balancing". She has a history of a left leg rectus femoris tear, which still causes some movement limitations and some discomfort. She also has multiple food sensitivities and avoids gluten, dairy, soy, eggs, and most sugars. She also stated that she gets bloated easily after eating.

Diagnosis: She remained somewhat engaged during asking diagnosis but was a little scattered in her answers as she would easily wander off topic. Her voice had a groaning and singing quality. Her skin had reasonable lustre with a black and yellow colouring. She had a deep crack in the centre of her tongue and a thick white coat at the root. Her abdomen showed significant deficiency in the kidney, spleen, and lung regions, and considerable tension around CV 12. The spleen, kidney, and lung meridians also felt *kyo*. Her pulse quality was sinking, slow, and deficient, and her six-position pulse comparison revealed a kidney–spleen *sokoku* pattern.

Treatment: I decided to use the Yanagishita *teishin* for her treatment. I based this decision on the degree of deficiency I felt on her abdomen and pulse and her somewhat ungrounded manner. I first treated the four points on the abdomen and then after reconfirming the *sho*, I applied *hoho*

© 2023 International Toyohari Association. All rights reserved.

to right KI 7, LU 5 and left SP 3. On the yang meridians I felt weakness in the triple burner pulse and at CV 5 so I decided to apply *hoho* to left TB 4. That completed the root treatment. For supportive treatment I used the *teishin* to apply hoho in the *muno* area and to CV 4 and then applied *sanshin* in the subcostal region and around the whole abdomen. There was some tension along with deficiency in the trapezius area and I treated the *naso* with the *teishin* at ST 12, GB 21, BL 10, and GB 20. I used the *enshin* to gently stroke throughout the neck, upper back, and scapular areas. For symptom treatment I applied *kikei* on left ST 43 (copper) and LI 4 (zinc). I followed this with three cones of moxa on ST 43 and two on LI 4. I completed the treatment using the *teishin* on BL 23, BL 13, and BL 20 and on the *shitsumin* point (centre of the heel) for grounding and then stroking down the back and legs with the *enshin*. A few days later I heard back from this patient, who reported that she felt very good following this treatment and even found some relief in her left leg and digestive function.

Comments: My decision to use a *teishin* rather than a silver needle for this patient and to keep the dosage light was based on a number of factors, but mostly it was my overall sense that she would be easily over-treated if I was not very careful. Her scattered approach when conversing, her years of meditation and yoga practice, and her delicate digestion all led me to feel that less would be more for her. People with such a history and presentation tend to be rather sensitive to qi movement and are therefore easily over-treated. Her overall deficient presentation, but with tension in the CV 12 and trapezius area, also played a part in my decision to use the *teishin*. In my experience, people with tension in these areas but deficiency below tend to easily develop counterflow qi problems, which an overly strong treatment can aggravate. Her feedback a few days following her treatment confirmed that this was a wise choice.

Case 12 (TP)

Patient: FJ, 42 years old

History and main complaints: I initially encountered FJ shortly after I had completed my Toyohari basic training. She had been a kindergarten teacher. She was single and lived with her widowed mother. Her presentation was that of post-viral chronic fatigue syndrome with multi-system involvement. At the time of our first meeting she was bedridden, cachexic, troubled by constant digestive symptoms, and suffering profound insomnia with difficulty falling asleep. Intermittently, she developed frightening bouts of tachycardia. The initial symptoms had followed a flu-like illness some two years previously whilst she was travelling in the US on a fellowship to study early childhood education. The "flu" was so severe she had to be medevacked (with emergency transportation) back to New Zealand. Back in NZ she was hospitalised and initially treated for septicaemia with IV antibiotics. These were stopped when blood cultures developed no growth. Further medical investigations had been within normal limits.

Subsequently, she convalesced at home. Because of her profound digestive problems, she had been advised to follow an exclusion diet, which had left her with an extremely limited range of tolerated foods. I observed her having a meal on one occasion and she fairly "wolfed" it down.

© 2023 International Toyohari Association. All rights reserved.

Meeting her, I noted the cachexia, a distinct yellow tinge to her skin, generalised poor lustre, and a soft, hesitant voice. She described alternating constipation and loose bowels, colicky abdominal pains, an irritable bladder, constant fatigue, light-headedness, amenorrhoea since becoming ill, and generalised weakness.

Diagnosis: *Hara* palpation was overall *kyo*, especially above the navel. I thought the spleen and heart areas were most deficient with a readily palpable pulse in the epigastrium. The spleen and liver meridians were clearly *kyo*. The pulse was floating, thin, and rapid with spleen the emptiest position. My diagnosis was spleen-liver *sokoku sho* with stomach *jitsu*.

Treatment: For the first treatment I chose to use a silver 0.16 mm needle: I tonified SP 3, PC 7, and LV 3 and performed a *ko* technique on ST 40. After this the pulse seemed more consolidated, sunken, and slightly slowed, and the lustre on the *hara* had improved.

At the second visit a week later, she reported aggravation of her fatigue and digestive symptoms lasting for three days. I debated as to whether it was a wrong *sho* or over-treatment and decided on the latter. I judged the *sho* to be the same, so I repeated the treatment using a *teishin* which she immediately reported as lifting her bodily heaviness and foggy head. This session I was keen to introduce *chinetskyu* which I applied to CV 8 on salt and BL 20. FJ found the smoke slightly irritating but, overall, at the end of the session she felt much improved and relished the warm sensation.

We continued weekly home treatments for three months, tonifying with the *teishin* and applying *chinetsukyu*, by which time she felt strong enough to attend the clinic. I had also suggested a rotation diet to widen her food selection with an emphasis on pre- and probiotics and this she had found successful, helping to settle her indigestion and lift her energy.

As I came to know FJ better, I realised that although she was very creative and artistic, she manifested a significant obsessive anxiety disorder. She told me that she was the second, runty twin and that her mother blatantly favoured her sister, especially after the father died. This took the form of some terrifying punishments including being locked in a dark cupboard and denied meals in response to even minor misdemeanours.

With this knowledge I added *chinetskyu* to BL 49, BL 15, and BL 43 and switched from PC 7 to HT 7 when tonifying the mother in a spleen primary *sho*.

As we continued the clinic treatments, I was able to return to using a silver needle with FJ's agreement and later introduced *kikei*, particularly on SP 4/PC 6, BL 62/SI 3, and LU 7/KI 6. *Naso-muno* was also useful, with careful tonification with the *enshin* or *teishin*.

Slowly, over several years, FJ became strong enough to resume a more normal life, although she was never able to return to her profession. After her mother died, she sold the family home, which had been left to her and moved in with a woman friend. I had contact with her after the Christchurch earthquake and was delighted to hear that she had ridden out the trauma of that event and that she continued to thrive.

Comments: This case illustrated the benefits of "go slow, go low", when dealing with a patient who is debilitated as the result of a severe illness, especially when there is an underlying psycho-

© 2023 International Toyohari Association. All rights reserved.

emotional component. It also illustrates the need for patience in peeling away the layers of a patient's presentation to gain a deeper understanding of why they may have developed a particular set of symptoms.

Case 13 (TP)

Patient: BH, 46 years old

History and main complaints: The patient presented with complex regional pain syndrome (CRPS), which I found a most challenging clinical problem. He had sustained a gunshot wound whilst serving as a medic in the NZ Army during an assignment in Afghanistan. He was accompanied to the appointment by his wife, who acted as his chauffeur as driving aggravated his condition.

He was a big muscular man, 1.9 metres in height and weighing 105 kilograms, quietly spoken, and with a pleasant appearance; he gave a clear, organised account of his injury. His platoon had been ambushed and pinned down in a firefight, during which a bullet entered the front of his right shoulder and exited just lateral to the scapula without causing damage to the brachial plexus. He was eventually airlifted out of the ambush site back to the military hospital near Kabul, then invalided back to New Zealand about two weeks later, after undergoing some initial wound surgery. Once home he was able to commence rehab with good initial return of his shoulder function. This was, however, unfortunately complicated within four to five weeks by the development of local pain, cutaneous hypersensitivity, subcutaneous swelling, changes in peripheral circulation, and loss of function from the mid-humerus distally in the right arm. This was diagnosed as a regional pain syndrome or CRPS. Medication, including gabapentin, analgesia, and anticonvulsants, provided some relief but physical therapies became intolerable. He was referred to an acupuncturist, who had inserted four to six needles on the left limbs during each session and applied electrical stimulation. He found these sessions unsatisfying, and the treatments did not induce any improvement. He was recommended to me by a colleague, who warned him I practised "a form of unorthodox acupuncture".

Diagnosis: At my intake examination I noted his facial colour to be dark; he made good eye contact and gave a clear account of his injury. His voice was high-pitched and groaning. He was reluctant to discuss other symptoms, although his wife described how his personality had changed from outgoing and affable to socially withdrawn, unmotivated, depressed, emotionally dysregulated with a tendency to bouts of anger, which were out of character, and feelings of guilt at his invalidism. He did admit to a loss of energy and insomnia but denied changes in his bowels, bladder, and appetite, and said he did not have cold feet, up-flushing, tinnitus, or headaches.

Palpation was difficult as he strictly guarded the right arm, would not allow me to palpate the right radial pulse, and was reluctant for me to even touch the *hara*. A very limited *hara* examination suggested *kyo* in the lower abdomen with tension in the midline from epiphysis to navel. Distally the kidney meridian was more *kyo* than the liver and the spleen meridian felt *jitsu*. The left pulses were fast, deep, and deficient. The proximal, kidney position was most deficient, and I wondered if the distal heart position was also weak with excess in the small intestine. A

© 2023 International Toyohari Association. All rights reserved.

spleen excess on the *sokoku* was a possibility by inference from the distal spleen meridian *jitsu*. My tentative diagnosis was a kidney *sho* but I was undecided about the secondary pattern.

Treatment: He was obviously hypersensitive, so I decided to limit my first treatment to *enshin* alone, partly as we were running out of time. I described what I intended to address, emphasising my concerns about his sensitivity and gently stroked the kidney and lung meridians on the left (with the flow) and stroked down the bladder from above downwards. The pulse slowed and softened and became less hidden.

BH was somewhat mystified with the style, lightness, and brief duration of the treatment and queried whether I was serious. I assured him that I was and booked him for a week's time, encouraging him to contact me with any concerns.

Two days later BH phoned, excitedly saying his arm felt easier and that he wondered if I had run a large tank over him as he was unusually tired. Did I think the easing of the pain was coincidence or might it have been a treatment response? Although I too was surprised, I reassured him that it was definitely due to the treatment although the fatigue may have been an over-treatment.

When he presented at the second appointment, he was disappointed because the pain had recurred at equal intensity after the initial response. It took some serious reassurance to convince him that any response was an unexpected bonus from such a light and limited treatment. I had to curb both his desire and my inclination to increase the treatment intensity and we agreed to initially treat twice weekly for very short sessions. Again, he would not let me palpate his right wrist but was more willing to accept *hara* palpation. On this occasion I confirmed the kidney area as most *kyo* with the lung area also *kyo*. However, I thought both the spleen and heart areas were also *kyo*, although with excess superficially in both areas. I judged that palpating the yang front-*mu* points was too invasive at this session. My assessment of the left pulse was similar to the last contact.

Since the response to *enshin* meridian stroking had been useful, I repeated the stroking with the flow along the left kidney and lung meridians, but when I moved to stroke up the spleen meridian, he immediately complained of malaise, so I tried tonifying the stomach with downward stroking, which improved his discomfort. I convinced him to try the experience of *chinetskyu* moxa on the back-*shu* points BL 23 and BL 13, which he tolerated and found pleasant. I finished by using the *teishin* with tonification on CV 4. At the conclusion of the treatment, his pulse had slowed and softened, and I judged his overall lustre as slightly improved.

We continued with the *enshin* for the next four weeks, meeting twice weekly with very brief session times and he reported about a 10 per cent reduction in his pain levels. At this point he allowed me to palpate his right radial pulse, which did not precipitate any adverse reaction. I diagnosed a kidney primary with spleen *ōkijitsu* and we agreed to trial using the *teishin* for the root treatment. This he tolerated without incident, supported with *chinetskyu* to BL 23 and BL 42.

We continued with the *teishin* for the root treatment, although I did not introduce any *shaho* techniques on the yang meridians until the third month. By this stage he reported definite

© 2023 International Toyohari Association. All rights reserved.

improvement in his overall pain levels and improved sleep. His wife was especially encouraging, as she had found his mood lifted and he was more communicative and tolerant of the children.

Over the following months we spread the treatments out to once weekly and I was eventually able to successfully introduce a silver needle for the root treatments. Because his pulse remained persistently rapid, I used a *hayate zashi* technique that Takai sensei had demonstrated. The biggest advance in his response occurred after extending the treatment to include branch techniques. I progressively introduced first *naso* and then *kikei* on LU 7/KI 6 just applying the zinc-copper pellets. As suggested by Stephen Birch, *chishin* applied at the nuchal line on the occiput (along the base of the occiput) was well tolerated and useful.

There was a major shift when I applied gentle *shiraku* to vascular spiders around the scapular scars. On some occasions I did induce an over-treatment reaction, notably after risking bleeding one of his markedly inflamed right finger *jing* points.

After about eight months he let me perform *sanshin* on his right arm. I mainly tonified deficient areas rather than drain *jitsu*. He came to value the local input and was disappointed if I passed by the local treatments. Eventually his response plateaued at the twelve-month point of his attendance. By this time, we had established a deep rapport, and I felt able to challenge the details of his account of his injury. BH became hugely emotional and enlarged upon the background to the ambush. Apparently there had been associated civilian casualties including women and children during the action and he acknowledged how distressed he felt about his part in their deaths. In due course he was able to access psychological help for his PTSD with eventual resolution of the associated recurring nightmares and triggering factors.

He continued to attend at increasing intervals, and gradually his hypersensitivity diminished with a significant reduction of his CRPS. The swelling, touch sensitivity, and function of his right arm mostly resolved, and his need for medication greatly reduced. After two years and four months, he and his family moved away to another town where the army directed him. I was sorry to see him go but wished him and his family every success.

Comments: I learned a lot from treating BH. Fortunately, by this stage I was more aware of hypersensitivity and how to treat it, and it was striking how his sensitivity slowly diminished as he underwent ongoing treatment and how long it took for him to regain confidence and open up about the underlying perpetuating psychological distress. As a practitioner, it was humbling and a privilege to be able to accompany him along his journey.

© 2023 International Toyohari Association. All rights reserved.

Appendix A

Health Problems with Complex Manifestations

Predisposing factors for heightened sensitivity

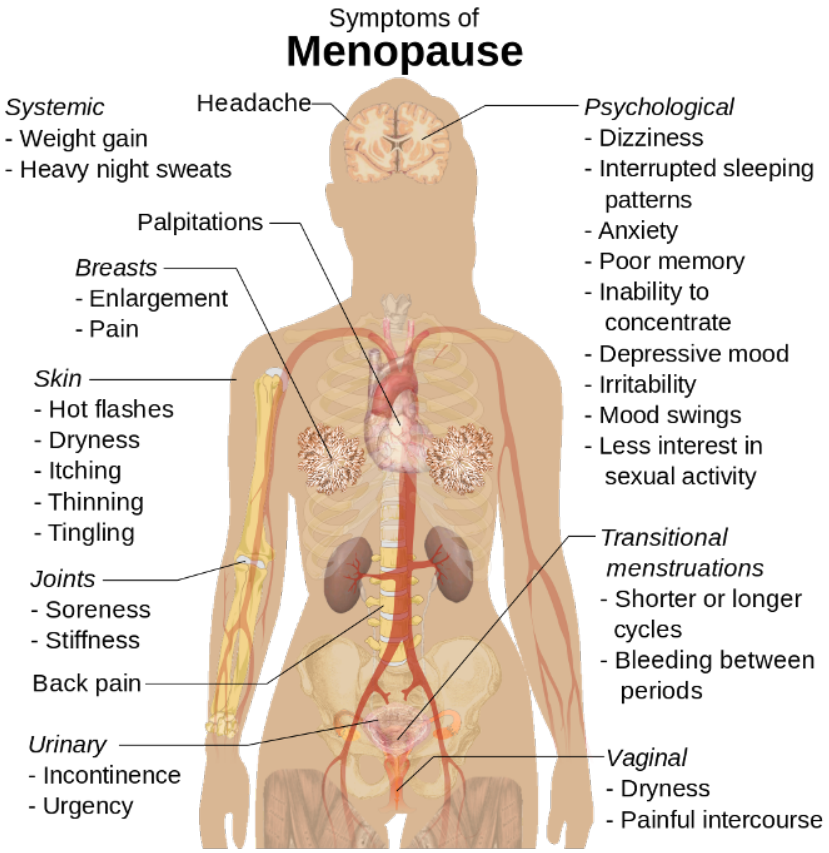
Patients usually come to us for treatment of specific symptoms. Often the patient's main complaint is part of a cluster of related problems but it may also be accompanied by other symptoms that are not obviously related. Sometimes the patient does not have a main complaint; rather they have several complaints that turn out to be part of a cluster. This can be seen in many health conditions under the label "symptom clusters". Some of these have already been well identified in cancer patients, menopausal patients, etc. (Dodd et al. 2001; Thompson and Johnstone 2016; Taylor-Swanson et al. 2015). However, the nature of many health problems leads us to suspect that symptom clusters are more common than the medical literature usually indicates and occur in various situations, e.g. in patients in palliative care or with chronic pain (Birch 2019 Lecture; Birch, Bovey, et al. 2020; Birch et al. 2021). There are many examples of medical problems that can lead to heightened sensitivity, where either the main symptom is part of a cluster of other symptoms that commonly occur together or the problem manifests with many different symptoms. The examples below show those related to cancer-related fatigue; menopause; chronic pain syndrome; fibromyalgia; chronic fatigue syndrome / myalgic encephalitis, post-traumatic stress disorder (PTSD), and depression.

Increased sensitivity may arise because of the nature of the symptom itself (for example, affective problems, mood problems, sleep problems, and fatigue problems predispose patients to heightened sensitivity). Some symptoms, such as chronic pain or severe hot flashes, cause more bodily distress, which can trigger heightened sensitivity. The chronicity and difficulty of treating the problem in cases of fibromyalgia, cancer-related fatigue, chronic fatigue syndrome, and chronic pain syndrome can also trigger heightened sensitivity. In their paper discussing chronic pain and disability, Yannick Tousignant-Laflamme et al. (2017) present a model of the various environmental, personal, and bodily function-related factors and issues that may need to be addressed (see below).

In Appendix B we outline models that have been proposed for how heightened sensitivity might arise.

© 2023 International Toyohari Association. All rights reserved.

Menopause



https://en.wikipedia.org/wiki/Menopause

https://www.menopausenow.com/

© 2023 International Toyohari Association. All rights reserved.

Cancer-related fatigue

> " Fatigue is a feeling of tiredness or exhaustion. It's a common problem for people with cancer and many people with cancer may feel fatigued at some time and this is called cancer-related fatigue. It may be caused by the cancer itself, the symptoms associated with cancer or a side effect of treatment.[32]

www.cht.nhs.uk

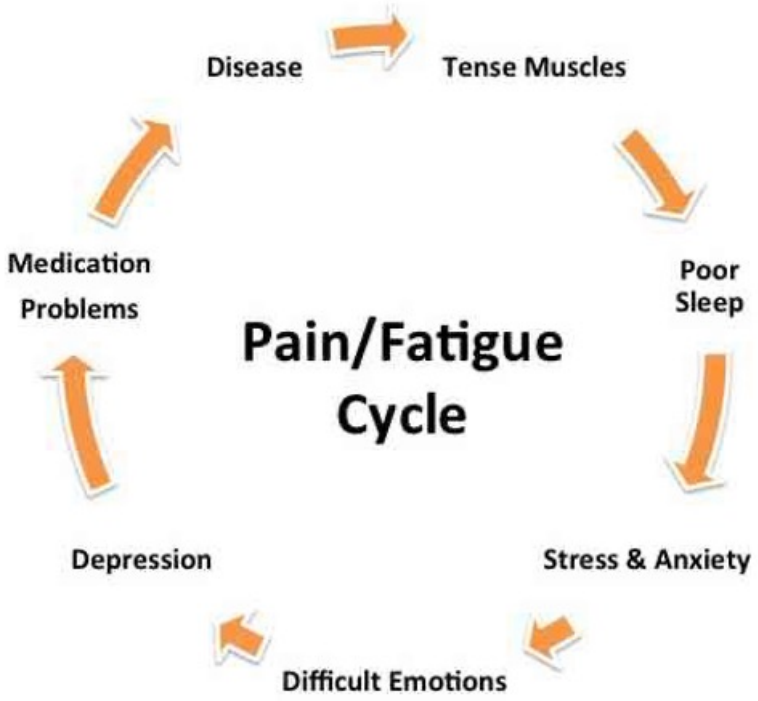
Cancer-related fatigue is a common problem for cancer patients. But it is good to reflect on the wide range of symptoms that can occur as a result of the different interventions that cancer patients may need to use, in addition to the symptoms that occur as a result of the cancer itself (Runowicz et al. 2016; Birch et al. 2018, app. 3). This is why we automatically classified patients with cancer as being more sensitive and cautioned the need to be very careful about the dose of applied treatment (Birch et al. 2018).

The diagram here for cancer-related fatigue only shows how one particular symptom can arise; all symptoms can be explored in the same way.

[32] "Fatigue", NHS 75: Calderdale and Huddersfield, NHS Foundation Trust, accessed 29 July 2023, https://www.cht.nhs.uk/services/clinical-services/oncology/information-support/first-steps/fatigue.

© 2023 International Toyohari Association. All rights reserved.

Chronic Pain (Syndrome)



www.jeffreysterlingmd.com/

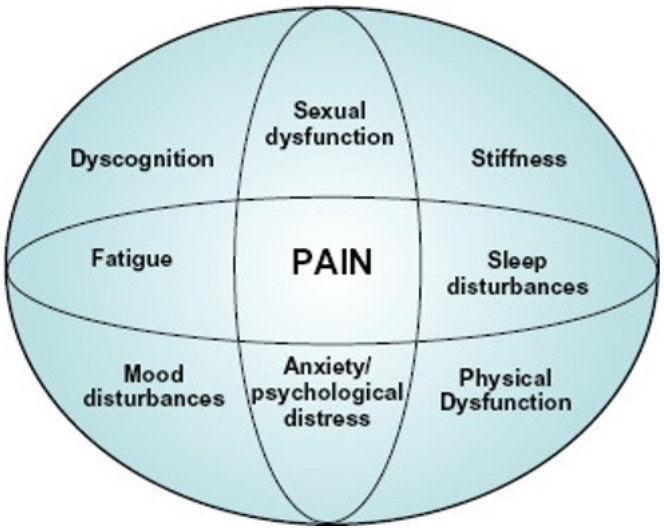
What is chronic pain syndrome?

Essentials of diagnosis (Raj et al. 2023)

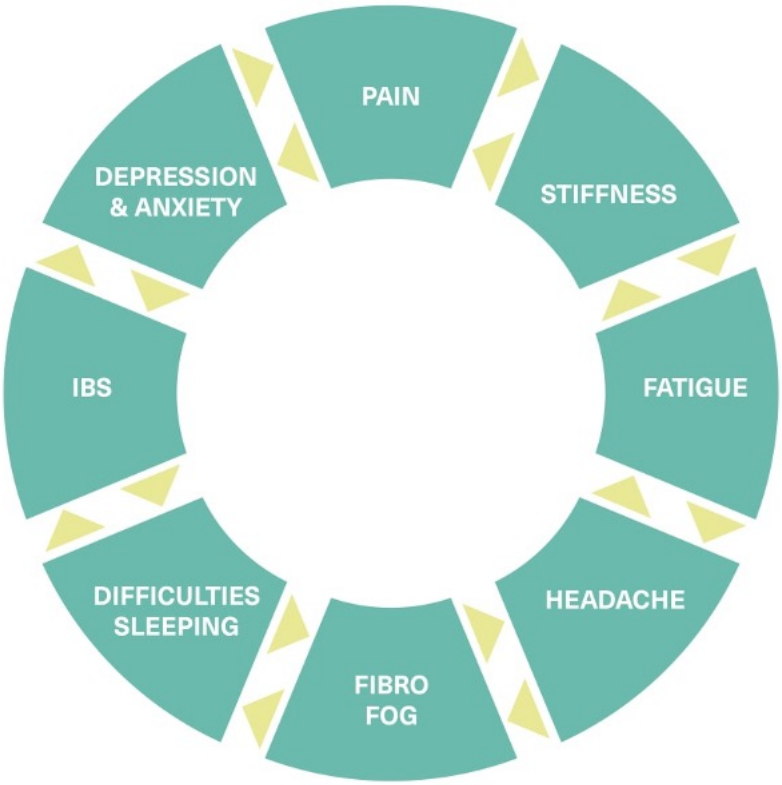
- Chronic complaints of pain.
- Symptoms frequently exceed signs.
- Minimal relief with standard treatment.
- History of having seen many clinicians.
- Frequent use of several nonspecific medications.

© 2023 International Toyohari Association. All rights reserved.

Fibromyalgia



www.painphysicianjournal.com

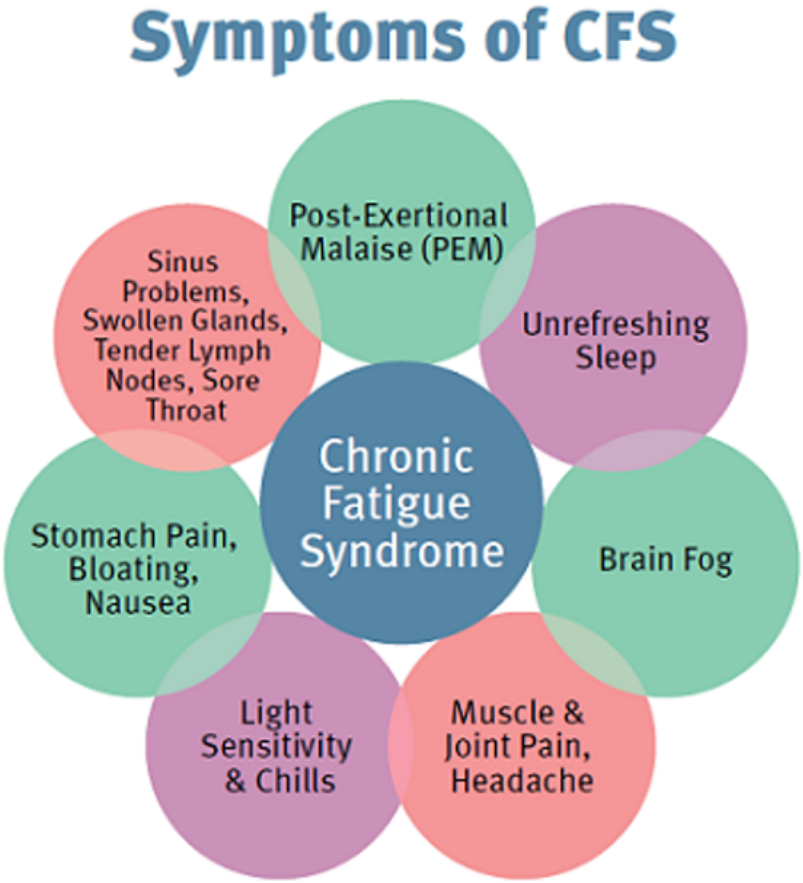


FIBROMYALGIA PAIN CYCLE

© GrowWise Health

© 2023 International Toyohari Association. All rights reserved.

Chronic Fatigue Syndrome / Myalgic Encephalitis



https://physioprofessionals.com.au/role-of-physiotherapy-with-chronic-fatigue/

Post-Traumatic Stress Disorder (PTSD)

Common Symptoms of PTSD[33]

Reliving aspects of what happened

This can include:

- vivid flashbacks (feeling like the trauma is happening right now)
- intrusive thoughts or images
- nightmares
- intense distress at real or symbolic reminders of the trauma
- physical sensations such as pain, sweating, nausea, or trembling.

[33] The information below is published in full at mind.org.uk: © Mind. Also available as a pdf: https://www.mind.org.uk/media/7135/ptsd-and-complex-ptsd-2021-pdf-version.pdf.

© 2023 International Toyohari Association. All rights reserved.

Alertness or feeling on edge

This can include:

- panicking when reminded of the trauma
- being easily upset or angry
- extreme alertness, also sometimes called "hypervigilance"
- disturbed sleep or a lack of sleep
- irritability or aggressive behaviour
- finding it hard to concentrate—including on simple or everyday tasks
- being jumpy or easily startled
- other symptoms of anxiety.

Avoiding feelings or memories

This can include:

- feeling like you have to keep busy
- avoiding anything that reminds you of the trauma
- being unable to remember details of what happened
- feeling emotionally numb or cut off from your feelings
- feeling physically numb or detached from your body
- being unable to express affection
- doing things that could be self-destructive or reckless
- using alcohol or drugs to avoid memories.

Difficult beliefs or feelings

This can include:

- feeling like you can't trust anyone
- feeling like nowhere is safe
- feeling like nobody understands
- blaming yourself for what happened
- overwhelming feelings of anger, sadness, guilt, or shame.

The UK National Health Service site on PTSD lists a number of other problems, including:

- other mental health problems, such as depression, anxiety, or phobias
- self-harming or destructive behaviour, such as drug misuse or alcohol misuse
- other physical symptoms, such as headaches, dizziness, chest pains, and stomach aches

PTSD sometimes leads to work-related problems and the breakdown of relationships.[34]

[34] "Symptoms: Post-traumatic Stress Disorder", NHS, last reviewed 13 May 2022, https://www.nhs.uk/mental-health/conditions/post-traumatic-stress-disorder-ptsd/symptoms/.

© 2023 International Toyohari Association. All rights reserved.

Depression[35]

The symptoms of depression can be complex and vary widely between people. If you're depressed, you may feel sad, hopeless and lose interest in things you used to enjoy. The symptoms persist for weeks or months and are bad enough to interfere with your work, social life, and family life.

There are many other symptoms of depression and you're unlikely to have all of those listed on this page.

Psychological symptoms

The psychological symptoms of depression include:

- continuous low mood or sadness
- feeling hopeless and helpless
- having low self-esteem
- feeling tearful
- feeling guilt-ridden
- feeling irritable and intolerant of others
- having no motivation or interest in things
- finding it difficult to make decisions
- not getting any enjoyment out of life
- feeling anxious or worried
- having suicidal thoughts or thoughts of harming yourself

Physical symptoms

The physical symptoms of depression include:

- moving or speaking more slowly than usual
- changes in appetite or weight (usually decreased, but sometimes increased)
- constipation
- unexplained aches and pains
- lack of energy
- low sex drive (loss of libido)
- disturbed sleep—for example, finding it difficult to fall asleep at night or waking up very early in the morning

Social symptoms

The social symptoms of depression include:

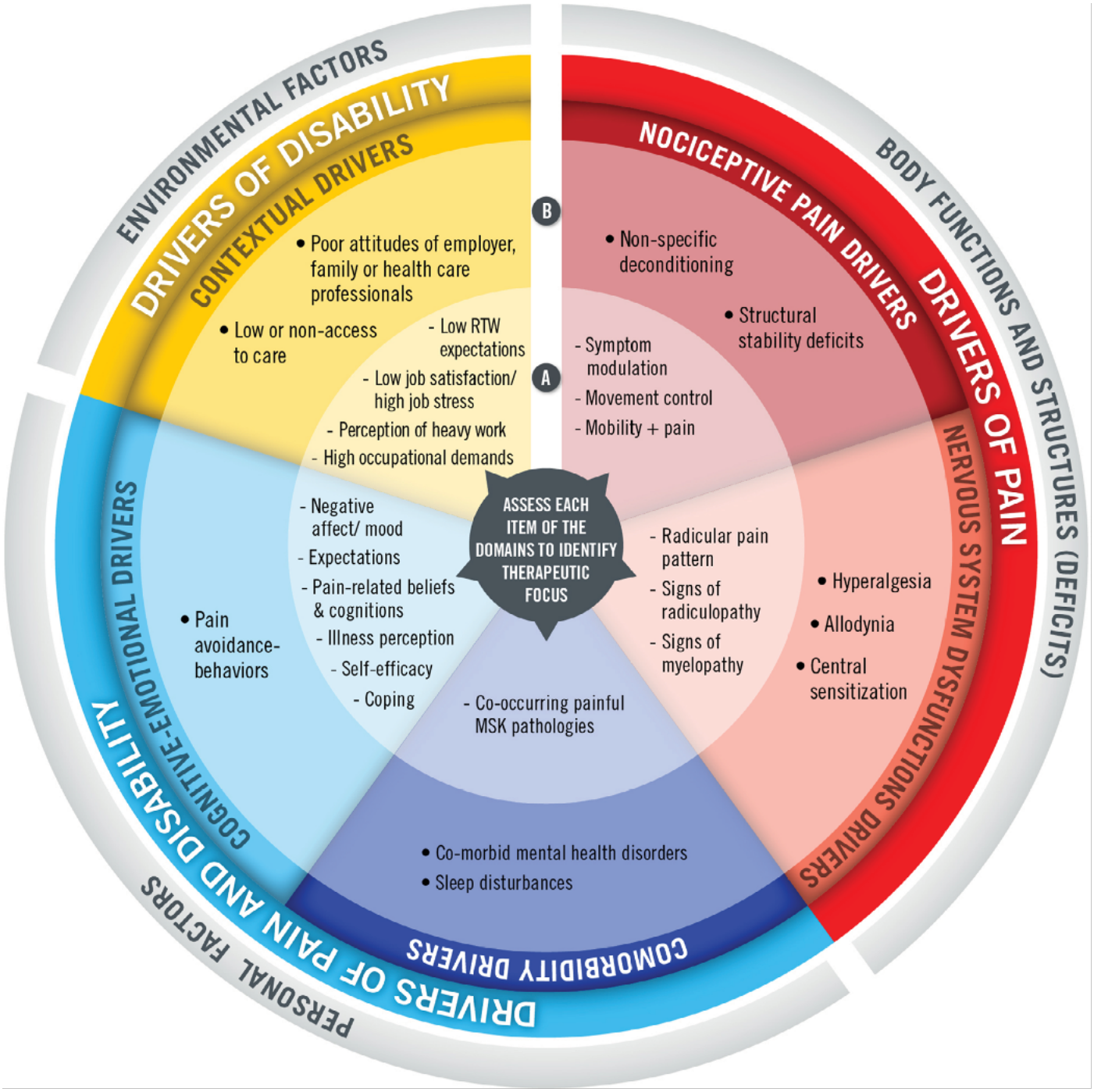
- avoiding contact with friends and taking part in fewer social activities
- neglecting your hobbies and interests
- having difficulties in your home, work or family life

[35] The following information can be found at "Symptoms: Depression in Adults", NHS, last reviewed 5 July 2023, https://www.nhs.uk/mental-health/conditions/depression-in-adults/symptoms/.

© 2023 International Toyohari Association. All rights reserved.

Rehabilitation modelling in chronic low back pain

In this paper about rehabilitation of chronic back pain and helping the patient get back to work, the authors lay out a thorough range of descriptions and strategies, summarised in the above figure (Tousignant-Laflamme et al. 2017, 2375).



Conclusions

Many problems can be accompanied by heightened sensitivity in the patient requiring careful adjustment of treatment dose. This is especially so with chronic problems with complex manifestations such as the symptoms and disease situations listed above.

© 2023 International Toyohari Association. All rights reserved.

Appendix B

Biological Modelling of Heightened Sensitivity in Patients

In the medical literature heightened sensitivity of patients is usually described with regard to certain pathological conditions. One such concept is "central sensitization". This is the "increased responsiveness of nociceptive neurons in the central nervous system to their normal or subthreshold afferent input" (IASP 1994). It especially arises in situations of chronic pain with all of the sequelae that arise as a result of that (see Appendix A above; Ji et al. 2018). Steven Harte et al. (2018) summarise the concept as follows:

> " Central sensitization refers to the amplification of pain by central nervous system mechanisms. Classically described as a consequence of ongoing nociceptive input, it is increasingly recognized that central sensitization also occurs independent of peripheral injury or inflammation. Features of central sensitization have been identified in nearly all chronic pain conditions, and it is considered the primary underlying cause of pain in conditions such as fibromyalgia. Central sensitization is characterized in these conditions by widespread pain and multisite hyperalgesia/allodynia. Co-occurring symptoms include fatigue, mood and cognitive problems, sleep disturbances, and multisensory hypersensitivity. Individuals with central sensitization often report previous exposure to psychosocial or physical stressors, and a higher personal lifetime and family history of pain, with the latter findings supported by genetic studies. Neuroimaging studies of central sensitization show evidence of: changes in brain gray matter in pain processing regions; neurochemical imbalances; and altered resting brain-network connectivity between pronociceptive and antinociceptive brain areas. Immune system abnormalities have also been demonstrated in individuals with central sensitization. The recognition of central sensitization, and whether it is being driven by ongoing nociceptive input or it is occurring in the absence of a peripheral driver, is critical for effective pain management.

We can see that this central sensitisation can involve multiple symptoms, multiple pathways, and multiple systems in the body. In his paper on fibromyalgia, Muhammad Yunus (2013) presents a figure of the various conditions that occur in patients who have the problem of central sensitisation.

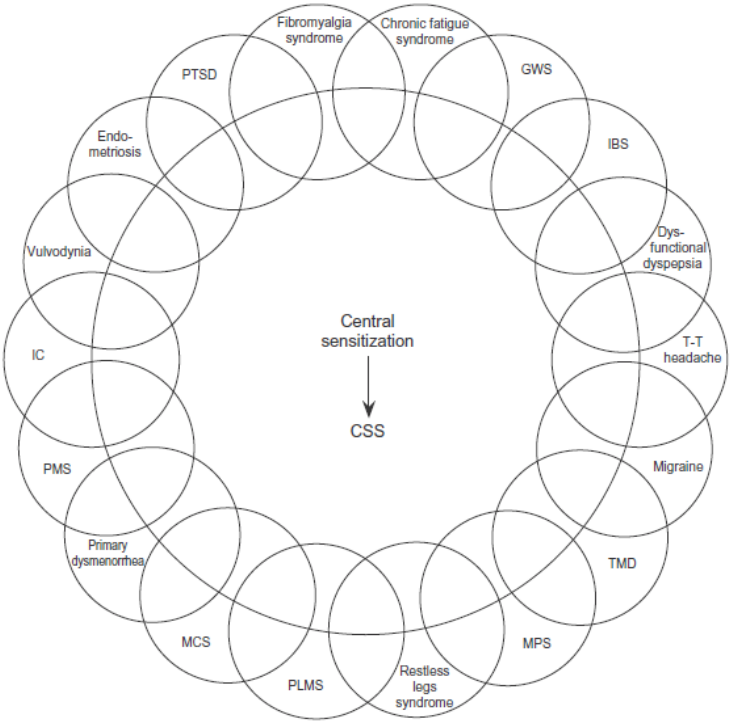


FIGURE 90.1 Currently known members of the central sensitivity syndromes (CSS) family with demonstration of central sensitization and mutual associations in the literature. GWS—Gulf war syndrome; IBS—irritable bowel syndrome; T-T headache—tension-type headache; TMD—temporomandibular disorder; MPS—myofascial pain syndrome; PLMS—periodic limb movements in sleep; MCS—multiple chemical sensitivity; PMS—premenstrual syndrome; IC—interstitial cystitis; PTSD—post-traumatic stress disorder *Adapted from Yunus MB[6] with permission.*

© 2023 International Toyohari Association. All rights reserved.

A good summary of "central sensitization" can be found on the website of the Institute of Chronic Pain.[36] In their online publication about fibromyalgia, the Family Practice Notebook site lists the following related problems as "sensory processing disorders":[37]

Associated Conditions: Augmented Pain and Sensory Processing Disorders

1. Chronic Fatigue Syndrome
2. Tension Headache
3. Migraine Headache
4. Primary Dysmenorrhea
5. Restless Legs Syndrome
6. Periodic Limb Movement disorder
7. Temporomandibular Joint pain
8. Myofascial Pain Syndrome
9. Interstitial Cystitis
10. Irritable Bowel Syndrome
11. Endometriosis
12. Non-cardiac Chest Pain
13. Chronic back pain
14. Reduced functional ability
15. Aerobic deconditioning
16. Vulvodynia

The issue of heightened sensitivity of an individual has emerged in recent years in broader contexts, not limited to the descriptions of, for example, central sensitisation. Probably the most relevant modelling is called "Sensory Processing Sensitivity", which by extension involves non-pathological states. Corina Greven et al. (2019, 287) have presented a thorough review of this topic, stating in the abstract that "Sensory Processing Sensitivity (SPS) is a common, heritable and evolutionarily conserved trait describing inter-individual differences in sensitivity to both negative and positive environments".

> " To survive and thrive on planet earth it is essential for all organisms to draw on environmental resources, such as food, protection from predators and social support. Animals and humans are programmed to perceive, process, react and adapt to specific social and physical elements of the environment, both positive and negative ones. Of interest, there are substantial inter-individual differences in sensitivity and responsivity to the environment in animals and humans; some are much more sensitive and reactive compared to others. Across populations, a continuum from low to high sensitivity to the environment is observed. In recent years, Sensory Processing Sensitivity (SPS), which describes inter-individual differences in trait sensitivity to experiences, and which began as a barely known topic 20 years ago, has become a much discussed facet of *Environmental Sensitivity* theory (287).

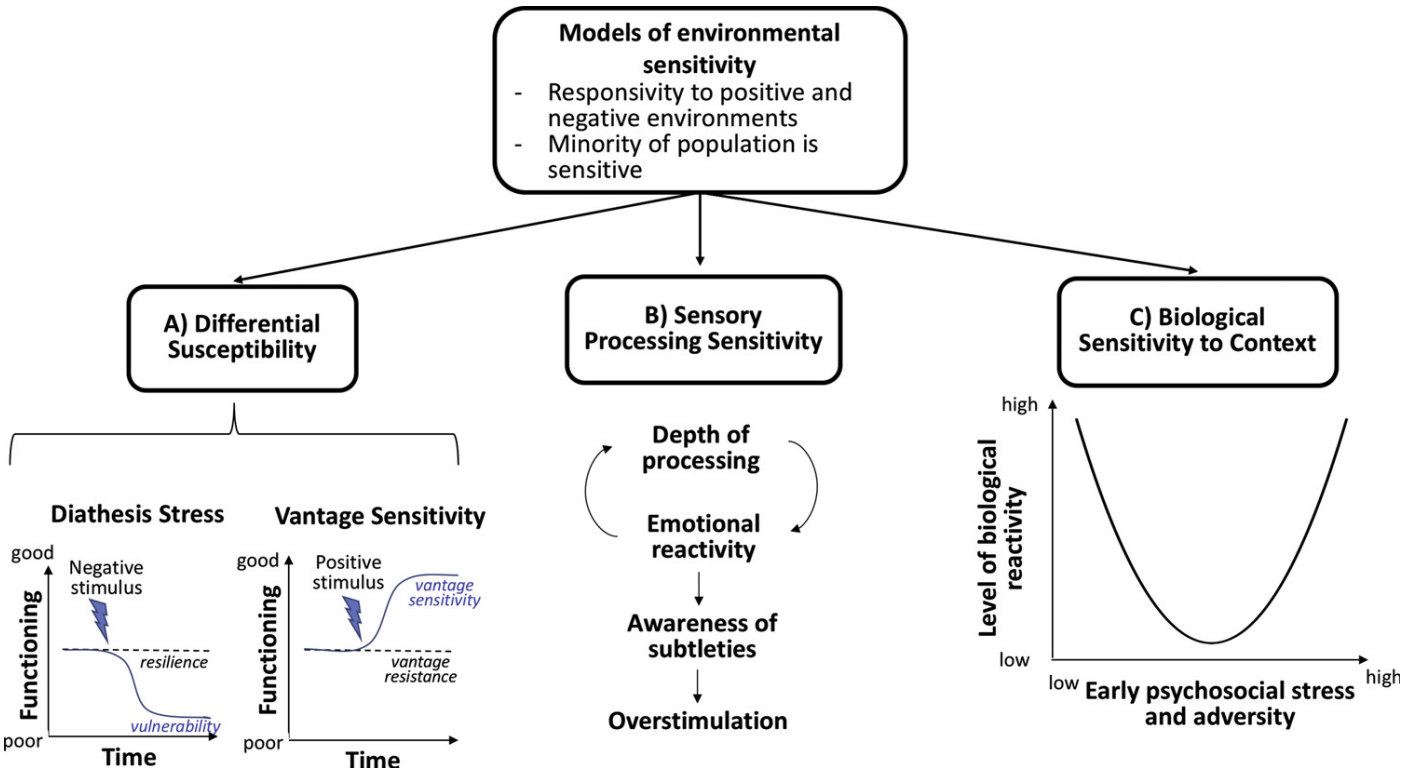
We reproduce here two figures and their descriptions from the same paper (290, 296).

---

[36] Murray J. McAllister, "What Is Central Sensitization?", Institute for Chronic Pain, last modified 29 May 2017, https://www.instituteforchronicpain.org/understanding-chronic-pain/what-is-chronic-pain/central-sensitization.

[37] Scott Moses, "Fibromyalgia", in Rheumatology Book: Myofascial Pain Chapter, Family Practice Notebook, last published 1 July 2023, https://fpnotebook.com/Rheum/Myofascial/Fbrmylg.htm.

© 2023 International Toyohari Association. All rights reserved.



Models of Environmental Sensitivity.

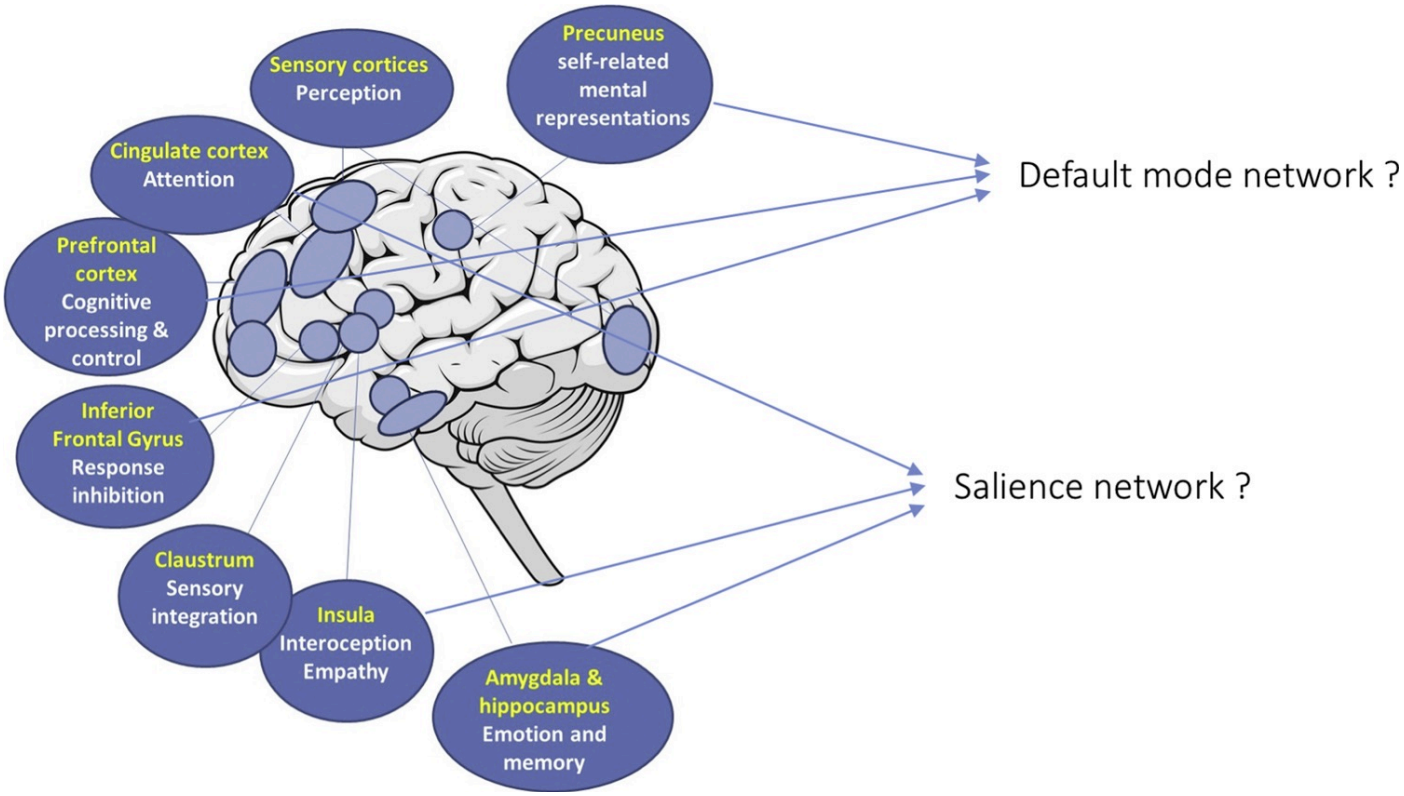
A) *Diathesis stress*: Emphasises vulnerability or resilience in response to adverse environments.
Vantage Sensitivity: emphasises vantage resistance or vantage sensitivity in response to positive environments, without making claims about response to negative environments.
Differential Susceptibility: combines vantage sensitivity and diathesis stress models:
Individuals are differentially susceptible not only to negative environments, but also to beneficial effects of positive environments. Emphasises moderation of environmental influences by genetics, temperament and endophenotypes.

B) *Sensory Processing Sensitivity*: Sensitivity captured in a behavioural (temperament) trait, hypothesised to reflect increased depth of processing, awareness of subtleties, emotional reactivity and ease of overstimulation. We hypothesise that greater depth of processing, in interaction with emotional reactivity, is the core underlying component, leading to greater awareness of subtleties and ease of overstimulation.

C) *Biological Sensitivity to Context*: Emphasis on sensitivity as a biological property indexed by heightened reactivity in stress response system. Hypothesises biological reactivity to emerge from both highly stressful and highly protected early social environments.

Models A), B) and C) all describe individual differences in sensitivity to both negative and positive environments, and all hypothesise heightened sensitivity or reactivity to be present in a minority of the population, for evolutionary reasons.

© 2023 International Toyohari Association. All rights reserved.

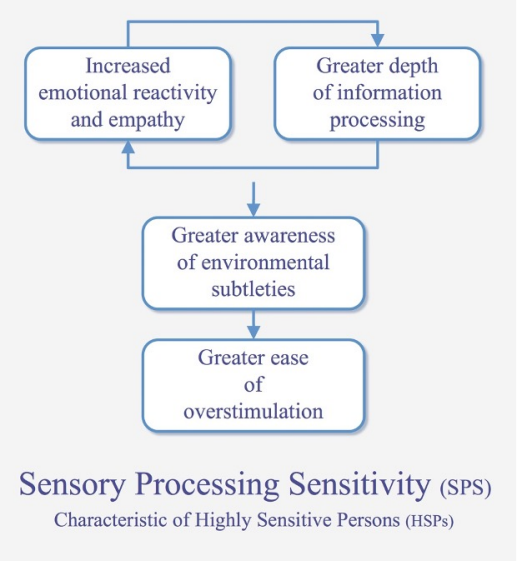


Neural signature of SPS.

SPS is characterised by a "hypersensitive" brain, reflected by heightened reactivity of the areas indicated in response to social-emotional or other environmental stimuli. Together, the activity patterns in the brain of high SPS individuals point towards deep information processing (e.g. precuneus, prefrontal cortex, inferior frontal gyrus), and increased emotionality and empathy (e.g. insula, claustrum, amygdala, cingulate cortex), the core facets that characterise SPS. Interestingly, these clusters of brain regions correspond to the default mode and salience networks, respectively, which mediate internal mentation and attention towards salient and emotional stimuli.

A more condensed simpler modelling of sensory processing sensitivity can be found in Wikipedia, where we find the novel notion of the "highly sensitive person", who is characterised by a very high degree of sensory processing sensitivity.

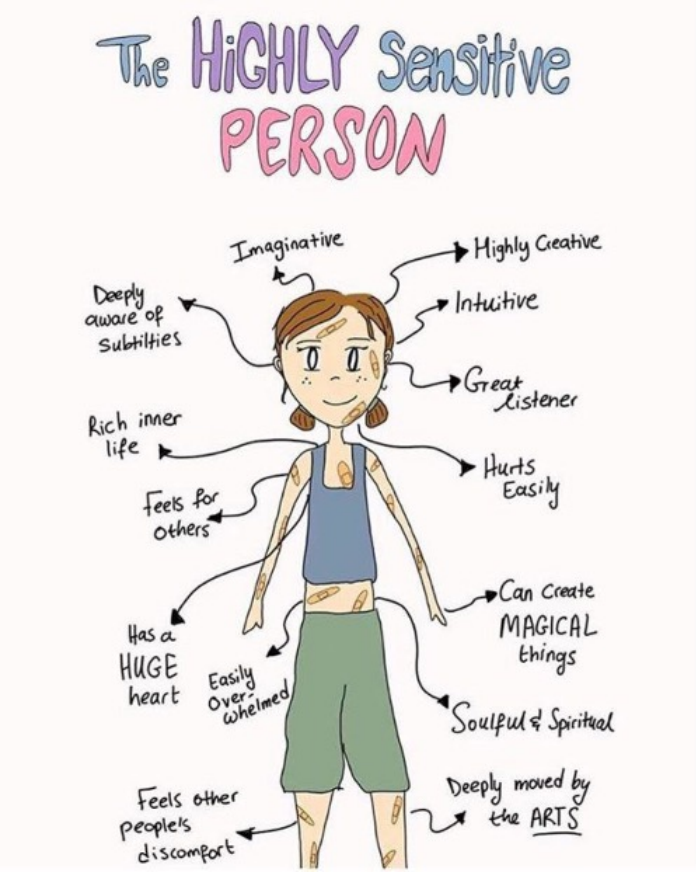
> " Sensory processing sensitivity (SPS) is a temperamental or personality trait involving 'an increased sensitivity of the central nervous system and a deeper cognitive processing of physical, social and emotional stimuli'. The trait is characterized by 'a tendency to "pause to check" in novel situations, greater sensitivity to subtle stimuli, and the engagement of deeper cognitive processing strategies for employing coping actions, all of which is driven by heightened emotional reactivity, both positive and negative'.
>
> A human with a particularly high measure of SPS is considered to … be a highly sensitive person (HSP). The terms SPS and HSP were coined in the mid-1990s…. Other researchers have applied various other terms to denote this responsiveness to stimuli that is seen in humans and other species.[38]



www.wikipedia.org

[38] *Wikipedia*, s.v. "Sensory Processing Sensitivity", last modified 21 April 2023, 11:18, https://en.wikipedia.org/wiki/Sensory_processing_sensitivity.

© 2023 International Toyohari Association. All rights reserved.



https://www.brighterspacesuk.com/the-highly-sensitive-person/

One aspect of the high sensitivity is the psychological reactions of a person with this HSP. Ni (2017) has a convenient summary of the psychosocial aspects of this.

In Appendix C Sascha Gröbe lays out more extensive descriptions of how such sensitivity may arise and presents models for understanding this. This paper was written in partial fulfilment of the 2017–18 Advanced Toyohari Programme in Amsterdam, Netherlands. Appendix D presents a very useful summary of psychophysiological changes to different responses of the autonomic nervous system.

Conclusions

These models of sensitivity and multi-pathway sensitisation seem to capture many of the clinical features we find in relation to the more sensitive patient, for whom a lower dose treatment is more suitable and effective. It is also important because it highlights some of the important neurological pathways involved in the sensitisation, some of which, like the "default mode network" have been demonstrated to be influenced by acupuncture, so that this is potentially another mechanism by which acupuncture works (Dhond et al. 2008; Lin et al. 2016). In particular, the paper by Lin et al. specifically relates the influences of the default mode network to dose of acupuncture treatment. By extension, we believe that another important takeaway message from these models is that when treatment focuses on improving regulation in the body, whether that be via the autonomic nervous system or key brain functional systems, this can influence many different pathways and affect multiple symptoms. In Toyohari treatment, a key feature is that we have a highly constructed and well-developed root treatment that aims at producing "qi regulation". In this treatment, the root treatment is the most important aspect. In very sensitive patients sometimes the best treatment approach is to only do a light root treatment, to treat the patient and not their symptoms (Birch et al. 2018). This can be a very effective treatment strategy.

© 2023 International Toyohari Association. All rights reserved.

Appendix C

Understanding Sensitivity: An Integrative Approach[39]

Introduction

People are different in many ways. The perceptions of sensory information from outside (the external environment) and from inside the body can be very different. Some people may react negatively (and feel uncomfortable) in response to very light sensory stimulation, while others feel comfortable with much higher levels of intensity. People on the extreme end of sensitivity turn the brightness of their computer screen to 2 (out of 10), wear sunglasses even on grey days, eat their food without any spices, and stay away from parties (Weber 2018).

Taking this variety of sensory perception into account and acting accordingly seems especially relevant in treatment approaches like acupuncture. In this review of the literature I seek to explain the neuroanatomical and neurophysiological basis of sensory processing, give explanations for the differences in perception and processing of sensory information, and try to shine a light on the consequences of this for treatment. Where appropriate, I will correlate my findings with the theory and practice of Traditional East Asian Medicine.

Etymology/Terminology

English

The word "sensitive" in its current meaning has been in use since the 19th century. The origin is the Latin *sentire* (to feel), which gave rise to the medieval word *sensitivus* and old French *sensitif* ("capable of feeling"). The use of the word to mean "easily affected" (with reference to the emotions) is first recorded in 1816. The meaning "having intense physical sensation" is from 1849. The purely physical meaning is preserved in "sensitive plant" (1630s), which is "mechanically irritable in a higher degree than almost any other plant" (*Century Dictionary*).[40]

The Oxford Dictionary of English provides the following definition of "sensitive":

> 1 quick to detect or respond to slight changes, signals, or influences.
>
> - easily damaged, injured, or distressed by slight changes.
> - (of photographic materials) prepared so as to respond rapidly to the action of light.
> - (of a market) unstable and liable to quick changes of price because of outside influences.
>
> 2 having or displaying a quick and delicate appreciation of others' feelings.
>
> - easily offended or upset.

[39] Paper by Dr. med. Sascha Gröbe, submitted for the Advanced Toyohari Programme, Amsterdam, Netherlands, 2017–18.

Acknowledgements: This work would never have been started, let alone finished, without the ongoing inspiration of Stephen Birch. For the last fifteen years he has supported my efforts regardless of my hesitation and limited talent. His enthusiasm, friendliness, and persistence somehow helped to keep me going—and one or two beers we had together might have helped as well.
Anne Janzen has piloted me through dangerous waters and helped me recover my sea legs. I am grateful to her beyond words.

[40] See *Online Etymology Dictionary*, s.v. "Sensitive", accessed 5 August 2023, https://www.etymonline.com/word/sensitive.

© 2023 International Toyohari Association. All rights reserved.

The same dictionary defines "hypersensitive" as follows:

> 1 having extreme physical sensitivity to particular substances or conditions.
>
> 2 easily hurt, worried, or offended.

Synonyms: easily offended, thin-skinned

To understand the sense in which the word is used, it might be helpful to look at common pejorative terms associated with it. In English we find, for example, "sissy" and "wimp".

"Sissy" is a combination of "sister" and a diminutive ending, meaning "little sister". Usually considered to be more anxious, frail, and less competent than the older sister.

"Wimp" means a weak and cowardly or unadventurous person.

Synonyms: coward, weakling, milksop, milquetoast, namby-pamby, crybaby

German

In German the correct translation of "sensitivity" would be *Sensitivität*, although in everyday language *Sensibilität* is used, which has nearly the same meaning but is much more common (Storjohann 2015). It is not comparable to the English word "sensibility", which is "an understanding of or ability to decide about what is good or valuable, especially in connection with artistic or social activities".[41]

Some common pejorative terms associated with this are *Mimose* and *Zimperliese*: *Mimose*, equivalent to "snowflake", is a "sensitive plant" that needs good care to grow and moves away from physical touch; *Zimperliese* is a combination of the word *zimperlich* (meaning "extra careful", or in a more negative sense, "timid") and the girl's name Liese.

Japanese

神経 (*shinkei*) nerve, sensitivity
過敏 (*kabin*) nervousness, hypersensitivity
神経過敏 (*shinkei kabin*) oversensitive
神経衰弱 (*shinkei suijaku*) nervous breakdown, neurasthenia

Interestingly, none of the five native speakers I asked could come up with a related word with negative connotations in Japanese.

Chinese

易受伤害的 (*yì shòu shānghài de*) sensitive, vulnerable

Thanks to the research of Nicolas Dornes of the Department of Sinology at the University of Bonn, two expressions in Chinese could be found which address sensitivity in a metaphorical and more negative fashion:

玻璃心 = 玻璃 (*bōlí*) "glass" + 心 (*xīn*) "heart"—"glass-hearted", used as an adjective, meaning fragile in a psychological sense; the word is of recent origin and might have developed on the internet.

---

[41] *Cambridge Dictionary*, s.v. "Sensibility", accessed 5 August 2023, https://dictionary.cambridge.org/de/worterbuch/englisch/sensibility.

© 2023 International Toyohari Association. All rights reserved.

草莓族 = 草莓 (*cǎoméi*) "strawberry" + 族 (*zú*) "group"—"strawberry group", as easily crushed as a strawberry, only able to withstand a small amount of pressure. The expression has developed in the last ten to twenty years, presumably because the generation born after 1980 is considered weak or frail.

The absence of pejorative terms in Japanese and, until recently, in Chinese may be an illustration of different cultural perceptions of sensitivity in East Asia and the West. While sensitivity in the West seems to be regarded more as a weakness, in Asian societies it seems to be more valued and understood as a form of politeness. In contrast to findings with Western children, "shyness-sensitivity was positively and concurrently associated with peer acceptance, teacher-assessed competence, leadership, and academic achievement … in the Chinese children" (Chen et al. 1995; see also Jagiellowicz et al. 2011, 40).

Neurophysiology of sensory processing (What is going on?)

Neuroanatomy and neurophysiology

We experience the world (and ourselves) through sensory information. The five traditionally recognised methods of perception, or senses, are taste, sight, touch, smell, and sound.

Proprioception is sometimes called the "sixth sense": it is the sense of the relative position of one's own body and of the effort being employed in balancing gravity and in movement. Proprioceptors in skeletal muscles (muscle spindles) and tendons (Golgi tendon organs) and the fibrous membrane in joint capsules send information to the brain. This information is mainly processed in the cerebellum. Together with the vestibular system, the brain integrates information from proprioception into its overall sense of body position, movement, and acceleration. This is sometimes called kinaesthesia, which, strictly speaking, means "movement sense".

The ability to stand upright might serve to illustrate these dynamics. We need information from our feet about the ground we are standing on (touch), from the muscles and joints (proprioception) about how we are aligned, from the vestibular organ about gravity, and from the eyes (sight). If just one of these systems is impaired, we might be prone to fall.

Information about the state of our inner organs, mainly from the intestines, lungs, and heart could be called the visceral sense. This information is transmitted by one of the largest and most complex nerves, the vagal nerve, and is processed in the brain stem. About 90 per cent of the fibres of the vagal nerve are afferent, so information processed by the vagal nerve has a major influence on how we feel (relaxed/tense, easy/uneasy, safe/alarmed) and is related to intuitive decision-making, sometimes referred to as our "gut feeling".

Sensory information is conducted by different types of sensory nerves to the brain and processed in different brain structures. The brain has a hierarchical structure with parts that are older in evolutionary terms (medulla, brainstem, midbrain structures) and parts that are newer (neocortex). For the purposes of survival, the "older" brain structures process the information first and can initiate reactions and/or prepare the body to react. For that reason, brainstem structures can directly affect motor activity, the heart, breathing, and digestion. Some of these

© 2023 International Toyohari Association. All rights reserved.

functions are modulated by the vagal nerve directly, while others are modulated via the activation of other brain structures like the hypothalamus. Activation of the hypothalamus can lead to the release of cortisol via the hypothalamic-pituitary-adrenal (HPA) axis and of adrenalin and noradrenalin via the sympathetic-adrenal-medullary (SAM) axis. Cortisol, adrenalin, and noradrenalin are often called the "stress-hormones".

For instance, the pain induced by a thin, sharp object (acupuncture needle) will be transmitted by sensory nerves with fast pain fibres and will be processed in distinct nuclei in the brainstem (reticular formation). In evolutionary terms, this kind of pain is related to the sharp teeth of a predator, so an instant reaction of withdrawal and the activation of midbrain structures like the amygdala (aggression-fear) and hypothalamus (sympathetic activation) are initiated. This reaction can be inhibited by higher brain structures, which will be discussed later. Nonetheless, it's still a good reason for painless therapeutic approaches.

Soft touch is transmitted by different sensory nerves and processed in other nuclei in the brainstem: even different neurotransmitters are involved (Venkatraman et al. 2017). Importantly, this activates efferent vagal nerve nuclei leading to slower heartbeat, deeper breathing, and more changes caused by parasympathetic activation. Evolutionarily, soft touch is related to patting and close family encounters.

In this light, it is preferable for physical examination and treatment to be performed with a soft touch. In the Toyohari system we put a lot of emphasis on the supporting hand, the *oshide*, which should be light and gentle. It can be regularly observed that the patient relaxes (before needling starts) when the touch of the *oshide* is just right.

In summary, the (upper) brainstem seems to be the first structure "where a topographically complete map of the body can be assembled that includes all manner of interoceptive information" (Venkatraman et al. 2017). Notably, it is also the first structure that promotes a direct response to stimuli, well before emotional processing or even consciousness is achieved.

The next structure that processes sensory and visceral information into a "picture", "representation", and physical "feeling" is considered to be a portion of the brain called the insula. This is where interoception is based, and part of its function is to add a kind of "rating". The insula is part of the limbic system, also called the "emotional brain". If the insula is hyperactive, every little sensation is registered and might be considered potentially dangerous. This is the case in panic and anxiety disorders. In depression and certain states of PTSD, the insula can be numbed and the person has no access to how they feel physically and emotionally. Our experience of emotions is basically physical, and this physical state will be remembered as well. For reasons of survival, the insula "remembers" dangerous events like food poisoning in detail. If, for instance, you got severe food poisoning by eating fish at a little food truck at a seaside place, you will have a strong aversion to fish for years, but additionally you might not eat at food trucks any more and may even be reluctant to take a holiday at the sea again.

The insula is directly connected to the amygdala. This brain structure is known as the "centre" of fear and anxiety as well as anger and aggression. With a major role in detecting threats

© 2023 International Toyohari Association. All rights reserved.

(including social threats) to the individual (and kin) and processing fight-or-flight reactions, the amygdala receives input from all the senses. This input is in part pre-processed and condensed. A hyperactive or more excitable amygdala results in anxious, fearful, or aggressive behaviour, and sensory input is considered unpleasant at a lower intensity. Those who have suffered traumatic experiences may be easily stressed and are often in a flight-or-fight state when there is no actual danger. This may be because in addition to being part of the threat-alert system, the amygdala also seems to be involved in emotional memories. The more intense the situation, the stronger the memory (Jawer 2009).

The left prefrontal cortex (PFC) is the brain structure for consciousness, decision-making, and control. Senior psychologist Alfred Pesso has called the PFC the "pilot" steering the plane.[42] The function of this brain structure constitutes what we call the "self" and it is where we form our "free will". Importantly, it has connections to the amygdala and insula with inhibitory abilities (Bauer 2015).

The regulatory functions of the human nervous system can be described in simplified terms as bottom-up and top-down regulation. Bottom-up regulation would mean that "pleasant" or neutral sensory information (initiated by treatment, for example) is sent to the brain, which reacts with adequate regulatory impulses, mostly transmitted by the parasympathetic branch of the ANS. This contributes to the positive emotional response of the amygdala and positive memory processing. Top-down regulation requires an active PFC, which is basically the ability to handle strong emotions, to think clearly, and to stay calm. This builds up resilience and gives us the feeling of being self-efficacious. Typical means of top-down regulation are concentration, positive thinking, awareness, mindfulness, conceptualisation, and imagination. Awareness focused on body perception seems to work favourably in both directions (both top-down and bottom-up).

The autonomic nervous system (ANS)

The autonomic nervous system controls the involuntary functions of the internal viscera, blood vessels, skin, glands, and all the organs. Its purpose is to adjust these organs so that their activities are most favourable to their own function and to the balance of activity of the whole body. The ANS contains two partly antagonistic branches, the sympathetic (SNS) and the parasympathetic (PNS) branch. Simply put, the sympathetic branch regulates action (fight or flight) and the parasympathetic branch regulates digestion and energy consumption (rest and digest). Under normal conditions ANS and PNS are in a counterbalancing interplay. During SNS activation, PNS activity is suppressed and vice versa. In extreme situations both systems can get simultaneously overly activated leading to a freeze response and/or dissociation (Rothschild 2000).

[42] Personal communication to the author, Weggis, Switzerland, 2014.

© 2023 International Toyohari Association. All rights reserved.

Reaction and regulation: Social Engagement System

The reactions of humans to changes in the environment are optimised for survival. We have four basic options:

- Social encounter
- Fight
- Flight
- Freeze

What option is taken depends on how the nervous system evaluates the sensory input from outside and inside the body.

Perception of safety

- We have eye contact, see friendly faces (smiling), hear well-modulated speech (prosody), and have completed an orientation response (looking around, no danger in sight).
- We feel good: visceral homeostasis, parasympathetic-dominated state.
- We feel connected (social well-being).
- We can rest and digest.
- We can allow physical contact.
- We can play and have fun.
- Therapeutic approaches are possible.

Perception of danger

- Sympathetic arousal (mobilisation)
- Preparation for fight
- Shouting, aggressive encounter
- Physical action

Perception of danger

- Sympathetic arousal (mobilisation)
- Physical action: run, duck, hide

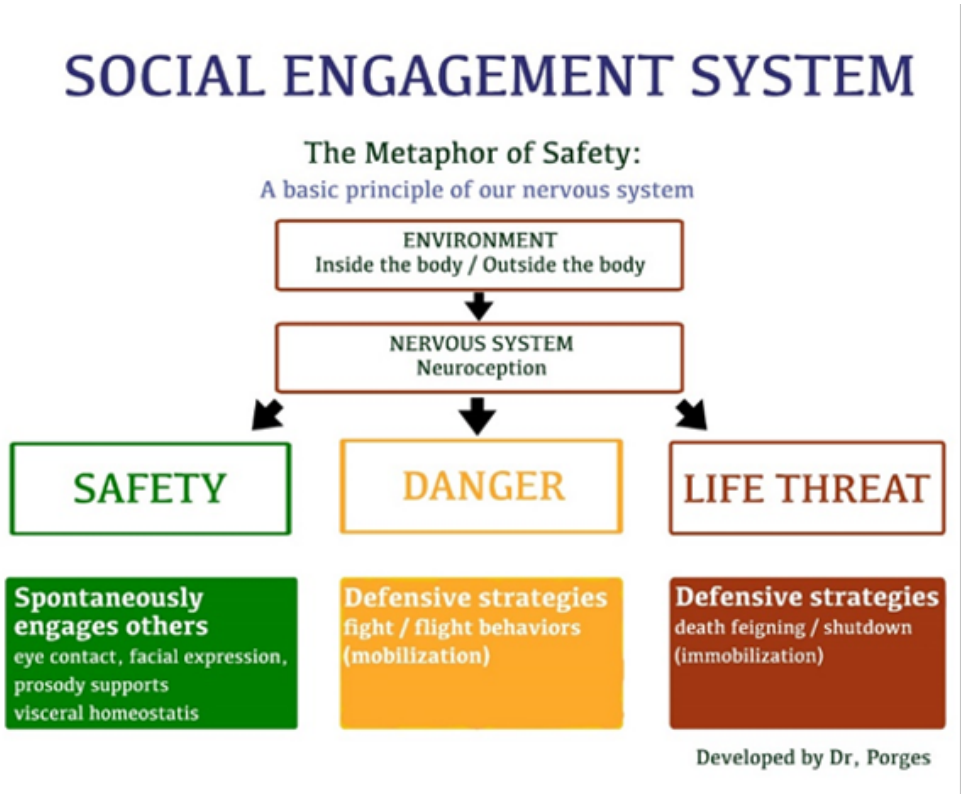
Perception of inescapable threat (fight/flight impossible)

- Sympathetic and parasympathetic override (Porges: dorsal vagal activation)
- Immobilisation, freeze
- Dissociation
- Numbing

As shown in the figure below, perception of safety in social encounter is important. Porges (2011) postulates a "Polyvagal Theory" and calls the neuronal basis of detecting threat and safety the "Social Engagement System" (SES). Two individuals first have to prove that they mean no threat to each other before they can get into closer engagement. Besides obvious signs of threat, humans analyse mainly facial expression, prosody, and eye-contact. According to Porges's theory, we constantly have to inhibit defensive strategies to allow for social encounter. This inhibition is maintained and executed by the myelinated ventral vagal nerve branch. Consequently, the right activation of the SES is essential for a therapeutic relationship.

© 2023 International Toyohari Association. All rights reserved.

According to Porges, the myelinated ventral vagal nerve is the "social nerve" reacting to connection and the perception of safety. The unmyelinated dorsal vagal nerve is considered phylogenetically older. It reacts to life threats and contributes to the shutdown or numbing/ freeze response.



Background

One of the first to test individuals for their sensitivity was Ivan Pavlov. The Russian physiologist is well known for his work on classical conditioning (Pavlovian reflex). In his trial he exposed individuals to sounds of increasing volume and marked when the individual indicated that the volume was unpleasant or painful. Fifteen per cent of the individuals he tested felt uncomfortable with a significantly lower volume than the majority. Interestingly, he only found a statistically normal distribution of data for the majority group. The individuals who were "sensitive to sound" constituted their own group (Parlow 2003).

The "high-reactive child"

The most sustained research has been done by Jerome Kagan and his colleagues over the last six decades (Kagan 2012). Starting in the sixties, Kagan observed the behaviour of children in defined circumstances. The tests were done on subjects of between four months and twenty-one years old. Adjusted to the age-group the children had to face unfamiliar but harmless situations and events, and their reactions were recorded. Twenty per cent of children (from middle-class white Caucasian families) showed distinct reactions like crying, arching their back, and thrashing their arms and legs when they were four months old. These kids were classified as "high-reactive" (in his early publications, he used the term "behaviour inhibition"). At the

© 2023 International Toyohari Association. All rights reserved.

opposite end of the spectrum, about 40 per cent of kids were classified as "low-reactive" ("not inhibited"): they reacted with curiosity to new events, smiled and babbled more often, and cried rarely. The rest of the kids belonged to two other groups: The "distressed" kids cried but did not show complex movements (which are indicators of high neuronal activity), while the "aroused" kids did not cry but showed movements and often smiled and babbled.

More of the "high-reactive" kids showed very fearful behaviours at ages one and two. At age four, they showed less sociable encounter with peers, were shy, quiet, and spent longer times standing close to their mothers. At age seven, timid and anxious behaviours were significantly more present among "high-reactive" kids, especially if they had anxious and overprotective mothers. At ages fourteen and twenty-one, kids who had been labelled "high-reactive" at the age of four months were quieter and more serious, showed less spontaneous smiling when interviewed, and expressed more concerns about their future.

Kagan suspects that this temperamental trait has a neurological basis and is consistent throughout life. Functional MRI (fMRI) observations did show that the neurophysiological pattern is marked by a hyperactive/excitable amygdala, less activation in the left frontal lobe compared to the right frontal lobe, and higher sympathetic activation.

Later in his book, after reflecting on the influences of parenting, social class, gender, and ethnicity, he stated that "neither temperaments nor the experiences linked to social class determine a person's future. Each is only a bias that can be overcome." Additional findings showed that individuals with the "high-reactive" temperamental trait had more allergies and a slightly higher prevalence of blue eyes.

In comparison to other ethnic groups, Asian children are calmer, cry less, are soothed more easily, and have a more even heart rate in a new environment. It is suspected that Asians have a more active parasympathetic nervous system while Caucasians have a more sympathetic-dominant nervous system.

Asian children are socialised to be hypersensitive to the social context, to avoid upsetting or embarrassing someone. This might contribute to special behavioural patterns of shyness and uneasiness with strangers, which are not related to a hyperexcitable amygdala as in "high-reactive" individuals.

Research with animals revealed that about 10–20 per cent of cats, chimpanzees, and even fruit flies show distinct (timid) behaviour that corresponds with the findings of "high-reactive" humans. Most species have specific types of "personalities" like shy/bold or aggressive/non-aggressive. Those have been characterised as two biological strategies, one as "pausing before acting", and the other as "acting first". The "pausing before acting" strategy allows neural processes to assess survival-related subtleties in the environment, while the "acting first" strategy makes it possible to respond quickly and discover survival-related cues through motor exploration (movement) (Wolf et al. 2008).

© 2023 International Toyohari Association. All rights reserved.

Psychological approach

US American psychologist Elaine Aron, who declared herself to be highly sensitive, invented the term Highly Sensitive Person (HSP). She was the first to address this phenomenon in detail in 1996. Her book *The Highly Sensitive Person* has been a long-time bestseller in the US and has been translated into several languages (Aron 1996).

Quoting Kagan and the evidence from animal studies, she declares that being highly sensitive is a "personal trait", a constitutional type from birth on. She describes in detail how HSP have a hard time as kids, when they are often misunderstood and treated poorly: they have to face bullying and teasing for being sensitive and are called names like "wimp" or "sissy". In Aron's view, the suffering of an HSP is caused by being misunderstood and mistreated by family and society. HSP are made to feel different and wrong. This feeling would be relieved through an understanding of their special character and their special vocation in the world as priests, healers, artists, and more spiritual beings. She describes HSP as especially sensitive to the moods and feelings of others.

While Aron is determined to make a point that HSP are not (just) neurotics, she admits that many are introverts. Her point is that HSP have a "rich inner life" and more valuable characteristics that would set them apart from neurotics.

Aron conducted and initiated more research on sensitivity. The research is based on her HSP questionnaire, which is limited to self-declaration (with questions like: Do you have a rich inner life?). By missing out measurable and objective items, the questionnaire may only indicate who feels "highly sensitive" rather than actually measuring "sensitivity" per se. In most of the studies, the subjects were student volunteers recruited from the psychology department, which means that the results are most likely strongly biased.

In around 2010 she changed the term HSP to SPS (Sensory Processing Sensitivity), perhaps to be more in line with the wording of DSM 5 (APA 2000). Belying her belief that high sensitivity is a trait, SPS now sounds very much like a disease or pathological pattern. Confusingly, the term "sensory processing disorder" has a very similar ring, but it's a pattern often found in kids with autism and has no correlation with the type of sensitivity Aron describes.

Setting aside the limitations discussed above, Aron's books helped a lot of my patients to come to a better understanding of their personality. Many patients reported that they felt a sense of great relief at not being crazy.

Neuropsychological approach

Richard Davidson (2012) conducted extensive research on the neurological underpinnings of emotions. Based on his findings, he identified six factors that contribute to a person's overall emotional style.

Resilience

How quickly we recover from negative experiences, personal failure, or the loss of a loved one

© 2023 International Toyohari Association. All rights reserved.

Outlook

Do we have a positive or negative attitude? Is the glass always half empty or half full?

Social intuition

Do we know how someone is feeling? Can we "read" someone else?

Self-Awareness

Are we in good contact with ourselves? Can we feel our body? Our emotions?

Sensitivity to context

Can we attune to a situation and act accordingly?

Attention

Can we concentrate and focus, or do we get distracted easily?

In each area he found great variation from person to person, so he does not postulate typical characters.

If we apply Aron's HSP description to these six emotional aspects, an HSP would be a person who is slow to recover, with a more negative outlook, good social intuition, a high level of self-awareness, increased sensitivity to context, and distractible.

Davidson emphasises the plasticity of the brain and our ability to change. He found that "resilience" depends on the activity of the left prefrontal cortex and its degree of connection to the amygdala. Mindfulness meditation proved helpful in fMRI studies as a means of cultivating greater resilience.

Attachment disorder

One of the skills a young child gradually learns is to comfort themselves when they are upset. One way they learn to do this is by being soothed (regulated) by their parents or caregivers. Competent caregivers comfort children by means of touch, holding, and eye contact, together with speech, sounds, and breathing ("shsh"). Basically the nervous system of the young child resonates with that of the caregiver. The regulatory effect thus depends to a large degree on how the caregiver is able to calm themselves and how well they can "read" the child (attunement) and react accordingly (connection).

Kathy Kain and Stephen Terrell (2018) use the compelling expression "coregulation". Because humans are born immature, they are totally dependent on others to be fed, kept warm, carried around, and feel socially connected. In this helpless state every need is equally important and existentially crucial. A baby has no perception of time or any understanding of the situation. Under these conditions the connection with the caregiver is of outmost importance. This connection might be impaired by absence, illness, mental problems, social problems, and discontinuity.

British psychologist John Bowlby was the first to describe different forms of attachment patterns, which were subsequently classified into "secure", "anxious-ambivalent", "anxious-avoidant", and "disorganized" attachment (Brisch 1999).

© 2023 International Toyohari Association. All rights reserved.

If the connection with the caregiver is consistent, attuned, predictable, and reliable, a "secure attachment" pattern can grow. A "secure attachment" is considered a safeguard against psychopathology and increases the threshold for mental stress. Based on the degree of inconsistency, lack of attunement, unpredictability, and reliability in the caregiver/child interaction, the child's behaviour changes to more insecure patterns. The main symptoms of this are anxiety and high stress levels. The anxious-ambivalent strategy is a response to caregiving that is unpredictably responsive. This might be the case, for instance, if a mother cuddles her child in one moment when it shows a distinct behaviour and rejects the child in another moment when it is showing the same behaviour.

Role reversal happens if the child takes care of the needs of its caregiver. Brisch observed that those children show an "astonishing sensitivity" in caring about their caregivers. Some of the affected kids act like detectives "tailing" their caregiver. Those kids fear the apparent loss of the caregiver in circumstances like mental illness, depression, suicidal tendencies, disease, and divorce.

If the caregiver is not able to perform a minimum of attunement and connection or is perceived as a threat, the child might develop a "disorganized" attachment pattern, simply not knowing what to do. Symptoms include fear, contradictory behaviours or affects, asymmetric, misdirected, or jerky movements, and freezing and dissociation.

Developmental trauma

Lawrence Heller and Aline LaPierre (2012) highlight the adaptive abilities of children to disconnect from painful internal and external experience. In their book *Healing Developmental Trauma*, they identify five major "adaptive survival styles" in connection with the five core needs. Kain and Terrell (2018) use the less dramatic expression "defensive comforting accommodation", emphasising the need for the child to self-regulate when coregulation via the caregiver is not possible or inadequate.

If the core needs are met by attuned caregivers, children build up core capacities for connection, aliveness, and creativity. If the core needs are not met owing to caregiver failure, disconnection happens and the core capacities are compromised and adaptive survival styles are formed. The aim of the adaptive survival style is to somehow protect the caregiver/child connection as a means of emotional and physical survival at any cost.

These survival styles might overlap and are not strict categories. "Connection" and "attunement" are of prime importance in early development.

Connection

Caregiver failure: early trauma, separation
Core difficulties: disconnected from physical and emotional self, difficulty relating to others
Survival adaption: foreclosing connection, disconnected from body and social engagement
Strategy to protect the relationship with caregiver: Children give up their very sense of existence, attempt to become invisible.

© 2023 International Toyohari Association. All rights reserved.

Attunement

Caregiver failure: inadequate nurturing, scarcity, deprivation, sick (needy) mother
Core difficulties: difficulty knowing what we need, feeling our needs do not deserve to be met
Survival adaption: foreclosing the awareness and expression of personal needs
Strategy to protect the relationship with caregiver: Children give up their own needs in order to focus on the needs of others.

Trust

Caregiver failure: manipulated by self-serving parents, rewarded for competitiveness
Core difficulties: feeling we cannot depend on anyone but ourselves, always having to be in control
Survival adaption: foreclosing trust and healthy independence
Strategy to protect the relationship with caregiver: Children give up their authenticity in order to be who the parents want them to be.

Autonomy

Caregiver failure: rigid, know-better, fearful of child's independence, shame and guilt used to force obedience
Core difficulties: feeling burdened and pressured, difficulty setting limits and saying no directly
Survival adaption: foreclosing authentic expression
Strategy to protect the relationship with caregiver: Children give up direct expression of independence in order not to feel abandoned.

Love/Sexuality

Caretaker failure: rejection, disdain, disapproval of sexual maturation
Core difficulties: difficulty integrating heart and sexuality, self-esteem based on looks and performance
Survival adaption: foreclosing love and heart connection
Strategy to protect the relationship with caregiver: Children avoid rejection by perfecting themselves and their looks and performance.

Symptoms associated with the "connection" and "attunement" survival styles are allergies, irritable bowel syndrome, digestive syndromes, eating disorders, anxiety, and migraine.

Attachment disorders and developmental trauma are not separate categories but different perspectives on early childhood experiences and their consequences. Against the background of these findings, it seems very likely that the nervous system of affected children experiences chronic insecurity and anticipates threat, thus establishing high reactivity of the brain structures related to fight and flight (and possibly shutdown). Accordingly, sensory input might be processed differently and at lower thresholds. Additionally, maturation of inhibiting structures like the PFC is impaired. Davidson's (2012) fMRI studies have shown that affected children have higher activity in the amygdala and lower activity in the left PFC . The vagal nerve, which is responsible for "rest and digest" regulation, establishes its myelin cover (myelination) in the first three months of life. It has been shown that early separation from the caregiver impairs this myelination and leads to a persistently higher level of stress reactivity (Möddel and Brockstedt 2012).

© 2023 International Toyohari Association. All rights reserved.

Traumatisation (PTSD)

People who suffer from post-traumatic stress disorder (PTSD) make up a special group among sensitive individuals. Their sensitivity is caused by a chronic disorganised state of the nervous system marked mainly by high arousal, flashbacks, and dissociation.

PTSD was named and recognised in the 1970s based on efforts made by the Vietnam veterans movement to find a cure for, or at least acceptance of, the suffering of so many veterans. In the First World War symptoms like tinnitus, amnesia, headaches, dizziness, tremors, and hypersensitivity to noise were called "shell shock". Medical understanding was poor, and the military authorities often regarded it as "mental weakness" or "cowardice". After the Second World War the terms "combat stress reaction" or "battle neurosis" were used. Sadly, veterans suffering from PTSD still seem to be given the wrong treatment or left untreated, depending on their condition. Substance addiction is common and suicide rates are high. In extreme, but not rare, cases family members and unconnected people get killed in acts that are considered extended suicides.[43]

It has been recognised that the factors that contribute to the development of PTSD—such as inescapable threat, overwhelming sensory input/pain, and helplessness—can occur outside the battlefield setting: in accidents, robberies, domestic violence, rape, and medical procedures.

In fact, aside from the heavy impact of domestic violence (Black et al. 2010), medical procedures, and especially surgery, are probably one of the major reasons for PTSD in developed countries.[44] To my knowledge, no systematic research is available at present, but practitioners in the field of trauma therapy do report regularly on PTSD following invasive medical procedures.[45]

Following open heart surgery the majority of patients suffer from acute, subacute, and chronic psycho-neurological symptoms like disorientation, psychotic episodes, change of character, memory loss, and so on. In the first year after this kind of surgery many patients get seriously depressed, and the suicide rate is way above the corresponding age group (Tully and Baker 2012).

One possible reason for traumatisation in the context of medical procedures is that anaesthesia is not properly administered, and the patient (if only for seconds) actually feels what is going on: we need to keep in mind that the pain from surgery would be equivalent to the most brutal torture. This might be most relevant in orthopaedic surgery, which relies on the use of force and is typically performed under tight time constraints.

---

[43] "Marine Combat Veteran Kills 12 in Rampage at California Bar", *News Tribune*, 9 November 2018, https://www.newstribune.com/news/2018/nov/09/Marine-combat-veteran-kills-12-in-rampage-at-Calif/.

[44] According to Peter Levine, more than 50 per cent of PTSD symptoms occur after orthopaedic surgery (Peter Levine, personal communication to the author, Weggis, Switzerland, 2012).

[45] Ibid.

© 2023 International Toyohari Association. All rights reserved.

There have been times when anaesthesia was not considered necessary for newborns or small children because they "do not feel the pain" and "have no memory" of the event, or that the procedure was considered "too short".

Nowadays preterm infants, in particular, needing intensive neonatal care, have to endure several painful procedures (7.5–17.3) per day over extended periods of time (Cruz et al. 2016). Case control studies have shown that "early exposure to pain is associated with abnormal functional connectivity of developing networks involved in the modulation of noxious stimuli in preterm neonate[s]" (Tortora et al. 2019).

Another reason might be that the anaesthesia itself is the cause. At the time when ether narcosis was performed, a mask would be placed over the patients nose and mouth until he or she lost consciousness. People usually had the feeling of suffocating and tried to fight off the mask. Suffocating triggers the strongest ANS activation in a bid for survival. This type of anaesthesia was common in the 1970s and commonly used during tonsillectomy in children.

The consequences of traumatising medical experiences do not necessarily lead to dramatic symptomatology. Needle phobia for instance is a common symptom (3.5–10%): 75% of affected people faint when their skin is penetrated by a needle (vasovagal syncope), 25% show anxious and avoidant behaviour with negative short-term and long-term consequences (Jenkins 2014). It can be assumed that all the affected individuals have a history that contributes to this behaviour, even though only a few might know about it or be able to draw a connection. Reasons might be found in (early) childhood experiences (birth trauma, blood-taking, vaccinations, dental treatments, etc.). Usually, patients have no memory of this because of post-anaesthesia amnesia, but the nervous system somehow stores the information. This might result in anxiety, phobias, avoidance, high sensitivity to pain, chronic pain syndromes, and high arousal.

In clinical praxis most affected patients are unaware of their higher sensitivity and of any connection with past trauma. They usually complain about symptoms like sleep disturbance, restlessness, fatigue, depression, nightmares, flashbacks, pain, emotional instability, anxiety, etc. The symptoms typically started sometime after a distinct incident—accident, operation, war, assault, rape, hostage situation, etc.—but can be very hard to relate directly to the incident.

Some individuals have no memory of a traumatic event, but can recall that at one point their life changed radically—"broke apart"—or that they have not been the "same person" since. Special care should be taken to avoid re-traumatising the patient through treatment interventions.

Special circumstances related to increased sensitivity

In the normal course of life, sensitivity decreases with the maturation of the brain and nervous system. An infant would be considered highly sensitive, a child sensitive, and an adolescent normally reactive. In old age some individuals are sensitive again.

As mentioned before, there is good evidence to suggest that 15–20 per cent of individuals are significantly more sensitive than the average. Aron calls them "born sensitive". Attachment disorders, developmental trauma, or shock trauma might induce a higher sensitivity as well.

© 2023 International Toyohari Association. All rights reserved.

By contrast, some people are not permanently hypersensitive, but only sometimes under certain conditions:

Menstruation, esp. first day
Feeling hungry/hypoglycaemic
Premenstrual syndrome
During—and sometimes just before (aura)—a migraine attack
Pregnancy (esp. sensitivity to smell)
Menopause

In addition, some medical conditions and diseases are associated with increased sensitivity:

Multiple sclerosis
Any kind of infectious or traumatic brain damage
Fatigue, (chemotherapy, radiotherapy)
Burnout
Depression
Anxiety, panic disorder
Multiple chemical sensitivity (MCS)
Allergies
Irritable bowel syndrome
Chronic untreated or insufficiently treated pain syndromes
Psychiatric conditions like borderline syndrome, psychosis, schizophrenia
Autism spectrum disorders
PTSD

Taking these observations into account, (increased) sensitivity might be influenced by the change of hormones (menstruation, menopause, pregnancy), viral and bacterial infections of the brain itself (inflammation, structural damage) and psycho-emotional factors (pain, depression, anxiety, trauma).

Allergies, irritable bowel syndrome, and MCS might just be the symptoms of individuals with pre-existing higher sensitivity. Kagan (2012) showed that infants who tested as "high reactive" more often developed allergies and problems with digestion as compared with "low reactive" infants. Heller associates these symptoms with the "Connection" and "Attunement" adaptive survival styles.

Poor metabolisers, sensitive to drugs

Variations in gene coding for key enzymes in the liver's metabolism have been detected. These enzymes are important for breaking down drugs. They belong to the P450 system, which metabolises drugs like beta-blockers, statins, pain killers, Warfarin, and antidepressants. About 30 per cent of the population are "poor metabolisers" showing mutations of relevant genes. A small minority are "ultra-rapid metabolisers". In light of these variations, the effective dosage of a drug (tested for Nortryptilin) might vary from 10 mg to 500 mg (Bauer 2003). Hence, the standard dose of a certain drug would be too high for about 30 per cent of patients and much too low for about 3 to 5 per cent of patients. Interestingly nowadays poor metabolisers are excluded from pharmaceutical studies. Clinical observations have shown that therapies with

© 2023 International Toyohari Association. All rights reserved.

beta-blockers, statins, or antidepressants are ineffective in 20 to 50 per cent of patients or need to be stopped because of side effects (Schwab et al. 2002).

These findings potentially provide a scientific background for the clinical observation that most of those patients who are overly sensitive to sensory stimulation do not tolerate standard dosages of generally prescribed medications.

Assessment

How do we know that someone might be sensitive?

Physical appearance

Blue eyes, white skin (Kagan 2012)
Red hair, white skin (higher sensitivity to pain) (Cunningham et al. 2010)

Ethnicity

Caucasian (Kagan 2012; Davidson 2012)

Touch

Soft and thin skin

Hara

Cool skin
Moist skin
Lacklustre
Pulsation of aorta visible
Quick changes in response to touch

Pulse

Fast
Floating
Kyo
Quick changes in response to touch or needling

Symptoms

Multiple symptoms, not related to a particular disease
Emotional and affectional problems
Allergies
Digestive problems
Autoimmune disease
Anxiety
Tendency to flush easily
Shyness, introversion
Sensitive to loud sounds, strong smells, certain fabrics, crowds, medications
Low energy, easily exhausted

Medical history

Childhood neglect, early separation, mental illness of caregiver
Abuse
Preterm birth
Complicated birth

© 2023 International Toyohari Association. All rights reserved.

Early surgery, hospitalised over extended periods
Accidents
Major surgery
Life-threatening disease
Loss of a close family member/friend
Head injuries
Brain infections (meningitis)

In certain professions we commonly find more sensitive individuals:

Professional musicians (esp. classical)
Actors/singers
Artists, writers
Psychologists/medical doctors/acupuncturists (🤔)
Social workers

Individuals with higher sensitivity might choose professions in which such a sensitivity is beneficial (musicians, artists, actors, psychologists, etc.). This might have further implications, which will be discussed in the section on sensitive practitioners.

Assessment in terms of qi

In sensitive individuals, qi flows fast and can easily become disturbed or chaotic. Typical signs are counterflow qi, with qi surging upwards, leading to heat sensations in the head, with redness in the face and flushing. Other symptoms can be hiccups, reflux, and nausea. The pulse, breathing, and speech rhythms are correspondingly fast.

Treating sensitive patients

In the treatment room

Knowing that your patient is in trouble (otherwise he/she would not be in your clinic) and probably sensitive, it is easy to imagine that they are under stress which will make them even more sensitive.

It is well known that blood pressure measurements taken in the clinic/at the doctor's office are significantly higher than those taken at home (Bloomfield and Park 2019). This phenomenon is called the "white coat effect". It affects the systolic blood pressure exclusively, which indicates that the effect is driven by sympathetic nervous system activation.

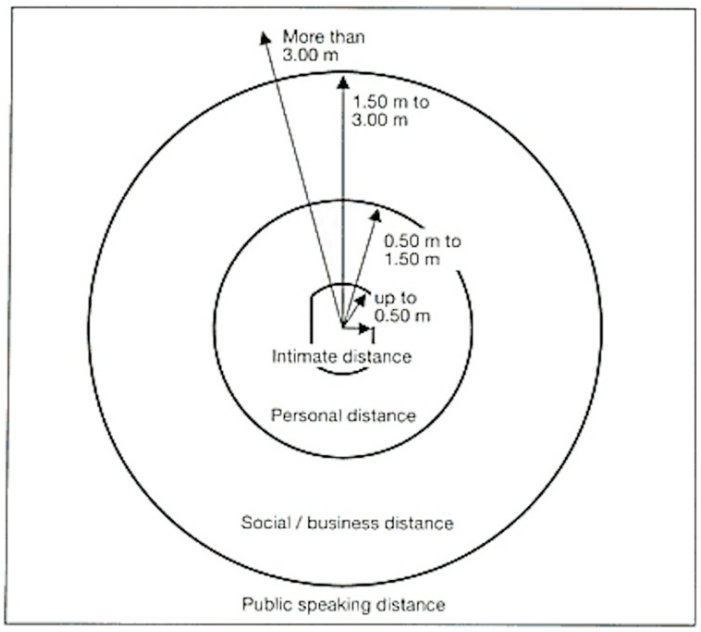
In this respect, it's good to help your patients to relax. Give them time to orientate themselves in your treatment room: they might want to walk around, look out of the window. Remember that orientation is directly linked to the brainstem and calms the fight-or-flight reaction. If you have a spacious treatment room with more than two chairs, you might ask the patient to choose a seat and a place where they want to sit (having a choice and being able to decide helps them feel more secure; for some people—especially, though not exclusively, war veterans/police officers—it might be of great importance that they have the door in their sight and a wall at their back).

© 2023 International Toyohari Association. All rights reserved.

Usually, I ask my patients if they want to have a cup of tea and leave the room to go to the kitchen: that gives the patient some time alone to familiarise themselves with the situation.

Setting

An arm's-length distance is thought to represent one's "personal" space, so check how far away you might want to sit from your patient—if you imagine you and your patient were both to fully extend one arm, your fingertips should just fail to touch (Hall 1966; Ruhleder 2002).



http://www.linus-geisler.de/dp/dp03_distance.html

Taking up a more diagonally opposite position might be less challenging than sitting directly face to face. Sitting face to face can be too confrontational, and it blocks the escape route. Large desks with stuff on them might increase the distance too much or make the patient feel out of reach. If you see/sense/perceive that your patient is uncomfortable with their sitting position, encourage them to change something.

Explain whatever you want to do in detail and give reasons why this procedure might be beneficial for the patient. Show your treatment tools, explain their use, and demonstrate their use on yourself. Ask the patient if they want to touch the tool or hold it in their hand. Pay attention to the body language of your patient. Stiff or defensive gestures—like both hands extended with palms pushing away—indicate that this tool or procedure might not be the best choice.

On the treatment table

The lying-down position is related to rest and sleep: the muscles relax and energy consumption is lower. While this might be considered helpful, the decrease in kinaesthetic input makes it more difficult for the patient to sense their body. If body awareness drops, the regulatory function of the PFC can go offline and the brain structures related to fear and arousal are not controlled sufficiently. I encourage my patients to feel the contact with the table and feel their weight. In some cases, I tell them not to close their eyes. As discussed before, the visually based orientation response is crucial. Not seeing what is happening makes us more vulnerable and more likely to be surprised. Having eye contact activates the Social Engagement System and helps your patient to stay in contact with themself and you and to remain in the "here and now", which helps prevent traumatic flashbacks, dissociation, and extensive worrying. Healing, as the seasoned psychotherapist Irvin Yalom (2002) points out, only happens in the here and now.

© 2023 International Toyohari Association. All rights reserved.

Touching

Before touching a patient, you might consider that you are now leaving the personal space and entering the intimate space. This should be done with permission only. So you might want to ask, "May I touch your arm/head/feet?" and wait for permission. This seems to be especially important if you want to touch the belly because this is a very vulnerable part of the body. Patients are usually not familiar with the clinical examinations that are a special feature of TEAM, including *hara* diagnosis and pulse taking. So it might be helpful to explain what you are doing. Patients are often afraid that you will find something "bad" in their pulse and that there is something "wrong" with them. Diagnosis in TEAM and especially in Toyohari is not about disease and good or bad but only a means to guide the treatment towards more balance and coherency. Informing your patients about that may help them relax and soothe the fear of being diagnosed and passed judgement on.

It is advisable not to approach your patient from the back of their head (where they can't see you). This might trigger very old evolutionary patterns of ducking and turning, which are associated with imminent attack (Levine 1997).

Dosage

Dosage is crucial. Knowing that sensitive patients have a low threshold for stimuli and might react quickly and in an exaggerated manner, you might want to start gently with a low dose. Keep in mind that "less is more" and that confidence and trust are hard to build and easy to lose.

"Alle Dinge sind Gift und nichts ist ohne Gift; allein die Dosis machts, daß ein Ding kein Gift sei."

All things are poison and nothing is without poison; the dosage alone makes it so a thing is not a poison.

Paracelsus, 1493–1541

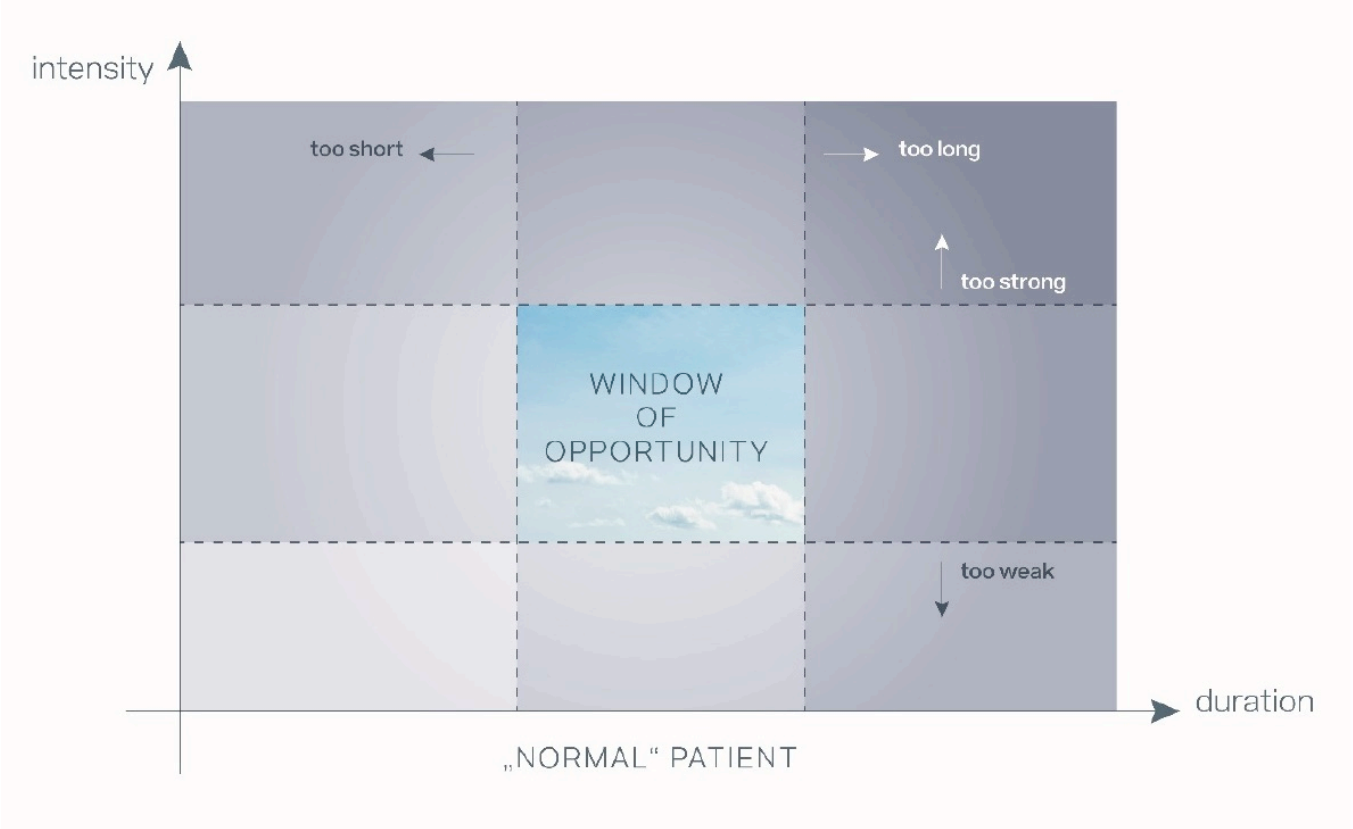
The following charts seek to illustrate the "therapeutic window", or the "window of opportunity", as I like to call it. The x-axis shows the duration of the stimulation, while the y-axis indicates the intensity of the stimulus (e.g. thicker needle, deeper insertion, stronger manipulation). Taken together these factors constitute the dosage (the higher/stronger the intensity and the longer the duration of the stimulation, the higher the dosage will be).

The vertical lines indicate the threshold for duration; it can be too short to be effective, or too long. The horizontal lines indicate the threshold for intensity; a stimulation can be too low to be effective or too strong and cause pain or other adverse reactions. The field that is outlined by the threshold boundaries is the "window of opportunity". It provides space for a range of treatment possibilities that may vary in terms of both intensity and duration.

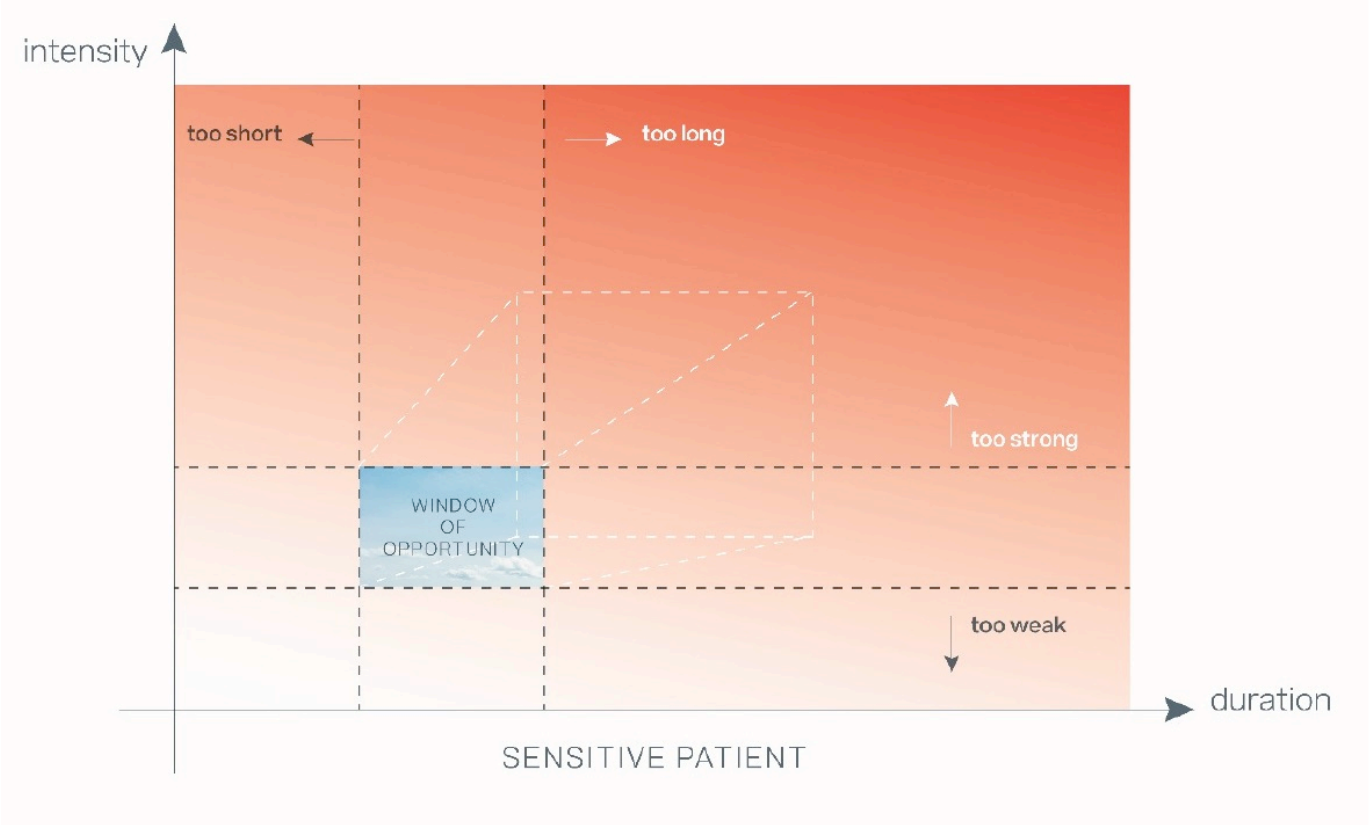
As you can see in the second diagram, the "window of opportunity" for sensitive patients is very likely smaller and has shifted towards lower intensity and duration margins.

.

© 2023 International Toyohari Association. All rights reserved.



Window of opportunity: Normal patient



Window of opportunity: Sensitive patient

© 2023 International Toyohari Association. All rights reserved.

Ways of lowering the dose in acupuncture, especially Toyohari (T):

Duration

Shorter treatment time
Less frequent appointments
Mild and short stimulation—tonification (T)

Intensity

Lower number of treated points
Thinner/softer needles
Less sedation
More shallow insertion
Flat angle of the needle—"The more sensitive the patient, the more horizontal the needle" (Nagaoka 2018 Lecture)
Use of *teishin* (T)
Use of techniques designed for treating children (*shonishin*)
Less symptomatic treatment

Reactions to treatment:

Watch for reactions of relaxation (indicating that you very likely hit the "window of opportunity"):

Sounds of movement in the belly
Deeper breathing, longer exhalation
Slower breathing rhythm
Less muscular tension
Warmer skin, esp. hands and belly
Colour of skin more red/pink and/or more evenly distributed, esp. face
Smiles, little sounds of relief
Tender/soft gaze
Hara warmer, more even temperature, softer
Pulse slower and sinking, firmer (consolidated) (T)

Watch for reactions of distress (suggesting mistaken treatment and/or over-treatment and indicating that you very likely missed the "window of opportunity"):

Shivering
Stiffening
Sweating
Goosebumps
Heat, esp. in the head and face
Headache
Dizziness
Fainting
Nausea
Coughing
Shortness of breath
Tightness, esp. thorax
Emotional outburst
Fixed gaze, pupils dilated
Hara colder, harder, more uneven
Pulse faster, harder, more floating (T)

Whenever you recognise a reaction like this, you might want to stop whatever you are doing and communicate what you have noticed to your patient. You might say: "When I was touching that point with the needle, I saw that you were holding your breath and I noticed a little shivering. What do you feel? … Is it still like this now? … Did it settle down? … What do you

© 2023 International Toyohari Association. All rights reserved.

think, should we continue?" You might want to explain the phenomenon to the patient, saying things like: "Your qi is moving fast." "The stimulation was (too) strong." "It will settle down."

It is important to first let the nervous system relax again before you continue treatment, otherwise you might cause even more dysregulation. Recognising and communicating what your patient is experiencing is a wonderful way to build confidence in the patient/practitioner relationship. Your patient might feel seen and understood for the very first time.

The former president of the Toyohari Association Yanagishita sensei, a man who accumulated more than fifty years of clinical experience, once said: "When treating patients with strong emotional issues, we need to proceed with treatment by closely monitoring changes after each needling, and we need to be flexible in how treatment progresses. Good rapport between the patient and therapist is very important."[46]

Shaking can be a sign of discharge of unfinished movements, stored as "postural memories" (Levine 2015). If it occurs, don't try to stop it—eventually it will stop by itself. If the movements are too wild or happen with a very high frequency, encourage your patient to make them slower and with a smaller range of motion. Following the motoric discharge, emotional discharge can happen (crying, tears, sobbing). Usually no intervention is needed.

By trying not to over-treat a sensitive patient, there is always a chance of under-treatment. We should check the outcome of our treatments bearing both these possibilities in mind.

The sensitive practitioner

People who care about others in their profession are very likely sensitive—not only because that might enable them to understand and help their client or patients but also because it fits with their own character. People who are attracted to a very subtle form of acupuncture like Toyohari might be even more sensitive. On the one hand, this could be considered personal preference or just making use of one's talent; on the other, it might be related to psychological patterns adopted in childhood.

"People specialize in their defects."

Samuel Shem*, *Mount Misery*, 1997

"Who is going to control your qi if you don't do it?"

Stephen Birch, personal communication

* Samuel Shem is a US American medical doctor who wrote the famous book The House of God (1978) about his time as an intern in Mount Sinai Hospital in New York. He became a psychiatrist later and wrote Mount Misery (1997) about his years in psychiatry.

According to Lawrence Heller's theory of developmental trauma, the ability to tune into the needs of others is especially high in those individuals who have been brought up by emotionally unstable caregivers. The child turns its sensory system outwards and is on full alert to detect the smallest change in the caregiver/parent's mood, behaviour, posture, or facial expression. The child is seeking to enable the caregiver to take care of their needs. For that reason, Heller and LaPierre (2012) call it an adaptive survival style. The problem is that the child's needs will usually not be satisfied and the ability to recognise their own needs will be

[46] Stephen Birch, personal communication, 2005.

© 2023 International Toyohari Association. All rights reserved.

impaired or totally replaced by the needs of others. These adaptive styles are very consistent patterns and can become very problematic in adult life.

The phenomenon of the "helper syndrome" (Schmidbauer 1978) can be viewed in similar terms. Basically, it describes the mismatch between caring for others and self-care, leading to frustration, burnout, and depression. Sensitive practitioners should be well aware of their own personality in that respect.

Babette Rothschild (2006) describes in detail how the practitioner is influenced by the client/patient (and vice versa). Knowing about the neurophysiological and psychological mechanism might enable the practitioner to practise good self-care and avoid compassion fatigue and burnout.

Mirror neurons in the brain help us to feel what others feel. If we see another person being poked with a sharp object, the very same neurons in our brain are active as if we were being poked ourselves. So we simply can't help but be affected (Bauer 2006). But if we are aware that this is not our pain and we do not mistake it for something that is related to us (as our mind usually does), we will not be affected too much. This seems to be easy and straightforward, but if our client is in a complex emotional state, it can get complicated—especially if we are tired, unfocused or troubled ourselves. Anyone who has ever worked with seriously depressed persons knows how hard it can be to withstand the feelings of heaviness, darkness, and eternal hopelessness.

Empathy is not a state of mind: instead, it is "an autonomic nervous system state, which tends to simulate that of another person" (Ax 1964). Taking this into consideration, it is not advisable for a sensitive practitioner to try to be more empathic. Very likely they are already very empathic and rate that as one of their virtues.

Mirroring

If someone smiles at us, we usually smile back. That is not due to good manners but to deeply rooted neuronal patterns that might be part of the Social Engagement System. Mimicking or mirroring body postures, facial expressions, or muscle tension induces associated nervous system reactions and emotions. So it's a good idea to be aware of one's own posture and to change it when we recognise mirroring.

This awareness and mindfulness is essential for everyone. By way of analogy, there's a German nautical expression that says: "One hand for the ship, one hand for the man." The idea is that if you work for the ship (patient) with both your hands, you might get washed overboard by a wave—you need one hand to secure yourself. In other words, at any given time at least 50 per cent of your awareness should be focused on yourself.

This is a brief summary of "Managing the Ties That Bind", chapter 2 of Rothschild's (2006) *Help for the Helper*. The book is structured in three main chapters. Chapter 3, "Keeping Calm", is about self-regulation, breathing, and grounding techniques, while chapter 4, "Thinking Clearly", emphasises that clear thinking is only possible if we are calm and focused.

© 2023 International Toyohari Association. All rights reserved.

These findings are very much in line with early Chinese understandings of mind and body and ideas about the essential skills required by a physician. According to the *Neiye* (Birch et al. 2014, 408):

> When your body is not aligned
> The inner power will not come
> When you are not tranquil within
> Your mind will not be well ordered.

And elsewhere, it says:

> When the four limbs are aligned
> And body and qi are calm
> One may unify one's attention and concentrate one's mind
> One's eyes and ears will not be sullied.

Here you find that body posture/alignment are directly linked to calmness and to a clear mind. In the summary of core practical concepts in the book mentioned above, the authors put the skills and abilities to be cultivated by the acupuncturist in a slightly different order:

- Alertness, concentration
- Calmness
- Sensitivity
- Alignment
- Grounding
- Presence
- Awareness

These skills and abilities are a 100 per cent match with Rothschild's (2006) findings in a book written mainly for psychotherapists and social workers.

In a situation in which both the patient and the practitioner are sensitive, special attention may be needed because (negative) reactions can be quickly amplified in both directions. A vicious cycle can easily start: The practitioner gets nervous about the patient's sensitive reactions; this nervousness makes the client even more sensitive and reactive, which makes the practitioner even more uneasy and uptight, which …

Conclusion

Sensitive practitioners are at a greater risk of being (negatively) affected by the patient/practitioner encounter. They can profit a great deal from knowing about the possible backgrounds of sensitivity, the neurophysiological and psychological mechanisms of human contact, and how to avoid dysregulation. Ancient and modern teachings show astonishing similarities in their understanding of this and the practical advice they offer.

© 2023 International Toyohari Association. All rights reserved.

Discussion

Against the background of the findings presented here, I would identify four influences contributing to "high sensitivity": genetics, parenting and attachment, traumatisation, and special circumstances like major life crises, diseases, and hormonal changes.

Genetics

There is good evidence from extended behavioural studies that about 15–20 per cent of Caucasians are "high reactive" to environmental changes. Studies with various animal species found similar percentages. A genetic determination for these patterns seems very likely. Nonetheless, affected children have fewer problems than adults when they were raised by caregivers who encouraged and helped them to deal with the challenges of life, in contrast to individuals raised by anxious caregivers who encouraged avoidance strategies.

Parenting and attachment

Neuronal structures and interconnections show maximum growth in the first three years of life. Experiences in this period seem to get structurally integrated into our nervous system and thus contribute to behavioural patterns. Lack of connection (eye contact, touch, talk, physical and emotional presence), attunement, and reliability, to name the most important, prevent the child from perceiving the world as a safe place. Therefore "high sensitivity" is important as a means to navigate dangerous waters. Experiences of safe attachment in later life can change these patterns.

Traumatisation

Traumatised individuals lose the ability to feel safe (in their body and in the world) due to massive overstimulation of the whole neuronal regulation system in situations of inescapable threat and/or total helplessness. Subsequently, they stay in a chronic state of arousal and "high sensitivity". Aside from war and terrorist attacks, domestic violence followed by medical procedures, especially surgery, might be the most common cause for traumatisation. This seems to be totally underestimated.

Major life crises, diseases, and hormonal changes

People in a major life crisis have typically lost a significantly important person or a key element in their lives (death of partner/child/family member, divorce, loss of job) or have undergone trauma (bullying, debilitating disease, profoundly shameful experience). The loss of connection and/or safety increases the perception of threat and danger, contributing to an alert and "highly sensitive" nervous system.

Hormonal changes seem to have a direct influence on the degree of "sensitivity" (but sometimes only on one sensory quality) and on changes in mood. Given the interconnectedness of anatomical structures processing sensory input and emotions, this seems understandable but still lacks a compelling explanation.

Diseases affecting the brain itself seem to lower the threshold of sensory perception more generally and profoundly. It appears to me that neuronal sensory processing is a most complex task which can obviously be impaired by minor damage to the brain. For instance, many MS

© 2023 International Toyohari Association. All rights reserved.

patients only have mild neurological symptoms but react with extreme sensitivity to sensory stimulation.

In all the above situations, the effect of increased sensitivity is mainly chronic activation of the sympathetic nervous system (fight-or-flight reaction), leading to impaired sympathetic/parasympathetic regulation and more unpleasant emotions such as anxiety, hyper-alertness, and nervousness. These effects have complex negative consequences on health and psychosocial well-being.

The therapist might want to keep in mind that treating "highly sensitive" patients starts with the first contact and is strongly dependent on their own mental and emotional state (coregulation). It seems to be advisable to provide a safe setting, establish good connection, build confidence, and proceed with the treatment predictably and with informed consent.

In the actual treatment, the dosage is of the utmost importance. Start low and build up gently. Close monitoring of the treatment effects and lively discussion with the patient seem to help a lot. If the patient plays an active part in the treatment, they are less likely to feel overwhelmed or helpless (which would trigger complex autonomic reactions).

Given the multiple causes for increased sensitivity, the practitioner should take a close look at the medical history and exclude differential diagnoses. Some patients might profit from special trauma-related therapies.

In all cases, patients should be encouraged to train their self-regulating abilities. Based on Davidson's research, selective attention and open, non-judgemental awareness strengthen the ability to block other sensory input and help build positive self-awareness. The practice of mindfulness (e.g. MBSR) strengthens the inhibitory functions of the PFC over limbic structures. Put simply, not reacting to a stimulus (or extending the time before we decide to react) and just observing what is happening break the pattern of reactivity to sensory stimulation and decrease sensitivity. Training and repetition are needed for this.

The routine practice of recalling good experiences in detail helps to change a chronic negative outlook. Levine (2010) encourages traumatised individuals to "re-inhabit" their body by gradually building up self-applied sensory stimulation accompanied by awareness and declarative speech ("This is my hand. I can feel my hand."). Building up interpersonal and broader social connection, however difficult it might be, often has the most profound healing effects. As in physical treatment, dosage is crucial. Physical exercise, yoga, qigong, and taiji strengthen positive self-perception and have regulatory influences on the ANS.

Based on the TEAM understanding, "high sensitivity" is related to qi, which is considered to flow (too) fast and can get disturbed or chaotic easily. If the condition is chronic, qi gets depleted. According to TEAM, the aim of treatment is to restore order and strengthen the qi. As mentioned above, the effectiveness of treatment will strongly depend on the right dosage. Mistaken treatment or over-treatment will lead to (usually strong) adverse effects. A practitioner of TEAM who uses all their skills in listening, seeing, and touching diagnosis would be able to evaluate the degree of sensitivity of their patient and choose their treatment accordingly if they have had adequate training.

© 2023 International Toyohari Association. All rights reserved.

The Toyohari treatment approach uses delicate stimulation of the skin, which most likely has immediate effects on the ANS nuclei in the brainstem. Signs of decreasing sympathetic and increasing parasympathetic activity, like the sounds of movement in the belly, deeper breathing, and warmer hands, are regularly observed. The diagnostic tools in this system—especially those using touch (touching diagnosis)—have been developed to detect "high sensitivity" in the majority of cases and enable the practitioner to monitor the effects of their treatment closely and adjust the dosage according to the capacity of the patient.

Conclusion

High sensitivity is a call to arms in terms of regulation. It not only impacts a person's perception of sensory input but has an immediate effect on their emotions, mental state, thinking, decision-making, and memory. Therapeutic approaches should reinforce regulation. The dosage of treatment should be carefully titrated. Depending on the background of increased sensitivity, special treatment approaches like trauma therapy should be considered. Affected patients and practitioners alike can increase their self-regulatory abilities through breathing and physical exercises (yoga, qigong, taiji, etc.), focused non-judgemental body awareness (MBSR), and other body-focused meditation strategies. Historical medical texts from East Asia strongly support this view.

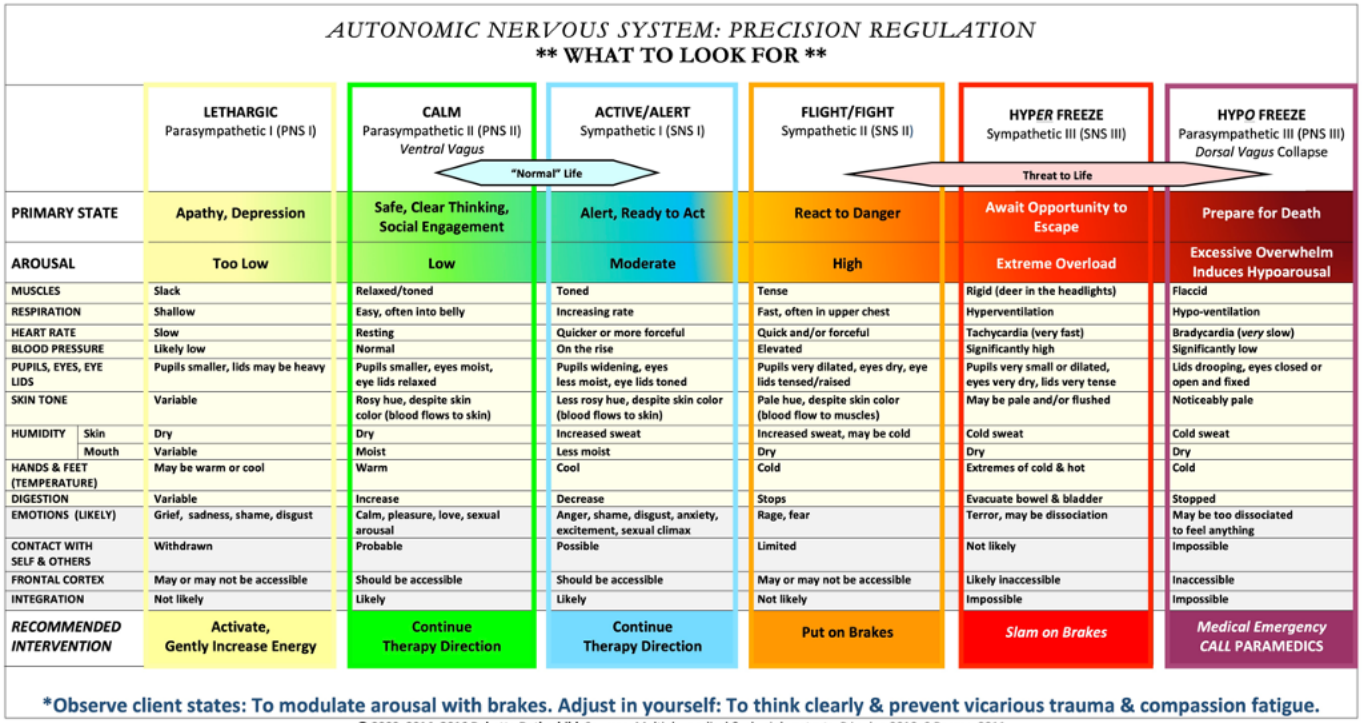
Given the fact that sensory processing is a neuronal task that is, in part, hardwired, changes will take time. Research on neuronal plasticity is very encouraging: we can change the way we feel, act, and think.

Gentle acupuncture techniques like Toyohari have the benefit of being able to detect high sensitivity on the basis of structured assessment and elaborate touching diagnosis and adjust the treatment dosage accordingly.

© 2023 International Toyohari Association. All rights reserved.

Appendix D

Physical and Emotional Reactions to Different Autonomic Nervous System Responses



AUTONOMIC NERVOUS SYSTEM: PRECISION REGULATION
**** WHAT TO LOOK FOR ****

	LETHARGIC Parasympathetic I (PNS I)	CALM Parasympathetic II (PNS II) *Ventral Vagus*	ACTIVE/ALERT Sympathetic I (SNS I)	FLIGHT/FIGHT Sympathetic II (SNS II)	HYPER FREEZE Sympathetic III (SNS III)	HYPO FREEZE Parasympathetic III (PNS III) *Dorsal Vagus* Collapse
		"Normal" Life			Threat to Life	
PRIMARY STATE	Apathy, Depression	Safe, Clear Thinking, Social Engagement	Alert, Ready to Act	React to Danger	Await Opportunity to Escape	Prepare for Death
AROUSAL	Too Low	Low	Moderate	High	Extreme Overload	Excessive Overwhelm Induces Hypoarousal
MUSCLES	Slack	Relaxed/toned	Toned	Tense	Rigid (deer in the headlights)	Flaccid
RESPIRATION	Shallow	Easy, often into belly	Increasing rate	Fast, often in upper chest	Hyperventilation	Hypo-ventilation
HEART RATE	Slow	Resting	Quicker or more forceful	Quick and/or forceful	Tachycardia (very fast)	Bradycardia (*very* slow)
BLOOD PRESSURE	Likely low	Normal	On the rise	Elevated	Significantly high	Significantly low
PUPILS, EYES, EYE LIDS	Pupils smaller, lids may be heavy	Pupils smaller, eyes moist, eye lids relaxed	Pupils widening, eyes less moist, eye lids toned	Pupils very dilated, eyes dry, eye lids tensed/raised	Pupils very small or dilated, eyes very dry, lids very tense	Lids drooping, eyes closed or open and fixed
SKIN TONE	Variable	Rosy hue, despite skin color (blood flows to skin)	Less rosy hue, despite skin color (blood flows to skin)	Pale hue, despite skin color (blood flow to muscles)	May be pale and/or flushed	Noticeably pale
HUMIDITY – Skin	Dry	Dry	Increased sweat	Increased sweat, may be cold	Cold sweat	Cold sweat
HUMIDITY – Mouth	Variable	Moist	Less moist	Dry	Dry	Dry
HANDS & FEET (TEMPERATURE)	May be warm or cool	Warm	Cool	Cold	Extremes of cold & hot	Cold
DIGESTION	Variable	Increase	Decrease	Stops	Evacuate bowel & bladder	Stopped
EMOTIONS (LIKELY)	Grief, sadness, shame, disgust	Calm, pleasure, love, sexual arousal	Anger, shame, disgust, anxiety, excitement, sexual climax	Rage, fear	Terror, may be dissociation	May be too dissociated to feel anything
CONTACT WITH SELF & OTHERS	Withdrawn	Probable	Possible	Limited	Not likely	Impossible
FRONTAL CORTEX	May or may not be accessible	Should be accessible	Should be accessible	May or may not be accessible	Likely inaccessible	Inaccessible
INTEGRATION	Not likely	Likely	Likely	Not likely	Impossible	Impossible
RECOMMENDED INTERVENTION	Activate, Gently Increase Energy	Continue Therapy Direction	Continue Therapy Direction	Put on Brakes	*Slam on Brakes*	*Medical Emergency* CALL PARAMEDICS

***Observe client states: To modulate arousal with brakes. Adjust in yourself: To think clearly & prevent vicarious trauma & compassion fatigue.**

© 2000, 2014, 2016 Babette Rothschild Sources: Multiple medical & physiology texts; P.Levine 2010; S.Porges, 2011
Reprinted with permission from *The Body Remembers*, Volume 2: *Revolutionizing Trauma Treatment* (W.W. Norton, 2017)

This table is also available as a Laminated Card (ISBN 978-0-393-71280-3) and Wall Poster (ISBN 978-0-393-71281-0). To order, call 800-233-4830 or visit wwnorton.com.

© 2023 International Toyohari Association. All rights reserved.

Appendix E

Modern and Traditional Approaches to the Body-Mind

Understanding the Sensitive Patient

In a very revealing book about the mind from a neurophysiologist's perspective, Antonio Damasio (2000) describes how emotions are generated in the brain as the first order of reaction to *all* sensory input, whether it be from sensory processing signals that deliver data about the state of the body many times per second or the real-time input of any sensory information from the various sense organs in the body. Before any conscious reactions can occur, the brain generates emotional reactions to *all* input. Of course, when the brain is not in a disordered state, those emotional reactions can play a vital role since they can motivate the individual to respond or take appropriate actions, such as safety reactions in the presence of danger. But at the same time it is not unreasonable to suggest that the emotions create a protective layer around the individual, helping speed up and fine-tune actions and reactions that can promote survival and improve efficiency of action. Multiple theories posit that we are psychologically and sociologically conditioned into psychosocial states that trigger specific emotional reactions (Damasio 2000; Berger and Luckmann 1966). These preconditioned reactions can manifest at the deep-functioning preconscious level of emotional reactions disturbing the individual's reactions to sensory input, which can generate mistakes in how the individual constructs models of and perceives the world and objects and individuals within it (Wilson 1983). These deeper uncontrolled emotional reactions become part of the person, part of their make-up, their constitution. In life we learn to work on these distorting influences in one way or another so as to not allow them to colour our perceptions, but for some this ability is less well developed or underdeveloped. This, in turn, increases the ability of emotional responses to trigger unhelpful or faulty reactions to sensory input.

This normal deep functioning of the emotions is curiously parallel to the early descriptions of qi. Early medical authors and those whose work predates the origins of medicine in China clearly envisioned emotional expressions/reactions as the cause of or identical with disordered movements of qi. The individual tries to master their emotions or might perform specific self-cultivation exercises to help develop themselves. One of the important aspects of this is the ability to regulate/control one's emotional reactions so as to remain undisturbed by events. A common metaphor in this context—employed by Zhuangzi and several other early authors—is that of the surface of water: when still, it is reflective like a mirror but has a distorting effect on objects when it is disturbed by the emotions (Birch et al. 2014). Since the ideal is to allow the qi to stay in a highly ordered state (undisturbed, mirror-like water), emotions can potentially cause problems. These problems arise, in particular, when emotions are seen to be over-expressed or unregulated. Perhaps the increased sensitivity of patients due to emotional, psychological reactions is due to either a distorting influence at the level of the preconscious emotional reactions (perhaps starting after birth) or the occurrence of emotionally disturbing events (e.g. a

© 2023 International Toyohari Association. All rights reserved.

trauma) that trigger repeated or easily expressed emotional reactions or both of these. Both will disturb the qi of the patient, increasing sensitivity of the patient due to increased instability of qi.

TCM often describes the liver as being the organ most susceptible to emotional reactions and is responsible for the "smooth flow of qi", while meridian therapists see the lungs as probably being the key organ responsible for regulating the emotions since it "controls the qi". It is interesting that in his lecture on dosage and sensitive patients, Shinoda (2005 Lecture) described how lung *sho* and liver *sho* patients are likely to be more sensitive. It is also helpful to recall that when authors seek to describe "constitutional" factors or types they often refer to key emotional aspects of the personality of that constitution.[47] It is a well-known fact that in the European origin system called "Five Element" acupuncture developed by J. R. Worsley "emotions" are one of the key indications of the main pattern or "Causative Factor" (Birch, Alraek, et al. 2020). It is also remarkable that, in Toyohari, Kodo Fukushima clearly stresses how for disease to occur in the body the emotions must first cause a weakness in the armour of the meridian system, thus allowing the external qi (*jaki*) to enter the body and cause symptoms/disease. In the introduction to his translation of the *Lingshu*, Paul Unschuld (2016, 9; see also ItsHaky 2017) similarly highlights this role of the emotions as being the principal factor that disturbs qi, allowing pathology to be generated.

> " The qi of an organ, i.e. its resources, are depleted most easily by the emotions. Undisciplined emotionality permits the excessive drainage of qi from the respective organ responsible for grief, joy, fear, etc. and leads to two possible yet equally unpleasant consequences. First, the unleashed spirit can inflict health problems on the affected individual. Even today in the societies of East Asia influenced by ancient Chinese culture, one is struck by the emotional restraint among the people. That may well be an aftereffect of the idea that emotional exuberance is a prime cause of illness. Secondly,… the depletion of qi may make areas of the body susceptible to invasion.

Message

Emotions are fundamental in the neurological processing of information in the brain and can lead to distortions and disturbances of that information. Emotions are intimately entwined with qi and are fundamental for understanding increased sensitivity in an individual. These factors may all be related.

[47] For more on this, see "The 'Constitution' and Its Uses in Toyohari", SB's two-part article in the International Toyohari Newsletter (2013/14, 9–12; 2016, 24–28).

© 2023 International Toyohari Association. All rights reserved.

References

APA. 2000. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR)*. 5th rev. ed. Washington, DC: American Psychiatric Association.

Aron, Elaine. 1996. *The Highly Sensitive Person: How to Thrive When the World Overwhelms You*. New York: Carol Publishing Group.

Ax, Albert F. 1964. "Goals and Methods of Psychophysiology". *Psychophysiology* 1 (1): 8–25. https://doi.org/10.1111/j.1469-8986.1964.tb02616.x. Quoted in Rothschild 2006, 45.

Basu, Shibani, and Bimal Krishna Banik. 2018. "Hypersensitivity: An Overview". *Immunology Current Research* 2 (1). https://www.omicsonline.org/open-access-pdfs/hypersensitivity-an-overview.pdf.

Bauer, Joachim. 2003. "Arzneimittelunverträglichkeit: Wie man Betroffene herausfischt". *Deutsches Ärzteblatt* 100 (24). https://www.aerzteblatt.de/pdf.asp?id=37331.

———. 2006. *Warum ich fühle, was du fühlst: Intuitive Kommunikation und das Geheimnis der Spiegelneurone*. Munich: Heyne.

———. 2015. *Selbststeuerung: Die Wiederentdeckung des freien Willens*. Munich: Blessing.

Berger, Peter L., and Thomas Luckmann. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Garden City, NY: Anchor Books.

Birch, Stephen. 1997. "Issues to Consider in Determining an Adequate Treatment in a Clinical Trial of Acupuncture". *Complementary Therapies in Medicine* 5, no. 1 (March): 8–12. https://doi.org/10.1016/S0965-2299(97)80083-0.

———. 2005. "Toyohari – East Asian Needle Therapy: Coming Out into the Light; A Research Agenda". Toyohari Association.

———. 2009. "Filling the Whole in Acupuncture", part 1, "What Are We Doing in the Supplementation Needle Technique?" *European Journal of Oriental Medicine* 6 (2): 25–35; 6 (3): 18–27. Available as pdf: http://www.foundation-steam.org/papers/nonresearch/Filling-Whole-in-acup-1.pdf.

———. 2010. "Toyohari Needling Techniques". In Birch and Minderhout 2010, 195–220.

———. 2014. "The *jingmai* and *qi*: Acupuncture Perspectives". In Birch et al. 2014, 183–266.

———. 2015. "Historical and Clinical Perspectives on *De Qi*: Exposing Limitations in the Scientific Study of *De Qi*". *The Journal of Alternative and Complementary Medicine* 21 (1): 1–7. https://doi.org/10.1089/acm.2014.0267.

———. 2016. *Shonishin: Japanese Pediatric Acupuncture*. 2nd ed. Stuttgart: Thieme.

———. 2019. "Treating the Patient Not the Symptoms: Acupuncture to Improve Overall Health; Evidence, Acceptance and Strategies". *Integrative Medicine Research* 8, no. 1 (March): 33–41. https://doi.org/10.1016/j.imr.2018.07.005.

———. 2020. "Reflections on the Heart Pattern and Understanding '*shen*' or Spirit". Toyohari Association.

Birch, Stephen, Terje Alraek, Mark Bovey, Myeong Soo Lee, Ju Ah Lee, Chris Zaslawski, Nicola Robinson, Tae-Hun Kim, and Zhao-xiang Bian. 2020. "Overview on Pattern Identification: History, Nature

© 2023 International Toyohari Association. All rights reserved.

and Strategies for Treating Patients; A Narrative Review". *European Journal of Integrative Medicine* 35 (April): 101101. https://doi.org/10.1016/j.eujim.2020.101101.

Birch, Stephen, Mark Bovey, Terje Alraek, Nicola Robinson, Tae-Hun Kim, and Myeong Soo Lee. 2020. "Acupuncture as a Treatment within Integrated Health for Palliative Care: A Brief Narrative View of Evidence and Recommendations". *The Journal of Alternative and Complementary Medicine* 26, no. 9 (September): 786–93. https://doi.org/10.1089/acm.2020.0032.

Birch, Stephen, Mark Bovey, and Nicola Robinson. 2021. "Acupuncture for Chronic Primary Pain: Are UK Guidelines Now Consistent with Other Countries?" *European Journal of Integrative Medicine* 41 (January): 101257. https://doi.org/10.1016/j.eujim.2020.101257.

Birch, Stephen, Miguel Ángel Cabrer Mir, and Manuel Rodríguez Cuadras, eds. 2014. *Restoring Order in Health and Chinese Medicine: Studies of the Development and Use of Qi and the Channels*. Barcelona: Jade Stone Group & La Liebre Publishers.

Birch, Stephen, and Junko Ida. 1998. *Japanese Acupuncture: A Clinical Guide*. Brookline, MA, Paradigm.

Birch, Stephen, Junko Ida, Joyce Vlaarkamp, Zoe Brenner, Brenda Loew, Dan Zizza, Michael Hook, and Ted Pearson. 2018. "Treating Patients with Cancer". Toyohari Association.

Birch, Stephen, and Wendy Minderhout, eds. 2010 *Toyohari – East Asian Needle Therapy: The Study and Practice of Toyohari*. Translations from the Japanese by Junko Ida and Sachiko Nakano. Oldbury: European Branch of the Toyohari Association.

Bischko, Johannes. 1986. *Intermediate Acupuncture*. Vol. 2, *Textbook*. Heidelberg: Karl F. Haug.

Black, Michele C., Kathleen C. Basile, Matthew J. Breiding, Sharon G. Smith, Mikel L. Walters, Melissa T. Merrick, Jieru Chen, and Mark R. Stevens. 2010. *The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Bloomfield, Dennis A., and Alex Park. 2017. "Decoding White Coat Hypertension". *World Journal of Clinical Cases* 5 (3): 82–92. http://dx.doi.org/10.12998/wjcc.v5.i3.82.

Borumandnia, Nasrin, Naghmeh Khadembashi, Mohammad Tabatabaei, and Hamid Alavi Majd. 2020. "The Prevalence Rate of Sexual Violence Worldwide: A Trend Analysis". *BMC Public Health* 20:1835. https://doi.org/10.1186/s12889-020-09926-5.

Brisch, Karl-Heinz. 1999. *Bindungsstörungen: Von der Bindungstheorie zur Beratung und Therapie*. Stuttgart: Klett-Cotta.

Calabrese, Edward J. 2016. "The Emergence of the Dose-Response Concept in Biology and Medicine", *International Journal of Molecular Sciences* 17 (12): 2034. https://doi.org/10.3390/ijms17122034. Available as pdf: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5187834/pdf/ijms-17-02034.pdf.

Chace, Charles, and Dan Bensky. 2014. "An Axis of Efficacy: The Range of Meaning in Chapter One of the Lingshu". In Birch et al. 2014, 267–92.

Chen, Xinyin, Kenneth H. Rubin, and Zhen-yun Li. 1995. "Social Functioning and Adjustment in Chinese Children: A Longitudinal Study". *Developmental Psychology* 31 (4): 531–39. https://doi.org/10.1037/0012-1649.31.4.531.

© 2023 International Toyohari Association. All rights reserved.

Cruz, Dulce, Ananda Fernandes, and C. R. Oliveira. 2016. "Epidemiology of Painful Procedures Performed in Neonates: A Systematic Review of Observational Studies". *European Journal of Pain* 20 (4): 489–98. https://doi.org/10.1002/ejp.757.

CTCMA (= College of Traditional Chinese Medicine Practitioners and Acupuncturists of British Columbia), College of Traditional Chinese Medicine Practitioners and Acupuncturists of Newfoundland and Labrador, and College of Traditional Chinese Medicine Practitioners and Acupuncturists of Ontario. 2012. *Safety Program Handbook for Traditional Chinese Medicine Practitioners and Acupuncturists*. December 2012. https://www.ctcmpao.on.ca/resources/forms-and-documents/Safety_Program_Handbook_201812_EN.pdf.

Cunningham, Andrew L., Christopher P. Jones, James Ansell, and Jonathan D. Barry. 2010. "Red for Danger: The Effects of Red Hair in Surgical Practice". *BMJ* 341 (December): c6931. https://doi.org/10.1136/bmj.c6931.

Damasio, Antonio. 2000. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. London: Vintage Books.

Davidson, Richard J., with Sharon Begley. 2012. *The Emotional Life of Your Brain: How Its Unique Patterns Affect the Way You Think, Feel, and Live—and How You Can Change Them*. New York: Penguin.

Dhond, Rupali, Calvin Yeh, Kyungmo Park, Norman Kettner, and Vitaly Napadow. 2008. "Acupuncture Modulates Resting State Connectivity in Default and Sensorimotor Brain Networks". *Pain* 136 (3): 407–18. https://doi.org/10.1016/j.pain.2008.01.011.

Dodd Marylin J., Christine Miaskowski, and Steven M. Paul. 2001. "Symptom Clusters and Their Effect on the Functional Status of Patients with Cancer". *Oncology Nursing Forum* 28 (3): 465–70.

Ernst, Monique, and Mathew H. M. Lee. 1985a. "Sympathetic Effects of Manual and Electrical Acupuncture of the Tsusanli Knee Point: Comparison with the Hoku Hand Point Sympathetic Effects". *Experimental Neurology* 94 (1): 1–10. https://doi.org/10.1016/0014-4886(86)90266-9.

———. 1985b. "Sympathetic Vasomotor Changes Induced by Manual and Electrical Acupuncture of the Hoku Point Visualized by Thermography". *Pain* 21 (1): 25–33. https://doi.org/10.1016/0304-3959(85)90073-9.

Fukushima, Kodo. 1991. *Meridian Therapy: A Hands-On Text on Traditional Japanese Hari Based on Pulse Diagnosis*. Tokyo: Toyohari Medical Association.

Greven, Corina, Francesca Lionetti, Charlotte Booth, Elaine N. Aron, Elaine Fox, Haline E. Schendan, Michael Pluess, et al. 2019. "Sensory Processing Sensitivity in the Context of Environmental Sensitivity: A Critical Review and Development of Research Agenda". *Neuroscience and Biobehavioral Reviews* 98 (March): 287–305, https://doi.org/10.1016/j.neubiorev.2019.01.009.

Haker, Eva, Henrik Egekvist, and Peter Bjerring. 2000. "Effect of Sensory Stimulation (Acupuncture) on Sympathetic and Parasympathetic Activities in Healthy Subjects". *Journal of the Autonomic Nervous System* 79 (1): 52–59. http://dx.doi.org/10.1016/S0165-1838(99)00090-9.

Hall, Edward Twitchell. 1966. *The Hidden Dimension*. New York: Doubleday.

Hamburg, Margaret A., and Francis S. Collins. 2010. "The Path to Personalized Medicine". *New England Journal of Medicine* 363 (4): 301–4. https://www.nejm.org/doi/pdf/10.1056/NEJMp1006304.

© 2023 International Toyohari Association. All rights reserved.

Harte, Steven, Richard Harris, and Daniel Clauw. 2018. "The Neurobiology of Central Sensitization". *Journal of Applied Biobehavioral Research*. 23 (2): e12137, https://doi.org/10.1111/jabr.12137.

Heller, Laurence, and Aline LaPierre. 2012. *Healing Developmental Trauma: How Early Trauma Affects Self-Regulation, Self-Image, and the Capacity for Relationship*. Berkeley, CA: North Atlantic Books.

Hyodo, Masayoshi. 1975. *Ryodoraku Treatment*. Osaka: Japan Rodoraku, Autonomic Nerve System Society.

IASP (= IASP Taskforce on Taxonomy). 1994. "Pain Terms: A Current List with Definitions and Notes on Usage." Part III in *Classification of Chronic Pain*, edited by Harold Merskey and Nikolai Bogduk, 209–14. 2nd ed. Seattle: IASP Press. https://iaspfiles.s3.amazonaws.com/production/public/2021/Part_III-PainTerms.pdf.

ItsHaky, Boaz. 2017. "Book Review: Huang Di Nei Jing Ling Shu: The Ancient Classic on Needle Therapy". *HSOA Journal of Alternative, Complementary & Integrative Medicine* 3 (1): 020. http://dx.doi.org/10.24966/ACIM-7562/100020.

Jagiellowicz, Jadzia, Xiaomeng Xu, Arthur Aron, Elaine Aron, Guikang Cao, Tingyong Feng, Xuchu Weng. 2011. "The Trait of Sensory Processing Sensitivity and Neural Responses to Changes in Visual Scenes". *Social Cognitive and Affective Neuroscience* 6 (1): 38–47. https://doi.org/10.1093/scan/nsq001.

Jänig, Wilfrid. 2006. *The Integrative Action of the Autonomic Nervous System: Neurobiology of Homeostasis*. Cambridge: Cambridge University Press.

Jawer, Michael A., with Marc S. Micozzi. 2009. *The Spiritual Anatomy of Emotion: How Feelings Link the Brain, the Body, and the Sixth Sense*. Rochester, VT: Park Street Press.

Jenkins, Kate. 2014. "Needle Phobia: A Psychological Perspective". *British Journal of Anaesthesia* 113 (1): 4–6. https://doi.org/10.1093/bja/aeu013.

Ji, Ru-Rong, Andrea Nackley, Yul Huh, Niccolò Terrando, and William Maixner. 2018. "Neuroinflammation and Central Sensitization in Chronic and Widespread Pain". *Anesthesiology* 129 (2): 343–66, https://doi.org/10.1097/ALN.0000000000002130.

Kagan, Jerome. 2012. *The Temperamental Thread: How Genes, Culture, Time, and Luck Make Us Who We Are*. New York: Dana Press.

Kain, Kathy L., and Stephen J. Terrell. 2018. *Nurturing Resilience: Helping Clients Move Forward from Developmental Trauma*. Berkeley, CA: North Atlantic Books.

Kasumi, Haruhiro. 2010. "Correcting the Mistaken Treatment". In Birch and Minderhout 2010, 277–90.

Levine, Peter A. 2010. *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*. Berkeley CA: North Atlantic Books.

———. 2015. *Trauma and Memory: Brain and Body in a Search for the Living Past; A Practical Guide for Understanding and Working with Traumatic Memory*. Berkeley CA: North Atlantic Books.

Levine, Peter A., with Ann Frederick. 1997. *Walking the Tiger: Healing Trauma; The Innate Capacity to Transform Overwhelming Experiences*. Berkeley CA: North Atlantic Books.

Li Ding-zhong. 1984–85. *The Jing Luo Phenomena*. 2 vols. Tokyo: Yukonsha.

© 2023 International Toyohari Association. All rights reserved.

Li, Qian-Qian, Guang-Xi Shi, Qian Xu, Jing Wang, Cun-Zhi Liu, and Lin-Peng Wan. 2013. "Acupuncture Effect and Central Autonomic Regulation". In "Neurobiological Mechanisms of Acupuncture". Special issue, *Evidence-Based Complementary and Alternative Medicine* (2013): 267959. http://dx.doi.org/10.1155/2013/267959.

Lin, Yii-Jeng, Yen-Ying Kung, Wen-Jui Kuo, David M. Niddam, Chih-Che Chou, Chou-Ming Cheng, Tzu-Chen Yeh, Jen-Chuen Hsieh, and Jen-Hwey Chiu. 2016. "Effect of Acupuncture 'Dose' on Modulation of the Default Mode Network of the Brain". *Acupuncture in Medicine* 34 (6): 425–32. https://doi.org/10.1136/acupmed-2016-011071.

Maksymenko, Pavlo, and Nicole Mühlemann. 2020. "Diagnosis & Treatment Flowchart". In "Toyohari Booklet", edited by EBTA Faculty. Toyohari Association.

Manaka, Yoshio, Kazuko Itaya, and Stephen Birch. 1995. *Chasing the Dragon's Tail.* Brookline, MA: Paradigm.

Mattson, Mark P. 2008. "Hormesis Defined". *Ageing Research Reviews* 7 (1): 1–7. https://doi.org/10.1016/j.arr.2007.08.007.

Möddel, Sabine, and Matthias Brockstedt. 2012. "'Burnout' in aller Munde – ist uns eigentlich klar, worum es geht?" *Berliner Ärzte* 7:31–33. https://www.berliner-aerzte.net/pdf/b1207.pdf.

Murakami, Michio. 2010. "Pathology". In Birch and Minderhout 2010, 82–112.

Nakatani, Yoshio, and Kumio Yamashita. 1977. *Rodoraku Acupuncture*. Tokyo: Ryodoraku Research Institute.

Ni, Preston. 2017. "24 Signs of a Highly Sensitive Person". *Psychology Today* (blog). 5 November 2017. https://www.psychologytoday.com/us/blog/communication-success/201711/24-signs-highly-sensitive-person.

Nicholson, Jeremy K. 2006. "Global Systems Biology, Personalized Medicine and Molecular Epidemiology". *Molecular Systems Biology* 2 (1): 52. https://doi.org/10.1038/msb4100095.

Nishijo, Kazushi, Hidetoshi Mori, Keishi Yoshikawa, and Kazuhiro Yazawa. 1997. "Decreased Heart Rate by Acupuncture Stimulation in Humans via Facilitation of Cardiac Vagal Activity and Suppression of Cardiac Sympathetic Nerve". *Neuroscience Letters* 227 (3): 165–68. https://doi.org/10.1016/S0304-3940(97)00337-6.

O'Brien, Kylie A., Stephen Birch, Estelle Abbas, Paul Movsessian, Michael Hook, and Paul A. Komesaroff. 2013. "Traditional East Asian Medical Pulse Diagnosis: A Preliminary Physiologic Investigation". *Journal of Alternative and Complementary Medicine* 19 (10): 793–98. http://dx.doi.org/10.1089/acm.2012.0141.

Oda, Hirohisa. 1989. *Ryodoraku Textbook*. Osaka: Naniwasha.

Ogawa-Ochiai, Keiko, Takae Takebe, Mako Iwahashi, Akiko Shirai, Masaki Tsuda, Aya Komiya, Keiichi Sugata, and Osamu Tanno. 2020. "The Efficacy of a Traditional Japanese Acupuncture Method, Contact Needle Therapy (CNT), on Peripheral Blood Flow of the Skin". *Artificial Life and Robotics* 25 (3): 351–55. https://doi.org/10.1007/s10015-020-00615-5.

Parlow, Georg. 2003. *Zart besaitet: Selbstverständnis, Selbstachtung und Selbsthilfe für hochempfindliche Menschen*. Vienna: Festland.

© 2023 International Toyohari Association. All rights reserved.

Porges, Stephen W. 2011. *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*. New York: W. W. Norton.

Raj, Kristin S., Nolan R. Williams, and Charles DeBattista. 2023. "Chronic Pain Disorders". In *Current Medical Diagnosis & Treatment 2023*, edited by Maxine A. Papadakis, Stephen J. McPhee, and Michael W. Rabow. New York: McGraw Hill. https://accessmedicine.mhmedical.com/content.aspx?bookid=3212&sectionid=269142113.

Rochat de la Vallée, Elisabeth. 2006. *A Study of Qi in Classical Texts*. London: Monkey Press.

Rothschild, Babette. 2000. *The Body Remembers*. Vol. 1, *The Psychophysiology of Trauma and Trauma Treatment*. New York: W. W. Norton.

Rothschild, Babette, with Marjorie Rand. 2006. *Help for the Helper: The Psychopathology of Compassion Fatigue and Vicarious Trauma*. New York: W. W. Norton.

Ruhleder, Rolf H. 2002. *Rhetorik & Dialektik: Redegewandtheit, Körpersprache, Überzeugungskunst*. Bonn: Verlag für die deutsche Wirtschaft.

Runowicz, Carolyn D., Corinne R. Leach, N. Lynn Henry, Karen S. Henry, Heather T. Mackey, Rebecca L. Cowens-Alvarado, Rachel S. Cannady, et al. 2016. "American Cancer Society/American Society of Clinical Oncology Breast Cancer Survivorship Care Guideline". *CA: A Cancer Journal for Clinicians* 66, no. 1 (January/February): 43–73. https://acsjournals.onlinelibrary.wiley.com/doi/epdf/10.3322/caac.21319

Scheid, Volker. 2002. *Chinese Medicine in Contemporary China: Plurality and Synthesis*. Durham, NC: Duke University Press.

Schmidbauer, Wolfgang. 1978. *Die hilflosen Helfer: Über die seelischen Problematik der helfenden Beruf*. Reinbek bei Hamburg: Rowohlt.

Schwab, Matthias, Claudia Marx, Ulrich M. Zanger, and Michael Eichelbaum. 2002. "Pharmakogenetik der Zytochrom-P-450-Enzyme: Bedeutung für Wirkungen und Nebenwirkungen von Medikamenten". *Deutsches Ärzteblatt* 99 (8): 497–504. https://www.aerzteblatt.de/pdf.asp?id=30549.

Shinoda, Masamichi, Yoshinori Hayashi, Asako Kubo, and Koichi Iwata. 2020. "Pathophysiological Mechanisms of Persistent Orofacial Pain". *Journal of Oral Science* 62 (2):131–35. https://www.jstage.jst.go.jp/article/josnusd/62/2/62_19-0373/_pdf.

Shinoda, Yutaka. 2010. "Selection of Sho". In Birch and Minderhout 2010, 137–67.

Sommers, Dianne. 2014. "How to Become a *shang yi* or 'Superior Physician': An Exploration of the Influence of the Practitioner in Early China". In Birch et al. 2014, 153–82.

Speransky, A. D. 1943. *A Basis for the Theory of Medicine*. New York: International Publishers.

Storjohann, Petra. 2015. "Was ist der Unterschied zwischen *sensitiv* und *sensibel*?" *Zeitschrift für angewandte Linguistik* 62 (1): 99–122. https://ids-pub.bsz-bw.de/frontdoor/deliver/index/docId/3718/file/Storjohann_Was_ist_der_Unterschied_zwischen_sensitiv_und_sensibel_2015.pdf.

Stux, Gabriel, and Stephen Birch. 2001. "Proposed Standards of Acupuncture Treatment in Clinical Studies". In *Clinical Acupuncture: Scientific Basis*, edited by Gabriel Stux and Richard Hammerschlag, 171–85. Berlin: Springer Verlag.

© 2023 International Toyohari Association. All rights reserved.

Sugiyama, Yoshiki, Ye-Xiang Xue, and Tadaaki Mano. 1995. "Transient Increase in Human Muscle Sympathetic Nerve Activity during Manual Acupuncture". *Japanese Journal of Physiology* 45 (1995): 337–45. https://doi.org/10.2170/jjphysiol.45.337.

Suter, Branco, and A. Kistler. 1999. "Nachweis der Akupunkturwirkung auf das autonome Nervensystem mittels Untersuchung der Mikrozirkulation". *Forschende Komplementärmedizin / Research in Complementary Medicine* 6, suppl. 1 (February): 32–34

Takahashi, Shozo. 2010. "Supplementation and Draining Theory". In Birch and Minderhout 2010, 173–94.

Tanaka, Tim Hideaki. 1996. "Professor Nishijo's Research-Acupuncture and the Autonomic Nervous System". *North American Journal of Oriental Medicine* 3 (8): 6–10.

Taylor-Swanson, Lisa, Annette Thomas, Rita Ismail, Janet G. Schnall, Lori Cray, Ellen Sullivan Mitchell, and Nancy F. Woods. 2015. "Effects of Traditional Chinese Medicine on Symptom Clusters during the Menopausal Transition". *Climacteric* 18 (2): 142–56. http://dx.doi.org/10.3109/13697137.2014.937687.

Thompson Lora, and Peter Johnstone. 2016. "Acupuncture for Cancer Symptom Clusters". *The Asco Post*, 25 January 2016, https://ascopost.com/issues/january-25-2016/acupuncture-for-cancer-symptom-clusters/.

Tortora, Domenico, Mariasavina Severino, Carlo Di Biase, Maryia Malova, Alessandro Parodi, Diego Minghetti, Cristina Traggiai, et al. 2019. "Early Pain Exposure Influences Functional Brain Connectivity in Very Preterm Neonates". *Frontiers in Neuroscience* 13 (August): 899. https://doi.org/10.3389/fnins.2019.00899.

Tousignant-Laflamme, Yannick, Marc Olivier Martel, Anand B. Joshi, and Chad E. Cook. 2017. "Rehabilitation Management of Low Back Pain: It's Time to Pull It All Together!" *Journal of Pain Research* 10 (October): 2373–85. http://dx.doi.org/10.2147/JPR.S146485.

Tully, Phillip J., and Robert A. Baker. 2012. "Depression, Anxiety, and Cardiac Morbidity Outcomes after Coronary Artery Bypass Surgery: A Contemporary and Practical Review". *Journal of Geriatric Cardiology* 9 (2): 197–208. http://dx.doi.org//10.3724/SP.J.1263.2011.12221.

Unschuld, Paul U. 1985. *Medicine in China: A History of Ideas*. Berkeley: University of California Press.

———. 2003. *Huang Di nei jing su wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text*. Berkeley: University of California Press.

———. 2016. *Huang Di nei jing ling shu: The Ancient Classic on Needle Therapy*. Berkeley: University of California Press.

Venkatraman, Anand, Brian L. Edlow, and Mary Helen Immordino-Yang. 2017. "The Brainstem in Emotion: A Review". Frontiers in Neuroanatomy 11:15. https://doi.org/10.3389/fnana.2017.00015.

Wang, J. D., Terry B. J. Kuo, and Cheryl C. H. Yang. 2002. "An Alternative Method to Enhance Vagal Activities and Suppress Sympathetic Activities in Humans". *Autonomic Neuroscience* 100 (1–2): 90–95. https://doi.org/10.1016/s1566-0702(02)00150-9.

Weber, Silke. 2018. "Wie es wirklich ist … hypersensibel zu sein". *Zeit Online*, 19 January 2018. https://www.zeit.de/2018/03/hochsensibilitaet-reize-empfindungen-wie-es-wirklich-ist.

White, Adrian, Mike Cummings, Panos Barlas, Francesco Cardini, Jacqueline Filshie, Nadine E. Foster, Thomas Lundeberg, Elisabet Stener-Victorin, and Claudia Witt. 2008. "Defining an Adequate

© 2023 International Toyohari Association. All rights reserved.

Dose of Acupuncture Using a Neurophysiological Approach: A Narrative Review of the Literature". *Acupuncture in Medicine* 26 (2): 111–20. http://dx.doi.org/10.1136/aim.26.2.111.

Wihbey, John. 2011. "Global Prevalence of Child Sex Abuse". *The Journalist's Resource*, 15 November 2011. https://journalistsresource.org/criminal-justice/global-prevalence-child-sexual-abuse.

Wilson, Robert Anton. 1983. *Prometheus Rising*. Phoenix, AZ: New Falcon Publications. Revised version of "The Evolution of Neuro-Sociological Circuits: A Contribution to the Sociobiology of Consciousness". PhD diss., Paideia University, California, 1979.

Wolf, Max, G. Sander van Doorn, and Frank J. Weissing. 2008. "Evolutionary Emergence of Responsive and Unresponsive Personalities". *PNAS* 105 (41): 15825–30. https://doi.org/10.1073/pnas.0805473105.

Yalom, Irvin D. 2002. *The Gift of Therapy: An Open Letter to a New Generation of Therapists and Their Patients*. New York: Harper Perennial.

Yang, Rur-Bin. 2003. "From 'Merging the Body with the Mind' to 'Wandering in Unitary Qi 氣': A Discussion of Zhuangzi's Realm of the True Man and Its Corporeal Basis". In *Hiding the World in the World: Uneven Discourses on the* Zhuangzi, edited by Scott Cook, 88–127. Albany: State University of New York Press.

Yunus, Muhammad B. 2013. "Fibromyalgia: A Central Sensitivity Syndrome". In *Women and Health*, edited by Marlene B. Goldman, Rebecca Troisi, and Kathryn M. Rexrode, 1331–40. Oxford: Academic Press.

Lectures

Birch, Stephen. 2019. "Clinical Experience in the Treatment of Pain". Milan Acupuncture Congress, Milan, Italy (27 January 2019).

Kasumi, Haruhiro. 2003. "Mistaken Treatment". EBTA workshop. Amsterdam, Netherlands (May).

———. 2016. "Treatment Dose". Cherry Blossom Workshop, Tokyo, Japan (March).

Nagaoka, Hiroki. 2018. "Treatment of Patients with Stress". EBTA workshop. Amersfoort, Netherlands (September).

Shinoda, Yutaka. 2005. "Judgement of Dosage and Its Adjustment". EBTA workshop. Basel, Switzerland (September).*

So, James Tin Yau. 1981. New England School of Acupuncture, Watertown, MA, USA.

Takai, Akihiro. 1995. "Selection of Sho". Framingham, MA, USA.*

* with accompanying handout

© 2023 International Toyohari Association. All rights reserved.