Emotions are contagious

Jonathon Tomlinson
GP and educator

My interests include trauma informed care, chronic pain and social justice. I am a trustee and founder member of the Centre for Health and the Public Interest – an independent non-party thinktank promoting a vision of health and social care based on accountability and the public interest – and a member of the London Adverse Childhood Experiences (ACE) Hub. I am now on sabbatical developing an ACEs working group for GPs at the London ACEs hub and learning about the links between deep ecology, trauma and healing.

Summary

Emotions are contagious. Neuroception is unconscious body to body communication. The stress response takes the rational brain off-line, curtails sensitivity to subtle cues, dulls the ability to signal safety to another person, and makes the world and other people seem more threatening. A significant trauma puts the autonomic nervous system (ANS) on a 'hair trigger'. Polyvagal theory describes three autonomic states: sympathetic arousal, dorsal vagal shutdown and ventral vagal social engagement. For a traumatised patient, presence is therapeutic but such active social engagement depends on the practitioner's ability to self-regulate their ANS. Wim Hof's Method deliberately provokes the stress response and can be used to train for presence.

> *'And now here is my secret, a very simple secret:*
> *It is only with the heart that one can see rightly;*
> *what is essential is invisible to the eye.'*
> The Little Prince, Antoine de Saint-Exupéry.

In the corner of my consulting room is a twelve-inch-high model of the Hulk, stood below a print that says, STAY PRESENT. He is a reminder about what can happen if you fail to stay present.

My sons know about my interest in childhood trauma. 'You should read this' the younger one said to me last year, thrusting his opened Marvel Comics annual in front of me. In the comic strip, Baby Bruce, who would grow up to be Bruce Banner, aka the Hulk, is shown being beaten along with his mother, by his violent, alcoholic father. Later, he witnesses his father beat his mother to death. In a later episode, the adolescent Bruce is haunted by his younger self's inability to react to the pain, which we now understand to be a vagal shutdown, or alexithymia, a protective trauma reflex. The teenage Bruce is shown confronting and provoking his younger self to show some emotion over his mother's death and at this point young Bruce finally reacts, transforming into the Hulk for the first time. Transformed into the Hulk, his prefrontal cortex is shut down and all his behaviour is pure sympathetic arousal. There is no communicating with the Hulk as there is with Bruce. It is no good telling the Hulk to calm down. Only the presence of a regulated other, usually involving Black Widow singing a lullaby, helps regulate his nervous system enabling him to settle and transform back into Bruce Banner. Like other people who suffer dissociated identity disorder, he has little or no memory of what happens when the Hulk takes over.

Patients have commented on the Hulk, quite frequently saying, only half-jokingly, 'that's what happens to me!' And when I bring up the Hulk's childhood, which I usually do, it always resonates with them (The Controversial Behind-the-Scenes Origin of the Hulk's Father [cbr.com]).

Relationships in general practice are ultra-brief but ultra-long: single encounters may only take a few minutes,

but over years they add up to hours as life events and medical problems accumulate. With this long view, symptoms can be seen in the context of a person's life and the waves of political, economic, and pandemic changes affecting their community and the world they live in. Over time, new connections emerge between biology and biograph and between the clinical and the cultural. People with long-term 'unfixable' problems need continuity of care with someone who can be present for them. After more than 20 years of working in the same practice I am primarily a witness to the suffering of a large and expanding number of people. I now realise that as a result, I am undergoing a personal transformation of my own.

> After more than 20 years of working in the same practice I am primarily a witness to the suffering of a large and expanding number of people

As a younger less resilient doctor, I was no less clinically knowledgeable, but I was certainly less able to tolerate patients' distress without trying to fix them. In acts of self-defence against the useless, unhelpful, uncaring ways they made me feel, I sent them away as fast as I could with a referral or a prescription. Although I suspected that these interventions would come to nothing, I hoped a break from one another would somehow assuage their distress and ease my sense of futility.

Neuroception

Then as years passed, I was more able to make sense of what was happening to their bodies in the context of their lives. I realised too that many of them were emotionally scarred by adverse childhood experiences and other kinds of trauma and that the discomfort I felt in these consultations was a clue about what my patients were enduring. It wasn't the stories they actually told me that led to this awareness, so much as their physiological responses; and not just their bodily responses, my own too. I eventually learned that I was experiencing *neuroception* – unconscious communication between my patient's nervous system and my own. Our conversations might have seemed calm on the surface, but our bodies were conveying quite different and confusing messages.

> During consultations in the days before I learned how to stay centred they would pick up on my unease before I was aware of it myself

This body-to-body mirroring process can trigger a patient who has embodied trauma. This embodiment, or priming, makes them acutely sensitive to any potential threat, in situations that are decontextualised and ought not to be threatening. During consultations in the days before I learned how to stay centred they would pick up on my unease before I was aware of it myself. As the unspoken two-way tension escalated, my rational forebrain would begin to shut down, stifling my curiosity and distress-tolerance. Uncomfortable or irritated by a presenting problem that couldn't be resolved, I would find myself pushing some unsolicited explanation or offering superficial reassurance to close the consultation down. This would often lead to conflict or arguments (Geller & Porges, 2014).

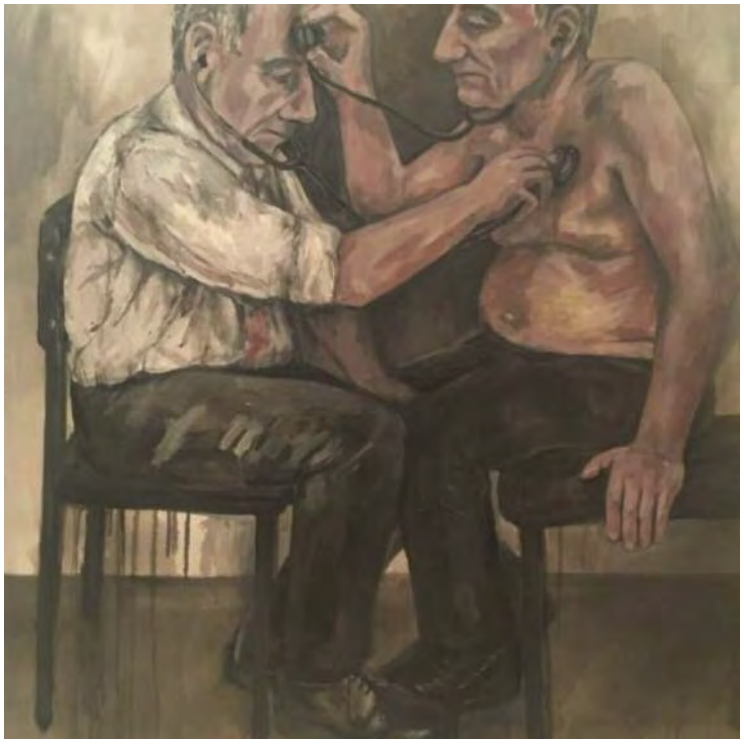
Re-stimulation

For people who have experienced trauma, the stress responses – flight and fight or freeze and dissociate – having been activated so often in the past, become the autonomic nervous system's hypersensitive default mode. Easily triggered long after the original danger has passed, they may suddenly relive the trauma physiologically, in their body but without having any conscious, narrative reference points that would make sense of the emotions released. These are more than just feelings though, for a dose-response relationship has been discovered between childhood trauma and the development of diseases like diabetes, heart disease, cancer and auto-immune diseases

in adulthood (Chang *et al*, 2019). Although we all have trauma to a degree, these life-changing legacies are unjustly distributed. In deprived, culturally diverse communities we see these diseases in greater numbers, with greater severity and in younger people than in wealthier areas. There are far higher burdens of trans-generational and collective trauma compounded by the enduring legacies of slavery and racism, and the impacts of policies that have robbed people of the means to live with dignity.

Presence

Whether trauma arises from a lack of salutogenic, protective factors like attunement, attachment or nurturing or from the presence of abuse or a frightening environment in early life, what makes something traumatic is the embodiment of threat, so that the nervous system is never able to let its guard down and trust that safety could come from elsewhere. If they trust you enough, they might admit that they have never felt safe. The presence of another person who can pick up on and help regulate their defensive, traumatised nervous system can create a state of co-regulation and safety that may be unprecedented and a powerful opportunity for attunement and therapeutic work.



The Patient Examines the Doctor by Freya Elliott, Roy Alexander Briggs prize, Barts and The London, 2017. https://sites.google.com/view/humanflourishingmeded/creative-enquiry-projects/roy-alexander-briggs-prize

> To remain curious, thoughtful, and creative in the face of fear, uncertainty and potential or actual threat involves skills for presence

Presence could be the most therapeutic gift a practitioner can offer (Wilkins, 2000). But to be fully present with another person calls for awareness of oneself, and the other person, and of what is going on between the two in the here and now. Maintaining this kind of self-aware openness and curiosity under stress is extremely difficult. When we are tense and under pressure, primitive involuntary reflexes that evolved to protect us from actual danger take priority over the rational forebrain. At the same time this threat-response damps down the midbrain's tending and befriending circuits. As a result, this stress hijack narrows down our focus of attention and shrinks our ability to care.

Professor Stephen Porges developed the polyvagal theory to describe three autonomic states: sympathetic arousal, dorsal vagal shutdown and ventral vagal social engagement. Sympathetic arousal is classic flight or fight; dorsal vagal shutdown can lead to various degrees of collapse, withdrawal, blank episodes, even blackouts, fits and other dissociative symptoms. It has been described as 'mental flight when physical flight is impossible'. The third state, ventral vagal social engagement, is where we need to stay to be present.

When, through neuroception, our brain's mirror neuron system picks up on a patient's embodied freeze and fold, this will trigger our own primitive vagal pathways for overwhelm. If so, we may find ourselves dissociating or freezing and shutting down. If, on the other hand, the patient's high activation triggers our sympathetic nervous system, our body will follow with a shift into flight and flight – perhaps prompting tension and over-breathing. Unless we are aware of these protective reflexes they will entice us to close down difficult and (literally) uncomfortable consultations even though doing so is likely to be counter-productive and unhelpful for both doctor and patient.

> *'Cultivating presence and engaging in present-centered relationships can therefore facilitate effective therapy by having both client and therapist enter a physiological state that supports feelings of safety, positive therapeutic relationships, and optimal conditions for growth and change.'*
> (Geller and Greeberg, 2002)

To remain curious, thoughtful, and creative in the face of fear, uncertainty and potential or actual threat involves skills for presence. Like any skill, presence and the autonomic states that support it only come with practice. Time invested in training will be rewarded with the ability to

perform better under pressure. That's why I am training to be more present for more time, for more people in more distress; but also – and this is crucial – because emotions are contagious so I need to learn how not to take their distress into myself. This calls for a certain kind of resilience, which in this context means the ability to notice and tolerate my reflex autonomic arousal so I can stay present and signal that I feel safe enough even in a difficult clinical encounter with a vulnerable traumatised patient (resilience has a bad reputation among medical professionals suspicious of resilience trainings that imply they should be able to tolerate ever-increasing burdens of risk and responsibility without the necessary resources or support).

Even though arts, humanities and communication skills are infiltrating the curriculum, at the end of the course what gets examined is what gets learned. Most medical education still assumes that medical practice is largely a transactional business, where patients come looking for a diagnosis and treatment, and that the measure of a good doctor is their diagnostic and intervention skill. However, once students become doctors, especially if they work in more generalist and community settings, they realise that if there is a diagnosis to be made, this will usually be straightforward and treatments will increasingly follow protocols. What they really struggle with, when there is no hard and fast biomedical diagnosis, is relationship and uncertainty. And for this they are unprepared.

Training for presence

In early December 2020 I started doing the Wim Hof method which involves hypoxic breathing exercises and cold-water exposure. Around the same time I read and worked through the book, *My Grandmother's Hands* by Resmaa Menakem (2017) about the effects of racism. The book taught me to recognise the physiological impact of racism and racial tension and gave me exercises to deal with them.

Every morning I start the day with three rounds of Wim Hof breathing, each consisting of 30 deep breaths in and out followed by holding my breath at the end of the last exhale for as long as possible, typically two-and-a-half to three-and-a-half minutes. The last 20 to 30 seconds is where the stress response is triggered. It begins with a tightening of abdominal and pelvic muscles, tingling in my skin, especially hands, feet, neck and scalp; a growing sense of panic and rapid unsettling of my mind before I take a deep breath in and hold it for 15 seconds. The discomfort persists for most of the 15 seconds, only dissipating towards the end and during the first few breaths that follow. Each round is 10 to 20 seconds longer than the one before. After the last round I keep my breath in for a minute or more and pay close attention to the physical sensations.

For me, the key to presence is being able to stay with discomfort long enough to make sense of how I feel. The panic triggered by ice-cold water and hypoxia causes intense sympathetic arousal, an acute physiological adaptation, during which it is barely possible to engage the rational brain when it is overwhelmed by primitive survival reflexes. Wim Hof's method deliberately provokes these profoundly uncomfortable primitive protective reflexes, but I've found that between the mounting discomfort and a deep breath there's an awareness-space where I can learn to be present for longer. Over the weeks of daily cold showers I have noticed that the anticipation has all but vanished, and the initial shock is far less and wears off more quickly than it did at first. Even so a cold shower still triggers an immediate reaction: gasping and hyperventilating, heart racing and panic. It takes everything I've got to stay under the icy water and control my breathing for the whole two minutes.

The physiological adaptation after just a few cold-water exposures results in lower levels of stress hormones being released and a less profound physiological response. Early research suggests that this may help patients cope with mental illnesses and auto-immune diseases.

Tolerating shame

My Grandmother's Hands is a workbook, or as the author Resmaa Menakem likes to call it, 'a playbook' which, like the Wim Hof method, consists of exercises designed to provoke discomfort. Menakem's exercises require you to engage your imagination and draw on your experiences to recall situations of racism and racial tension and then notice the physiological changes in your body. He distinguishes between dirty pain and clean pain, where dirty pain happens when the threat response takes over and we respond with Hulkish anger, rage, denial, blame or avoidance and shutdown. Clean pain is associated with presence, curiosity, engagement and what he calls, 'fierce compassion'. Clean pain requires presence, or to use Porges' terminology 'ventral vagal social engagement'. And like Hof, Menakem has a method for achieving it. This entails five anchors: settling (and slowing down), noticing (without responding), accepting (the discomfort), staying present (as you move through it) and safely discharging any energy that remains. Like Wim he knows that we might not be able to change whatever is making our lives stressful, but we can learn to cope better with stress and its effects.

Resmaa Menakem's five anchors

- Settling (and slowing down)
- Noticing (without responding)
- Accepting (the discomfort)
- Staying present (as you move through it)
- Safely discharging any energy that remains

Menakem reminds us that the central feature of trauma is speed. In order to work through trauma you need to learn to slow down and feel into your body; using your 'soul nerve'. The ability to settle or activate your body on demand is essential for healing trauma (Menakem, 2017).

Therapeutic presence

In their wonderful study Shari Geller and Leslie Greenberg (2002) interviewed experienced psychotherapists to gain a better understanding of therapeutic presence. They describe three domains: preparing the ground, the process of being present and the experience of presence. Preparing the ground can include attention to the therapeutic space, plus training in openness, acceptance and non-judgement as well as practicing good self-care. Although they mention meditation, they do not include practices like the Wim Hof method or Resmaa Menakem's anchors that increase our tolerance for discomfort or embodied trauma. Distress tolerance and neuroception are ideas and practices taking root in body-centred psychology and trauma-informed care, that are helping me to work on my own healing, so that I can become more of a healing presence in myself.

Consultations will inevitably provoke discomfort because trauma is everywhere and we are confronted every day by patients who are experiencing post-traumatic symptoms. Inevitably we mirror these states in our own body and mind through neuroception. Of course we should listen to our patients words, but in order to know more fully what is wrong, we have to hear what our own body is trying to tell us.

Unsuspected trauma

Trauma need not be the result of abuse or neglect: many people with trauma-related symptoms have experienced no such overt trauma in their childhood. Even so, a lack of parental attachment or attunement, or an inability or fear of expressing distress while growing up, can have similar effects. In the absence of nurturing relationships and other protective factors, those emotional traumas though not physical or acute, severe or prolonged can be at the root of chronic, relapsing medically unexplained symptoms. Reflexes that are protective acutely become harmful when they become chronic which is why auto-immune, inflammatory and functional disorders are so prevalent in people who have experienced trauma (Neigh, 2016). Psychiatric disorders, chronic pain and functional disorders are even more strongly associated, and these (so-called 'heartsink' and 'difficult' or 'borderline') patients are often the ones with whom doctors find it hardest to be present. Gabor Mate, a doctor who has battled with his own trauma and written books about ADHD and addiction, describes ADHD as the inability to be present (Mate, 1999).

Final thoughts

I have learned that trauma lives on in the body. Being aware of this and in touch with my own body's reactions is my key to being present with patients and being in tune with my own trauma. Thanks to ongoing practices of learning to accept, experience and move through this discomfort, I'm more than ever before able to settle myself in the moment and remain present with patients who most need this from me. Only when I have achieved this will the patient I am with feel safe enough to settle down so that we can then be present together. Then we can be authentic with one another and feel free to be vulnerable, fearful and open without fear of criticism or rejection. Consultations that once were battlegrounds where we fought over how to fix problems or felt forced to a hasty conclusion have become situations where solutions arise or problems dissolve with far less effort or stress; where we can think clearly together, be more curious and more honest with one another.

In conclusion

As doctors we need to recognise just how prevalent embodied trauma is – among our patients, and in society, but also in our profession. We need to understand neuroception and learn to be more aware of our own bodies. We need to know how to slow down, settle and accept with compassion what happens in these consultations as a result of our hard-wired primitive protective reflexes. We need to work on ourselves so that we can be more present – rather than burned out and dissociated – in our own lives and with our patients our families, friends and colleagues.

Although I have personally found Wim Hof and Resmaa Menakem helpful, other people will find their own ways. This is a journey I have embarked on and I look forward to learning a lot more along the way.

Chang X, Jiang X, Mkandarwire T & Shen M (2019) Associations between adverse childhood experiences and health outcomes in adults aged 18–59 years. *PLoS One*,14(2) e0211850.

Geller S & Greenberg L (2002) Therapeutic presence: Therapists' experience of presence in the psychotherapy encounter. *Person-centred and experimental psychotherapies*, 1 (1&2) 71–86.

Geller S & Porges S (2014) Therapeutic presence: Neurophysiological mechanisms mediating feeling safe in therapeutic relationships. *Journal of Psychotherapy Integration*, 24(3) 178–192.

Mate G (1999) Scattered Minds: The Origins and Healing of Attention Deficit Disorder. Ebury Publishing.

Menakem R (2017) *My grandmother's hands: Racialised trauma and the mending of our bodies and hearts*. Central Recovery Press.

Neigh GN & Ali FF(2016) Co-morbidity of PTSD and immune system dysfunction: opportunities for treatment. *Curr Opin Pharmacol*, 29, 104–110.

Wilkins P (2000) Unconditional positive regard reconsidered. *British Journal of Guidance & Counselling*, 28:1 23–36.