At the Sharp End of Medical Care

Healing and Reconnecting Through Ritual

Robin Karr-Morse, Juan Carlos Garaizabal, and Jeltje Gordon-Lennox

Until 1986, newborn babies in the United States and the United Kingdom were routinely subjected to major surgery to repair malfunctioning hearts, lungs, and kidneys—without any anaesthesia at all. [1] Many died from pain and shock (Chamberlain, 1995). The word 'trauma' tends to evoke images of sudden disasters such as a car crash, a terrorist attack, war-related events, or natural catastrophes like an earthquake or a flood. It is rarely associated with sophisticated modern medical procedures. Yet there is more and more evidence that, in even the best hospitals and clinics around the world, children and adults alike are regularly traumatised during medical procedures.

Trauma is a fact of life. We all have experienced or will experience terrifying events, but not all of us bear the long-term effects of trauma. Psychologist Peter A. Levine holds that our bodies and minds are designed to heal intense and extreme experiences. People become traumatised when they lose their capacity to self-regulate arousal, orient, be present, and flow with life (Levine, 2010). One way to maintain that capacity, suggests Levine, is through direct participation in the creation of our own transformational experiences through ritual (2005).

[1] As barbaric as that may seem to us today, it was long held that the nervous systems of newborns were too immature to feel pain. In addition, until recently, it was extremely difficult to gauge how much anaesthetic a newborn could tolerate.

R. Karr-Morse
Psychotherapist, Portland, OR, USA
e-mail: robin@theparentinginstitute.com

J. C. Garaizabal (✉)
Voice Movement Therapist – Vocal Coach, Bioenergetic Analysis Therapist, Certified TRE Provider, Bilbao, Vizcaya, Spain
e-mail: info@juancarlosgaraizabal.com

J. Gordon-Lennox
Psychotherapist ASP, Geneva, Switzerland
e-mail: jeltje@gordon-lennox.ch

J. Gordon-Lennox (ed.), *Coping Rituals in Fearful Times*,
https://doi.org/10.1007/978-3-030-81534-9_6

Ritual in Medical Care

The word 'ritual' evokes various images, many of which might seem out of place in an article about medical care. Yet the first usage we find of the term in this context dates back one hundred years:

> [The success of an operation in surgery depends] not only on the skill but also upon the care exercised by the surgeon in the ritual of the operation. The 'ritualist' must not be a man unduly concerned with fixed forms and ceremonies, with carrying out rigidly prescribed ordinances. . . . The ritual of an operation commences before, and sometimes long before the incision is made and may continue for a long period after the wound is healed. In the craft of surgery the master word is simplicity. (Moynihan, 1920, pp. 27–28)

The Body Bears the Burden

An adult with a fully developed nervous system—and hopefully a wealth of healthy experiences with kind caregivers—is far better equipped to calm the strong emotions that arise and self-regulate during a medical procedure than a newborn baby or child. Infants—whose nervous systems are as yet unmyelinated [2]—depend on adults with mature nervous systems to calm them and teach them how to self-regulate. A single overpowering event such as the death of a parent can over stimulate the child's undeveloped system and overwhelm their ability to cope. But, so can an accumulation of 'lesser' stressful experiences such as a mother's highly stressful pregnancy; prenatal alcohol consumption; induced labour; premature or caesarean birth; early surgical procedures; chronic pain; separation from the primary attachment figure through death or hospitalisation; inappropriate, inadequate, or unpredictable child care; foster care or adoption; desertion or neglect; maternal depression; domestic violence; divorce; or insensitive custody arrangements. Most of the above-mentioned events are unintentional and result from ignorance; none of these experiences alone is likely to compromise a child's health. An accrual of these situations, however, can cause severe damage to young nervous systems.

Traumatic stress responses during the earliest periods of life—when the child has not yet acquired language—are particularly damaging because the brain records them primarily as somatic, rather than conscious, experiences. Early life trauma in children is compounded by overstimulation (especially from pain and neglect) and/or under-stimulation (resulting most profoundly from separation from the mother or main caretaker). 'Feeling' memories are registered in procedural (or unconscious) memory, rather than as a declarative or verbal memory. Early

[2] Myelin is a fatty substance formed in both the central nervous systems (CNS) and the peripheral nervous systems (PNS). It insulates nerve cell axons to increase the speed at which information travels among nerve cell bodies (CNS) and from nerve cell bodies to muscles (PNS). In humans, most neurons are unmyelinated at birth. During infancy, myelination progresses rapidly. This process corresponds with the child's development of cognitive and motor skills, as well as acquiring memory and reacting to the sensation of pain.

medical events experienced as trauma are stored as speechless sensations, leaving the child—and later the adult—with no memories to explore or words to explain what happened. Juan Carlos Garaizabal tells of the circumstances that led to his early experience with terror and helplessness and how this affected his development (see Case study 1a).

Case study 1a

As a baby, I never crawled but pushed myself across the floor with my feet while leaning on my hands and arms. When I was three years old I was diagnosed with *genu valgum*,[3] commonly known as 'knock-knee', and admitted to the local children's hospital for corrective orthopaedic surgery (see Figs. 1 and 2). During the first two weeks after admission, children were allowed no visits from family members. I found myself alone in a ward ringed with small beds along with a lot of other children who cried out for comfort night and day. I barricaded myself behind a wall of silence and muscular tension, lost my appetite and quite bit of weight.

I remember waking up one day totally disoriented and unable to move. It was a terrifying experience. When the effects of the anaesthesia finally wore off I realised that I was immobilised by a plaster cast from waist to toes; two holes in more or less the right places allowed me to relieve myself. For three months, I was bedridden. Liquid intake was limited to prevent bed-wetting. I felt physically exposed and vulnerable.[4] Each time I tried to stretch my hips and legs, my body was seared with excruciating pain. The mere sight of a doctor's white coat was enough to make me scream with fear. As an adult, my body still associates any kind or level of physical immobility with intense feelings of confusion, helplessness, madness, and fear of death.

Later, when I was old enough to understand, my mother told me about the succession of medical and bureaucratic errors that had overwhelmed her. Two inexperienced doctors performed an orthopaedic operation on me that consisted of cutting the bone below the knees to give another axis of symmetry to the legs. They should never have operated both legs at the same time. Moreover, since this public hospital offered minimal post-surgical physical therapy, they made

(continued)

[3] *Genu valgum* describes a usually benign variation in knee position that may be caused by injury or infection of the knee or leg, obesity, or early vitamin deficiency. The condition does not appear to be genetic but it may run in families. It is often first observed in children between the ages of two and five. Knock-kneed children also tend to have flat arches and feet that point inward, which further complicates their learning to walk. Depending on the cause of the condition, *genu valgum* may well correct itself as the child grows. In the past, surgery was often prescribed at a young age to correct the angle of the knee. The treatment of choice for *genu valgum* today is less radical: massage of leg muscles combined with gentler therapies, orthotics, vitamins, and, in the case of obesity, weight loss.

[4] Gordon-Lennox has clients whose recollections of medical interventions during childhood on or involving genitalia resembled the reactions (shame, fear) of victims of childhood sexual abuse.

Fig. 1 Girl treated for *genu valgum*. Nurse supports the child who wears a plaster cast that covers her from the waist down. | © Wellcome Collection CC BY

my mother responsible for making me perform the extremely painful exercises. Despite our best efforts, well into adolescence I continued to fall, often and hard. But, my knees were not the only part of me to bear scars. The double role my mother was forced to assume put undue strain on our relationship at all levels, physical, emotional, and psychological.

Subsequently, we learned that I should never have been subjected to these operations at all. In cases like mine, where the bones are not deformed, the problem usually resolves itself as the child grows. Gentle massage treatment to stretch and lengthen leg muscles should have sufficed to straighten my legs.

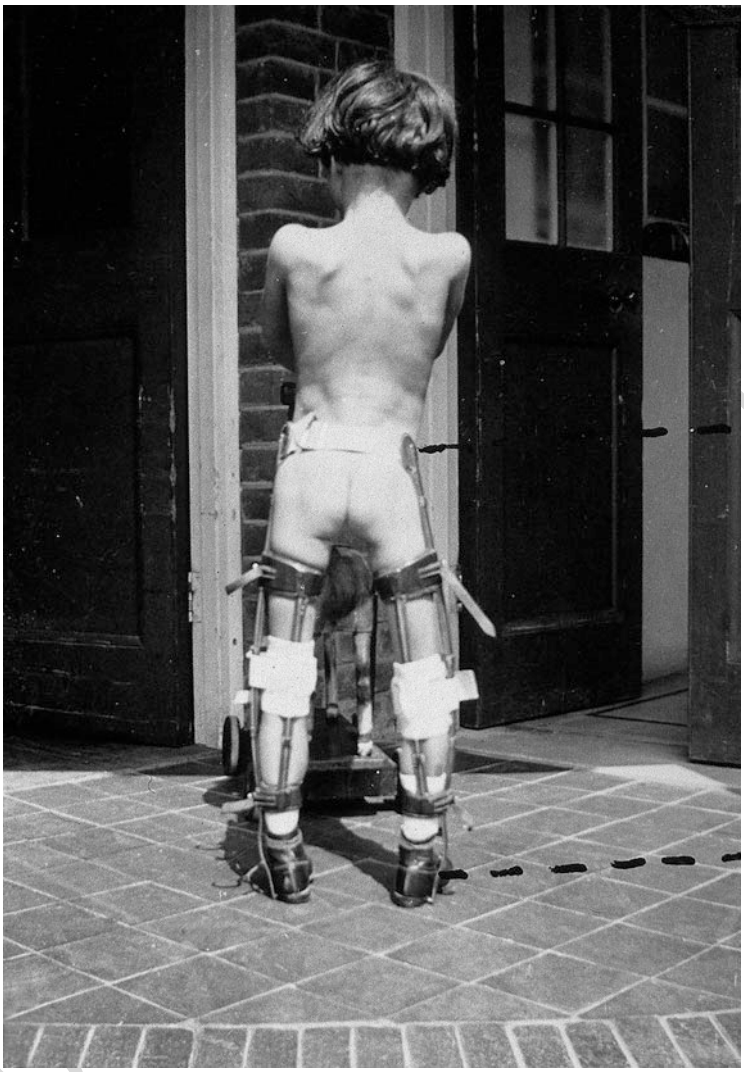

Fig. 2 A child in callipers. Correction of *genu valgum* with leg braces. | © Wellcome Collection CC BY

At the Sharp End of Care: The Patient

Why do children like Garaizabal develop dissociative stress disorders?[5] Recent advances in biology validate what many of us have known for a long time. What happens to our bodies affects our emotions, just as what happens to us emotionally affects us physically. Traumatic experiences influence how the child deals with the world and even the choices she or he makes as an adult. As the child's body grows into that of an adult, it bears the burden of trauma.

Positive emotions such as love, gratitude, feelings of connection and attachment to people, and a sense of achievement or accomplishment are healthy and healing experiences that help mitigate disease. But the opposite is also true. Chronic negative emotional states—especially fear, but also early chronic experiences of frustration, rage, shame, and grief—can activate whatever genetic tendencies we may have for disease. For some, that may mean heart disease, for others cancer, diabetes, arthritis, depression, or fibromyalgia.

Two new factors emerging from research in human physiology help us understand more clearly how chronic negative emotions and trauma increase risk of disease. The first factor involves fresh insights on health from the field of genetics. More precisely, it reveals the role of epigenetics on health. The second factor involves how protracted threat response—commonly referred to as fight, flight, freeze (immobilisation)—impacts our bodies.[6]

Role of Genetics in the Risk of Disease

Let's begin with genetics because that is where most of us start. This includes many doctors whose first reaction to a diagnosis of, say high blood pressure, high cholesterol, or arthritis is: 'Well, this is likely to be genetic since your Dad and Grandpa had the same problem.' In fact, genes alone may not be to blame for many of the problems we just noted. A closer look at these ailments shows that many have been regarded as 'genetic' because that is how a child's body learns to respond to stress, threat, and tension in the family circle, often long before she or he begins school.

Recent findings in genetics expose some surprising new facts, such as the possibility that qualities acquired from parents' experience can be transmitted to

[5] Neurologist Robert Scaer holds that children, who have no capacity to fight or flee, almost inevitably suffer from a later dissociative disorder, and not from the symptoms of post-traumatic stress disorder (PTSD). As a result, they seldom exhibit symptoms of PTSD, but rather fall into the cognitive state of sensory processing disorder (SPD), analogous to ADHD, or DESNOS (disorders of extreme stress, not otherwise specified) (Scaer personal communication with Gordon-Lennox, 2016; Scaer, 2017).

[6] Polyvagal theory identifies fight and flight reactions with the sympathetic state and immobilisation with the dorsal vagal state (Porges, 2011).

future offspring (Begley, 2009). Along with DNA,[7] which remains stable, our cells inherit dynamic chemical processes that surround genes and give them instructions.

If DNA contains the blueprints or codes that form the building blocks of life, the non-coding proteins that circulate around DNA—much like microscopic satellites that rapidly read and respond to their surroundings—regulate how DNA functions by detecting and responding to environmental influences. These non-coding proteins react to a host of variables including viral infections, hormones, diet, and toxins like alcohol, prescription and over-the-counter drugs, plastic by-products and other, often unrecognised, toxins in the environment. Non-coding proteins also determine which genes are expressed and which are repressed. The unlimited number of possible combinations makes predictions based solely on DNA impracticable. These processes, called 'epigenetics'[8]—literally 'above the genome'[9]—occur around DNA but do not change its basic order.

Epigenetically Acquired Protection

Scientists suspect that epigenetics account for up to 70 per cent of the risk for a given disease. Even more astonishing is the fact that we are not only talking about our own experiences but also those of our parents or even grandparents. The number of genetic variables that can influence the outcome of a disease does indeed appear limitless. Nature is full of examples of organisms that evolve or are shaped by their external environment.

Think of the 'water flea'. In spite of its name, it is not an insect but a tiny crustacean often found in freshwater streams and ponds. What's remarkable about the water flea is that when you examine a group of them—all with identical DNA—you see that some of them are bareheaded and others sport a spiny sort of protection, a bit like a helmet, which safeguards them against predators (see Figs. 3 and 4). Why are some protected and others not? The answer is that if the mother water flea has a bout with a predator, her babies are born with thorny headgear (Petrusek et al., 2009). A mother whose life has not been threatened produces young without thorns on their heads. The mother's experience with danger literally armours her offspring

[7] DNA is sometimes referred to as the blueprint of life because it contains the instructions needed for every living organism to grow, develop, survive, and reproduce. DNA does this by controlling protein synthesis. Proteins do most of the work in cells, and are the basic unit of structure and function in the cells of organisms.

[8] The term 'epigenetics', a blend of 'epigenesis' and 'genetics', was coined by C.H. Waddington in 1942. As the distinctions between genetic and epigenetic are increasingly blurred, current use of the term refers to effects that do not involve DNA base sequence changes but only the chemical modifications of DNA is rapidly becoming obsolete. Epigenetics is now commonly used more broadly to mean hereditary influences arising from environmental effects in the course of development (Ho, 2017).

[9] The term 'genome' refers to the complete genetic information (either DNA or, in some viruses, RNA) of an organism.

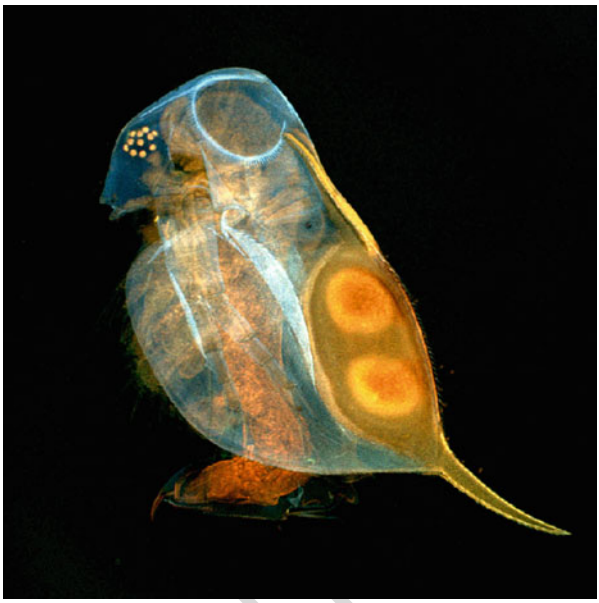

Fig. 3 Daughters of a threatened water flea sport thorny headgear. These specimens of *Daphnia atkinsoni* each sport protective headgear or a 'crown of thorns' (see spike ridges along right side of head in Fig. 4). This defensive trait is induced in offspring only when the mother senses chemical cues released by one of its main predators, the tadpole shrimp *Triops cancriformis* (Petrusek et al., 2009). | Permission granted

Fig. 4 Close-up of a water flea daughter's thorny head-gear. | Permission granted

with protective headgear! We can say that these babies with headgear have been epigenetically prepped to survive an attack.

The snowshoe hare is another example that contradicts our view of genes as an impermeable fortress. When there is proliferation in the predator population, the mother hare secretes stress hormones that have both a contraceptive and protective effect. There is a decline in birth rate and a rise in the reactivity of the nervous systems of the babies produced. Like their mothers, the young are hypersensitive and extra vigilant. Once again we see nature's design for the survival of a species. (Imagine how this might apply to a human mother who has to deal with predators

in her environment!) Research on children and grandchildren of people who survived the Holocaust confirm this hypervigilance in their descendants as well as increased vulnerability to ensuing trauma (Yehuda et al., 2005).

Threat, Trauma, and Disease

The second physiological factor that is key to understanding the trauma/disease connection is the effect on the body of the sympathetic state often called 'fight/flight', more specifically the impact of trauma on the immune and endocrine systems. We have known for some time that 'stress' can have a negative effect on health. But, prolonged toxic stress is more likely to pave the way to chronic disease when it is experienced early in life. Here's how it works: mobilisation through fight or flight when confronted with a stimulus perceived as an imminent threat to survival is quite well known. What happens—as in the case of infants or very young children—when neither fighting nor fleeing are realistic options?

Helplessness and Terror During Immobilisation

Feelings of total helplessness and terror in the face of real or perceived danger, such as that described by Garaizabal, will trigger a third response, which is observed by biologists as an external state of 'immobilisation', and considered by psychologists as an internal 'dissociative' state (Levy, 1944).

Children are particularly susceptible to immobilisation when stressed or threatened. Tremendous energy is summoned as an adaptive response to threat and stress. When this energy cannot be released in the sympathetic state of fight or flight, it overwhelms the brain, much like an electrical appliance receiving too strong a current. Garaizabal describes the feeling as tension and silence that builds up to block out whatever is too scary to take in. In fact, parts of the brain go offline, leaving the victim speechless. This protective response of the parasympathetic system to threat puts the victim into a dorsal vagal state. Not only does the mind go blank, but the body goes into metabolic shutdown; endorphins—the body's own calming and painkilling agent—are released to provoke a numbing dissociative state that essentially prepares the body for death.

Scared Sick

What might have been adaptive for a child facing an episodic event—that is, dissociating or immobilising during an event beyond their control—becomes maladaptive when this response remains 'turned on' even in environments that are objectively safe. Children may well carry this distressingly maladaptive and even

life-threatening response, known as psychophysiological trauma, on into adulthood. What happens to traumatised children like Garaizabal when they grow up?

Neurobiological research suggests continuity in the expression of stress coping deficits among abused and neglected children over the course of their entire life span. Most often trauma in the developing child is experienced as fragmentation or disembodiment that affects relationships and health (Scaer, 2014 [2001], Scaer, 2005, 2012; van der Kolk, 2014). Psychiatrist Bessel van der Kolk (2014) explains that when the connections within the brain as well as those between the mind and the body are disrupted through trauma we become trapped in the emotions and feelings of the past. Inordinate amounts of energy are expended just to keep these sensations under control—usually at the expense of concentration, the ability to memorise, and the ability to simply pay attention to what is happening around us. Neurologist Robert Scaer describes this frightening experience an aberration of memory (2014 [2001]). The inability to live fully in the present impedes adequate preparation for the future, which in turn wreaks havoc on health and social relationships such as marriages, families, and friendships (Scaer, 2005, 2012).

Developmental Trauma

Accumulated stress has been linked to inflammatory diseases and syndromes closely associated with the freeze response, including fibromyalgia, chronic fatigue syndrome, irritable bowel syndrome (IBS), piriformis syndrome (Scaer, 2014 [2001]), gastroesophageal reflux disease (GERD), HPA axis dysfunction, and mitral valve prolapse. What each of these maladies has in common is a cyclical dysregulation of physical functions for which there is no discernible anatomical abnormality (Morris et al., 2019).[10] Medical personnel often treat these patients in confusing and inefficient ways. Moreover, the patient, who already feels helpless, may be blamed for that fact that their clinical state cannot be managed by traditional medical treatments.

Scaer treated many people who moved from the helplessness of the freeze response to empowerment. In his view, somatic methods that incorporate attunement and bi-hemispherical sensory stimulation are important for treating dissociation and trauma. But, he warns, effectiveness is dependent on the social engagement[11] provided by the therapist. He posits ritual practice in a group

[10] There is strong evidence that childhood social economic deprivation (SED) and/or adverse childhood experiences (ACE) are associated with the development of adult HPA axis dysfunction and neuropsychiatric, neurodegenerative, and autoimmune illnesses. Important contributors to the allostatic load experience during childhood include mitochondrial dysfunction, and nitrosative and oxidative stress and inflammation, which in turn affect the regulation of HPA axis activity, including via epigenetic factors (Scaer, 2014 [2001]).

[11] In this context, 'attunement' refers to the process of being in tune with another human being or group. It implies an understanding of what is needed or wanted by that person or group (Scaer, 2017).

setting as the essential ingredient for the resolution and healing of life trauma. 226
'The burgeoning growth of "somatic psychology" regarding trauma may well 227
ensure this connection' (2017, p. 63). 228

The Healing Power of the Voice 229

The immobilisation, or dorsal vagal, state is basically a survival strategy that we 230
share with early vertebrates. Wild mammals may 'feign death' in an attempt to 231
escape a predator. When the danger is past, they appear to shake it off and be none 232
the worse for the experience. Caged and domesticated animals and humans retain 233
this amazing capacity for immobilisation; they also share a limited ability to just 234
shrug off the intense feelings of helplessness and get on with life. 235

The initially protective freeze state is frequently accompanied by weak muscle 236
tone as well as physiological changes, such as a sudden drop in blood pressure, 237
slowed heart rate, and shallow breathing. This physical shutdown creates social 238
distance: as muscle tone slackens eyelids droop, the voice loses inflection, positive 239
facial expressions disappear, awareness of the sound of human voices becomes less 240
acute, and sensitivity to others' social engagement behaviours decreases (Porges, 241
2011). One of the dreadful long-lasting consequences of surviving an 242
immobilisation with fear state involves having it re-triggered, unbidden, by a 243
particular movement, smell, taste, touch, or sound. 244

Remarkably, on the flip side, these same elements can be transformed into healing 245
strategies. As humans intentionally modulate their facial expressions (laughing), the 246
intonation of their voice (engaged storytelling), their breathing patterns (singing, 247
playing a wind instrument, practising pranayama yoga), or even shift their posture 248
(yoga, Somatic Experiencing, Rolfing, the Alexander Technique, Feldenkrais 249
Method), they can also change their physiology and move towards health. The 250
benefits of these ritualised (intentional) movements occur primarily through manip- 251
ulating the function of the myelinated vagus to the heart (cf. Porges' chapter in Part 252
I). Garaizabal's experience is consistent with these findings (see Case study 1b). 253

Case study 1b 254
At some point while I was in hospital there must have been a man who showed 255
me kindness. I remember only a presence and the sound of a reassuring 256
masculine voice at my side. Later, as a youngster, I noticed that when I sang 257
my fears faded and a frozenness deep inside me began to melt; I felt increasing 258
relief from my internal tensions. Just as each footstep was a painful struggle for 259
me, each note of music brought me comfort and joy. Hearing my own voice 260
sing made me feel safe. Singing was my first and most important step on a long 261
path of natural healing. 262

(continued)

Fig. 5 A family in a hospital waiting room. Critical illness and injury in childhood is a source of distress not just for the child but also for the entire family. | © rawpixel

During long walks in the mountains, singing along with other hikers became an informal joyous ritual that filled me with vitality and pleasure—and it enhanced my feeling of being part of the group. Using my voice in song changed my relationship to others because I could feel that they saw me in a more positive light. Singing also changed how I saw myself. My voice created a physical space where I could be myself when I was in a group of people. Being able to let myself go in song gave me the sense of freedom I needed to explore life with curiosity and delight. As a teenager, I loved playing records and singing along with the lead singer. Intuitively, I chose songs with lyrics, melodies, and instrumental arrangements that expressed my emotions, my world, and my identity. Singing along with these artists reinforced my positive image of myself.

Even today my voice serves as a frontier that both unites me with others, and differentiates me from them. Now, as then, singing is one of the creative and recreative rituals that gives my life a playful structure through which I can release emotions and physical tensions, and experience personal and interpersonal transformation.

At the Sharp End of Care: The Careworn

Patients are not the only ones to feel the sharp end of care. Critical illness and injury take a toll on caregivers too (see Fig. 5). Seeing someone you love suffer terribly, knowing that you are utterly helpless to relieve their pain, can provoke exactly the same traumatic effects as those experienced by the patient. In addition, the caregiver who finds themselves responsible for a sick family member also has the difficult task

of liaising with ever-changing medical personnel, administrators, or even lawyers (e.g. to obtain therapy, medicaments, support, insurance, and reimbursement).

Sooner or later, critical and chronic conditions have devastating effects on parents, siblings, and marital cohesion. Permanent impact of the illness of a sibling is frequently underestimated. Many studies reveal that the basic needs of family members (i.e. rest, nutrition, communication) often go unmet.[12] Caregivers may be unable to cope because they lack sufficient means or maturity, or suffer from addiction, or physical or mental illness.

The diversification of family structures and geographical mobility adds new dimensions to the impact of critical illness and injury (Shudy et al., 2006). Job transfers, political and social upheaval, or immigration may put families thousands of miles away from their traditional support systems and spiritual resources. The face of the careworn may belong to a single parent, a grandparent, aunts, uncles, and older siblings who act as primary caregivers. Members of 'blended' families created by new marriages and/or domestic partnerships, multigenerational families, or foster caregivers may unexpectedly find themselves with responsibility for the care of the sick person, but without legal rights to information or the decision-making process.

At the Sharp End of Care: The Professional

Medical personnel are also susceptible to trauma (see Fig. 6). They too have to deal with patient suffering as well as economic, technological, ethical, and legal challenges. One doctor recounts how some forty years ago he performed fourteen endoscopies a day assisted by a single nurse. Now, in spite of his greater experience and assistance by two nurses, he struggles to complete ten procedures a day. Preparation for the procedure resembles a ritual composed of stilted language, performed in a ceremonious fashion by an 'officiant' (nurse, physician). 'The ritual is not part of the endoscopy but it serves to reduce fear, prevent disruption, and maintain order' for the patient and healthcare providers (Sonnenberg, 2017, p. E628).

Underlying this new concern for caution during procedures is another rarely acknowledged sharp edge to care: medical error. Although most care providers have either been directly involved in an adverse medical event or witnessed a colleague make a medical error, as was the case with Garaizabal's unnecessary

[12] A higher percentage of mothers show symptoms of psychiatric disorder and/or PTSD than fathers at admission and after discharge of their child from paediatric intensive care units (PICU) (Shears et al., 2005). Mothers of critically ill children who were diagnosed with an illness or injury that would have a chronic component had increased psychological distress and decreased well-being as compared with mothers of those children with time-limited illness or injury (Tomlinson et al., 1995). Moreover, parents of children with life-threatening illnesses are more often likely to receive support from health care personnel than parents of children with chronic illnesses (Katz, 2002).

Fig. 6 The care team. First aid workers, doctors, nurses, psychotherapists, humanitarian volunteers, and others who work on the frontline of disease and disaster are vulnerable to trauma. | © Chanikarn Thongsupa/rawpixel

operations, these situations are often shrouded in secrecy. The patient is nearly always left in the dark about what happened and why (see Case study 2).

Case Study 2

Medically Induced Trauma

Linda Kenney was admitted to hospital for what was supposed to be yet another intervention on her malformed ankle. She came out ten days later after having survived full cardiac arrest and a host of complications resulting from a medical accident that no one was willing to admit happened. She was told only that she had experienced an allergic reaction to the anaesthetic and was fortunate to progress to full physical recovery.

Risk or Trauma Management: A True Choice?

From the risk management perspective, everything had gone to plan. The patient had been successfully isolated, treated, and released from the hospital without further incident, or bad publicity. Until Fredrick van Pelt, her anaesthesiologist, stepped forward. Van Pelt recounts how he and the team focused on the resuscitation by keeping their emotions on hold. In the aftermath, the impact of the accident began to sink in.

A Compelling Urge to Do Something

Van Pelt's compassion for the patient compelled him to convey his apologies to her and her family for his role in the situation.

> I felt personally responsible for what had happened and compelled to communicate with the family. I thought I would be able to provide a factual account of the event to the husband but to my shock, the husband came at me with full emotional and physical force; fortunately the orthopaedic surgeon intercepted him. I was now forced to confront my own emotional distress and I realised my complete lack of training in how to manage this situation.
>
> Without informing the hospital, I wrote [the patient] a letter in which I acknowledged the emotional impact that this event had had on her family, as well as on myself. I apologised for my responsibility for having initiated this sequence of events, and I invited the patient to open communication if and when she was willing and interested. (van Pelt, 2008, p. 249)

On her side, Kenney recalls:

> When I realised what had happened, my initial reaction was gratitude just to be alive. My family, however, was quite traumatised. They had experienced a side of the event that I could not understand. For several weeks my husband cried every time he looked at me. My children who were 13, 12, and 3 at the time were each handling it in their own way.
>
> One week after I arrived home, I received a letter from Dr van Pelt. He acknowledged the impact this must have on me and my family and informed me of how deeply this had affected him as well. He apologised for what had happened saying that he believed in open and honest communication. He made it clear that he would be available if I wanted to speak to him further. I then called Dr van Pelt so I could let him know that I didn't blame him and that I believed this was a truly unanticipated outcome. This conversation was extremely healing for me and enabled me to move on. (Kenney, n.d.)

Restoring Broken Connections

Six months after the accident, the doctor and the patient sat down to discuss what had happened. Their conversation ended that day with the patient

(continued)

offering the doctor forgiveness. 'It was one of the most powerful and uplifting experiences in my life and served to set my life in an entirely new direction,' remembers van Pelt. 'In an instant, the burden that I had been carrying on my chest had lifted and I was free' (2010).

A straightforward discussion freed them both in an extraordinary way to pursue their respective personal and professional goals. Kenney dared to return to hospital for another operation, and accompany her family in their fear of the consequences of her decision. Even though van Pelt's colleagues perceived it as disloyalty to the care team, he assumed his blatant disregard for his hospital's risk management procedures.

Van Pelt and Kenney's concern about the impact of medically induced trauma on his professional care team and her family compelled them to act together to change the system that had failed them both. 'I began to realise that this was bigger than me,' recalls Linda. 'I experienced an incredible sense of responsibility because I was one of the lucky ones to have survived. This hole in the system needed to be filled' (Kenney, n.d.).

A Tragedy Transformed by Transparency and Apology

When two people at opposite ends of the sharp edge of medical care join forces to do something, they can change awareness and support around adverse medical events. The profound need of one doctor and one patient to effect change resulted in the creation of a not-for-profit foundation, Medically Induced Trauma Support Services (MITSS). Unexpectedly, it also catalysed the creation of a hospital-based peer support network for care providers at van Pelt's hospital. 'To our great surprise,' van Pelt says, 'these two initiatives that had blossomed out of a tragedy transformed by transparency and apology were all of a sudden propelled to national and international attention. We had awakened a sleeping giant in healthcare quality and safety that could no longer be ignored' (2010).

Conclusion

Patients, their entourage and medical professionals may all find themselves at the sharp end of medical care. The rituals surrounding medical procedures can serve to reduce fear, prevent disruption, and maintain order for all three groups.

In the case of Garaizabal, thanks to a vague memory of a reassuring voice in hospital, he spontaneously began using his own voice in song to calm himself. Once he had experienced how his voice could naturally connect him to others, he built on that sensation with creative rituals around song that enhanced self- and co-regulation as the child moved towards social integration.

As an adult, Garaizabal was instinctively attracted to Alfred Wolfsohn's (1896–1962) [13] work. He travelled from his home in Bilbao to London in order to learn Voice Movement Therapy. After that, Garaizabal also trained in various other body-based therapies, including Trauma Releasing Exercises (TRE), all of which he used to cure himself and then to accompany his clients on their path to healing. Garaizabal's mother cried with her son when she read a draft version of this chapter: finally her suffering was recognised.

The efficient use of simple intentional rituals–such as a face-to-face encounter where one says 'I'm sorry…' and the other replies 'I forgive you'—can promote a physiological state of safety in which the outcomes of trauma resolution are optimised. As van Pelt and Kenney responded in an unexpected manner to their compelling need to do something to palliate their dis-ease, the rituals they practised safely channelled the strong emotions that had flooded them in the aftermath of the adverse medical event and promoted self- and co-personal regulation. Later, by daring to share their story and what they had learned from this process, the patient and the doctor brought healing and social regulation to their respective support communities. By joining forces, the two founders continue to touch people they may never meet in ways they could scarcely have imagined during their first conversation. This how an adverse medical event remarkably transformed into a not-for-profit foundation that continues to spread healing and restore broken connections among those at the sharp end of care.

Coming back to Moynihan, we see that his one-hundred-year-old wisdom about the role of ritual in medical interventions still applies today. The rituals of medical intervention do indeed begin before, sometimes long before, any medical gesture is made. The care transmitted by intentional gestures and words can reduce fear and go a long way towards preventing and healing medically induced trauma among patients and healthcare providers. Practising simple rituals that involve transparency and compassion—even long after the physical wounds are healed—promotes healing and connection at all levels of medical care.

References

Begley, S. (2009). From 'the sins of the fathers' to the virtues of the mothers: Lamarak won't go away. *Newsweek*, 3 February. Accessed August 1, 2020, from www.newsweek.com/sins-fathers-virtues-mothers-lamarck-wont-go-away-221830

Chamberlain, D. (1995). What babies are teaching us about violence. *Pre- and Perinatal Psychology Journal, 10*(2), 5175.

Ho, M. W. (2017). *The meaning of life and the universe: Transforming*. World Scientific.

[13] Wolfsohn was a German singing teacher who was diagnosed with shell shock, after serving as a stretcher bearer in the trenches during World War I. Although Wolfsohn's persistent auditory hallucinations of screaming soldiers did not respond to the classic treatments of the time, he cured himself by vocalising extreme sounds, bringing about what he described as a combination of catharsis and exorcism.

Katz, S. (2002). When the child's illness is life threatening: Impact on the parents. *Pediatric Nursing, 28*, 453–463.
Kenney, L. (n.d.). *Linda's story*. Medically Induced Trauma Support Services (MITSS). Accessed August 1, 2020, from https://betsylehmancenterma.gov/news/five-questions-with-linda-k-kenney
Levine, P. A. (2005). Foreword. In M. Picucci (Ed.), *Ritual as resource: Energy for vibrant living* (pp. xvii–xix). North Atlantic Books.
Levine, P. A. (2010). *In an unspoken voice: How the body releases trauma and restores goodness*. North Atlantic Books.
Levy, D. M. (1944). On the problem of movement restraints. *American Journal of Orthopsychiatry, 14*, 644.
Morris, G., Berk, M., Maes, M., Carvalho, A. F., & Puri, B. K. (2019). Socioeconomic deprivation, adverse childhood experiences and medical disorders in adulthood: Mechanisms and associations. *Molecular Neurobiology, 56*(8), 5866–5890. https://doi.org/10.1007/s12035-019-1498-1
Moynihan, B. G. A. (1920). The ritual of a surgical operation: Remarks made at the opening of a discussion at the first meeting of the British Association of Surgeons, held at the Royal College of Surgeons. *British Journal of Surgery, 8*, 27–35. https://doi.org/10.1002/bjs.1800082906
Petrusek, A., Tollrian, R., Schwenk, K., Haas, A., & Laforsch, C. (2009). A 'crown of thorns' is an inducible defense that protects Daphnia against an ancient predator. *PNAS, 106*(7), 2248–2252.
Porges, S. W. (2011). *The polyvagal theory: Neurophysiologial foundations of emotions, attachment, communication, and self-regulation*. W.W. Norton & Company.
Scaer, R. C. (2005). *The trauma spectrum: Hidden wounds and human resiliency*. W.W. Norton & Company.
Scaer, R. C. (2012). *8 keys to body–brain balance*. W.W. Norton & Company.
Scaer, R. C. (2014 [2001]). *The body bears the burden* (3rd ed.). Routledge.
Scaer, R. C. (2017). The neurophysiology of ritual and trauma: Cultural implications. In J. Gordon-Lennox (Ed.), *Emerging ritual in secular societies: A transdisciplinary conversation* (pp. 55–67). Jessica Kingsley Publishers.
Shears, D., Nadel, S., Gledhill, J., & Garralda, M. E. (2005). Short-term psychiatric adjustment of children and their parents following meningococcal disease. *Pediatric Critical Care Medicine, 6*, 39–43.
Shudy, M., de Almeida, M. L., Ly, S., Landon, C., Groft, S., Jenkins, T. L., & Nicholson, C. E. (2006). Impact of pediatric critical illness and injury on families: A systematic literature review. *Pediatrics, 118*(3), S203–S218.
Sonnenberg, A. (2017). Rituals in gastrointestinal endoscopy at the crossroads of shaman and science. *Endoscopy International Open, 5*(7), E627–E629.
Tomlinson, P. S., Harbaugh, B. L., Kotchevar, J., & Swanson, L. (1995). Caregiver mental health and family health outcomes following critical hospitalization of a child. *Issues in Mental Health Nursing, 16*(6), 533–545.
van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. Viking Books.
van Pelt, F. (2008). Peer support: Healthcare professionals supporting each other after adverse medical events. *Quality and Safety in Health Care, 17*, 249–252.
van Pelt, F. (2010). Medically induced trauma and compassion: Reflections from the sharp end of care. *Indian Journal of Anaesthesia, 54*(4), 283–285.
Yehuda, R., Engel, S. M., Brand, S. R., Seckl, J., Marcus, S. M., & Berkowitz, G. S. (2005). Transgenerational effects of posttraumatic stress disorder in babies of mothers exposed to the World Trade Center attacks during pregnancy. *The Journal of Clinical Endocrinology and Metabolism, 90*(7), 4115–4118.

Resources

Gordon-Lennox, J. (2017). *Crafting secular ritual: A practical guide*. Jessica Kingsley Publishers.
Gordon-Lennox, J. (2019). *Crafting meaningful funeral rituals: A practical guide*. Jessica Kingsley Publishers.
Karr-Morse, R. with Wiley, M. S. (2012). *Scared sick: The role of childhood trauma in adult disease*. Basic Books.
Levine, P. A., & Kline, M. (2007). *Trauma through a child's eyes: Awakening the ordinary miracle of healing*. North Atlantic Books.
MITSS became AHRQ Patient Safety Network (PSNet), https://psnet.ahrq.gov

Robin Karr-Morse is a family therapist in private practice in Portland Oregon—a role she has maintained for 35 years. She has designed and directed three state-wide programmes in Oregon, each of which focused on supporting vulnerable parents in the challenging task of raising healthy young children. Robin has published two books on the role of trauma in early brain development and its impacts on health and behavioural outcomes: *Ghosts from the Nursery: Tracing the Roots of Violence* (2014 [1997], Grove Press) and *Scared Sick: The Role of Early Trauma in Adult Disease* (2012, Basic Books). *email:*robin@theparentinginstitute.com

Juan Carlos Garaizabal is a voice movement therapist, vocal coach, and vocal performer who also offers accompaniment through trauma releasing exercises (TRE) and bioenergetic analysis. Drama, singing, speech, voice, and movement have greatly enriched Juan Carlos' personal and professional life. He thrives on the creative edge between therapy and art. He has published 'The Presence of Voice' (2015), 'Tapices de Voz' (2017), 'Homeopathy and Voice' (2019), and 'No más boleros, gracias' (2020). *website:* juancarlosgaraizabal.com *email:* info@juancarlosgaraizabal.com

Jeltje Gordon-Lennox, MDiv, is a psychotherapist trained in body-based approaches and world religions. Her research and practice is influenced by her life experiences in conflict zones on several continents, in particular her work with the International Committee of the Red Cross. She has written five practical guides on secular ritualising, two in French and three in English. This collection continues the conversation on ritual and trauma started in *Emerging Ritual in Secular Societies. A Transdisciplinary Conversation* (2017, Jessica Kingsley Publishers). Jeltje lives with her husband and their two children in Switzerland. **website:** gordon-lennox.ch *email:* jeltje@gordon-lennox.ch