THE Chronic Illness & Trauma Connection Series

The Science of How Trauma & Adverse Life Experiences Interact with Genes to Shape Health,

Why It's Not All in Your Head,

And How Healing Trauma Offers Hope For Reducing Symptoms Of Chronic Illness

Book 1

AN OVERVIEW

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105 pages
(also available in kindle format from free ebooks page)

May this book offer you

new insights,

new perspectives,

and support for your acts of courage

as you find your way

on this tremendous adventure

that is

living with chronic illness.

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About This Book

This is the first in a series of free ebooks describing the now well-established but still growing science of how life experiences interact with genes to make us more sensitive to infections, toxins, physical and emotional adversity and other environmental stressors to shape long-term health.

Aims

The emerging science clarifies how the effects of adverse life events go well beyond psychological health. Supportive and difficult life events interact to influence physical and physiological health, the nervous and immune systems, gut, metabolism, mitochondria and so much more. It also clarifies how the belief that mental health issues are the only possible effect of trauma or adversity is inaccurate, misleading and out of date.

This book will explain how your chronic illness is not in your head even if there are no diagnostic tests to prove it. The new science demonstrates how and why you are not crazy or "faking it" even if your doctor thinks otherwise. And how your illness is not just a result "stress."

Since this increasingly well-studied but still new science represents a significant change in how we understand and address health, it is not yet being taught in the field of medicine nor yet reaching most health practices.

The effects of adversity and trauma, however, are being incorporated into a new approach to medical care by a small number of individuals and early adopters. One such clinic has been working this way since 1998 at Kaiser Permanente in San Diego, California (Felitti, 1998; 2010). Another is a pediatric clinic in the San Francisco Bay Area called the Center for Youth Wellness (Burke Harris, 2018). A third example is described by author Donna Jackson Nakazawa in her book "Childhood Disrupted," whose life changes when a doctor she sees describes this new science and helps her in a process of discovery and improvement from

autoimmune disease and other health conditions despite being debilitated and having a family history one of her diseases (2015). Her story is briefly summarized in Chapter 7 on Stories of Healing.

This book will therefore give you insights while waiting for medical care to catch up with the science.

While the effects of trauma are not in our control and cannot be fixed through will power or resolved through talk-therapy there are ways of addressing and healing its effects, whether you have an autoimmune disease, chronic fatigue syndrome or fibromyalgia, or other chronic illness; struggle with anxiety, depression or other mental health condition; have had difficulty in relationships or with addictions such as workaholism, smoking or eating, and more. This is because the effects of trauma live in the unconscious, nonverbal parts of our autonomic nervous systems as well as in our bodies (Levine, 2010; Scaer, 2006; Schore, 1994; van der Kolk, 2014)

Some of the tools for healing trauma will be covered in this first book and you can find more information on my blog posts about 10 Tools for Healing Trauma and Therapies for Healing Nervous System Perceptions of Threat.

The information here will help you assess whether trauma or adversity, which includes types of events we don't usually understand to be traumatic, may have played a role in the development of your chronic illness.

The most important message is to know that it is possible to heal the effects of trauma. Even if it happened in the distant past or in past generations.

Ultimately, what we are learning is that the effects of trauma and adversity affect most of us in one way or another (some of us through chronic illness, some of us through mental health conditions, some of us with addictions or difficulty in relationships etc) and that these effects run deep.

Outline

I've divided this book into 6 sections.

Part 1 "Introduction" raises questions many of us have about chronic illness and gives you an initial definition and description of trauma.

Part 2 "Synopsis of Trauma" introduces some of the core concepts about trauma, including a short definition of what trauma is and a look at the history of how our beliefs about the role of trauma in chronic illness have changed over the years. I'll share how some of the concepts presented in this book have evolved, including from my personal experience of exploring the role trauma has played in my chronic illness, which I did not recognize for a long time.

Part 3 "What is Trauma?" describes crucial differences between stress and trauma, and explains why stress reduction techniques are often insufficient to recover from many chronic illnesses.

Part 4 "Why Understanding Trauma Matters" addresses the question "Why care about traumatic life events when there is nothing you can do about the past?" This describes benefits of a trauma perspective for understanding symptoms of chronic illness. It also lists some of the positive effects that healing from trauma can offer those of us living with chronic diseases of all kinds.

Part 5 "Recognizing if You've Experienced Trauma" shows you how to determine if trauma may have played a role in the development and evolution of your chronic illness.

It covers three areas:

- types of trauma that increase risk for chronic illness
- well-known characteristics of trauma seen in chronic illnesses of all kinds, and
- common symptoms from the effects of unresolved trauma that are regularly experienced in living with a chronic illness.

Part 6 "Approaches to Working with Chronic Illness" talks about treating trauma, trauma therapy and lists some of the benefits, including the fact that the trauma perspective itself is helpful in living and working with chronic illness.

Part 7 "Stories of Healing" shares stories of improvement or recovery that have happened by addressing the effects of unresolved trauma. Stories include examples in asthma, autoimmune diseases including Guillan Barre, multiple sclerosis, Parkinson's disease, chronic fatigue syndrome, inflammatory bowel disease and Supreme Court Justice Sonia Sotomayor's memoir about her type 1 diabetes.

The end has a heart felt afterword speaking to the very real challenges of walking this path of chronic illness, recommended reading and a short list of abbreviations and definitions.

References are at the very end of the book.

Who This Book is For

I have written this book for people with chronic illnesses or mysterious and difficult-to-treat symptoms as well as for family members and people caring for those with chronic diseases.

These books are also a resource for health care professionals of all kinds, from physicians and physical therapists, to acupuncturists, naturopaths and practitioners of functional medicine, to psychotherapists and emergency responders, among others.

Utilize Self Care & Take Your Time Reading

Due to the intense nature of this topic, take the time you need as you read this book. Take breaks and timeouts, and read it in bite size sections.

If the material results in disturbing thoughts, sensations or in the welling up of feelings, give yourself time to pause and reorient yourself. You might simply look around and find something on which to rest your eyes that is pleasing to you. You can also do an activity that feels supportive or calming. This is known as pacing.

Where to Find More Information

You can learn more about the perspectives presented in this book on my blog, Chronic Illness Trauma Studies. This home page provides an overview and links to the best and latest posts, including approaches and tips for healing from trauma.

You can also get more details about my story and how I use these perspectives for working with my own symptoms of chronic fatigue.

I provide a more in-depth academic discussion of the concepts presented here in my published journal article (Mead, 2004) and book chapter (Mead, 2007). I have excerpts in my free downloads section of the blog.

Remember that if adverse life events (ALEs) have contributed to the development of your chronic illness, then healing trauma offers a new set of very specific tools for working with these symptoms. The fact that it is possible to heal the effects of trauma, even if the event(s) happened in your childhood or at birth or years ago. This a new concept and I will be reiterating it regularly throughout this book.

About Me

I practiced medicine as a family doctor and assistant professor at the New Hampshire Dartmouth-Concord Family Practice Residency Program in the mid 1990s. I taught residents and medical students, developed teaching curricula, and provided care to newborns, children, adults and the elderly. I also followed women and families through pregnancy, and assisted them through labor and delivery. The science I discovered after leaving medicine has helped make sense of a lot of the questions that I had no answers for when I was in medicine.

I left my career in medicine in 1998 in search of a different way of healing. I wanted the opportunity to connect more fully with my patients and I was curious about the intelligence that underlies symptoms of all kinds. I was especially interested in working with people who had chronic illness because medicine had so little to offer beyond symptom management.

I retrained as a psychotherapist with a focus on listening to the intelligence of the body and its cues, which emerge in images and dreams, impulses, sensations and insights.

When I specialized in trauma I began to learn about the role of the autonomic nervous system and life experiences in shaping our health, which I had never heard of in my medical training. The perspectives in this book come from 20 years of

combing the literature, including research in all kinds of chronic diseases, and beginning to see connections between difficult life experiences and health.

Along the way I developed a chronic illness of my own, which has made me even more curious about whether I could make sense of my symptoms or reverse any of them. I have gleaned tremendous and precious lessons from this sometimes overwhelming and scary, always unexpected, and ultimately deeply satisfying and meaningful journey. It has also enabled me to grow in ways I could have never imagined and served as an ongoing testing ground for the science I will be sharing with you (You can learn more about my story on my blog).

1. Introduction

Common Questions in Chronic Illness

There are many patterns seen in chronic illness for which we have no answers:

- Why do so many of our chronic illnesses start after a stressful event?
- Why do some people develop a chronic illness following a stressful event while others do not?
- If a stressful event triggered our illness, why did that particular event trigger onset when other events did not?
- If stressful events preceded the onset of your chronic illness, then why does reducing the stress in our lives not help us recover?
- Why do seemingly minor stressors that did not bother us in the past often cause our symptoms to flare now that we are ill?

Periods of stress occur before the onset of many kinds of chronic illnesses, including my own.

But a particular stressful event was not the cause of my chronic illness. It was the event that revealed and unmasked a process that had been evolving for years.

A slowly evolving process may have lead you to intermittently experience symptoms of your illness long before it became full blown.

One woman, for instance, recognized that a strange facial rash she'd had as a child was not a sunburn but a butterfly rash that eventually recurred when she developed lupus as an adult.

I personally realized that the unusual exhaustion I experienced during a bicycle tour right after college was a symptom of the chronic fatigue syndrome (ME/CFS for myalgic encephalitis) I developed a decade later.

Life events - both pleasurable and painful - influence our brains and nervous systems, our emotions and beliefs, as well as our physical bodies and physiologies (Diamond, 1999; Hurley, 2013; Schore, 1994). Traumatic events don't only increase our chances of developing depression or PTSD (post-traumatic stress disorder) - they also increase our chances of developing many chronic illnesses.

This is ***not*** because chronic illness is all in our heads. It's because traumatic events can have long lasting effects on our brains and on our biology.

A Definition of Trauma

The term "trauma" often connotes only the most extreme forms of painful experiences such as war, sexual abuse, or natural disasters. But trauma is about how a person experiences an event rather than about a specific type of event.

A traumatic event is an experience that feels overwhelming. It may also be terrifying or horrifying, or make us feel helpless or numb. But it can also be much more subtle than that and even be difficult to recognize, such as might occur with a scary or brief but seemingly minor accident, fall, or surgery. Trauma can also arise with the loss of a loved one, such as a family member, a friend or a beloved pet.

Events that are experienced as traumatic are different for everyone. And they are not the same as stress even though they can look mild or even mundane to the outside observer. I will give you a broader definition and more detailed examples of trauma in the upcoming pages.

Throughout this book I will use the acronym ALE (adverse life events) interchangeably with "trauma" to encompass the very wide range of events that can be experienced as traumatic.

Trauma and Chronic Illness

For many of us, stressful or traumatic events never progress to chronic illness. A childhood symptom may occur only once and then completely resolve, never to reappear or develop into a chronic disease.

The same is seen with antibodies, which are proteins created by our immune systems to protect, defend and help our bodies heal, such as in the presence of infections.

Specific types of antibodies can also form against body tissues, such as insulin-producing cells in the pancreas, to precede and predict risk for the development of certain chronic illnesses, such as type 1 diabetes. But antibodies like these have also been found to resolve and disappear before we ever develop symptoms (Milward, 1986; Yu, 2000).

This is because we are all designed to recover, to adapt, and to heal following painful or overwhelming experiences. Just as we are designed to heal from cuts, wounds and broken bones.

Risk for symptoms and chronic illness occurs when the innate process of healing from trauma is interrupted or prevented. This can occur when there is a need to speak with the police about the details of an accident or other event rather than having the time to emerge more quietly from the shock, the shaking or the terror that are common reactions to trauma.

The inability to integrate ALEs also occurs when danger persists - such as when a child lives in an environment where a family member is an ongoing source of threat.

When we are unable to recover from ALEs the effects begin to accumulate. For those of us with chronic illnesses of all kinds - from type 1 diabetes to chronic fatigue to multiple sclerosis to Parkinson's disease to rheumatoid arthritis and more - the effects evolve like an undersea volcano. Each traumatic event adds a little to the volcano's evolution and development.

When there are too few ALEs, or when recovery occurs following traumatic events, the volcano recedes back towards the ocean floor.

It is only when a sufficient frequency, intensity, or severity of unresolved ALE's occur that a tipping point is reached and a final stressor or trauma makes the volcano grow past some critical point. It is when the tip of this mountain crosses

the water line and becomes visible that the effects of trauma coalesce fully into a chronic illness or another group of symptoms.

This is what happens with the stressful or traumatic event that triggers the onset of a chronic illness. It is also why the onset of symptoms can occur so suddenly and unexpectedly following one stressful event too many (Poser, 1986).

The kind of life events that add up to affect risk for chronic illness include subtle as well as overt forms of trauma. Very often they are experiences that we have tended to underestimate, overlook or to belittle.

I will introduce you to different types of ALEs in part 5 of this book. This will help you get a sense of whether trauma may have affected your health, including the development of your chronic illness.

This is not because chronic illness is psychosomatic.

It is because the effects of ALEs go beyond emotional and psychological symptoms and can have profound effects on our bodies, our brains, and on our biologies.

2. A Synopsis of Trauma

The Role of Trauma: An Old Concept Dismissed

The belief that trauma is a risk factor for a variety of chronic illnesses was common a hundred and more years ago (Weiner, 1977, Wolff, 1959). It was based on observation and on people's histories.

In the early 1800s (Smith, 2002) and 1900s (Walker, 1937; Hodgson, 1937), for example, it was noted that the initial symptoms of Parkinson's disease often started in a limb that had been injured during a traumatic event.

There have been similar findings in multiple sclerosis (MS), in which the initial physical symptoms were seen in parts of the body that had been exposed to direct physical trauma such as electrical shock or surgery (Sibley, 1991, p. 588).

It was also found that symptoms of Parkinson's frequently began following stressful events that did not involve physical injury, such as on learning that a son's plane had been shot down or after witnessing the death of a spouse in a car accident (Smith, 2002).

Case studies of type 1 diabetes in the early 1900s had similar findings. They documented the onset of type 1 diabetes after one person, a prisoner, witnessed the murder of a sibling who was also a prisoner. For another, onset began after a rescue from drowning. For a third it was after his steering wheel became detached in heavy traffic (Daniels, 1948).

Over time the concepts linking ALEs to chronic illness were largely dismissed, however. This was for a number of reasons.

No Increase after World War I & World War II

The notion that trauma could cause type 1 diabetes was discarded when the expected significant increase in rates of the disease did not occur following the traumatic events of World Wars I and II (Joslin, 1943).

This became the norm even though cases of type 1 diabetes were noted in soldiers during service, after being under fire or when readjusting to civilian life after the war (Daniels, 1948). The theory was similarly put aside for a number of other chronic illnesses following World War II (Weiner, 1977), including Parkinson's (Grimberg, 1934).

Time Delay Between a Traumatic Event and Onset

In Parkinson's disease the idea that trauma could affect risk was put aside when no one could explain why there was often a significant time delay between a traumatic event and the onset of symptoms. Some individuals developed Parkinson's within hours, days or weeks of a traumatic event, for example, while others did not develop symptoms until years or decades later.

When the onset of worker's compensation began in the late 1800s people who were seeking insurance payments for Parkinson's disease following traumatic experiences that had occurred in the too distant past were increasingly believed to have "hysterical" tremors (Grimberg, 1934). This was the case despite - or perhaps because of - the fact that symptoms so often began in the limb that had been affected by the traumatic event.

Similar judgments have long been made of soldiers who develop PTSD long after completing military service (McFarlane, 2015).

This pattern has also been true of people suffering from all kinds of debilitating chronic illnesses and who are just as legitimately seeking support, treatment or disability insurance today.

Limiting the Role of Trauma toPhysical Injury

As physicians learned more about the anatomy and physiology associated with different diseases - such as the role of the pancreas in type 1 diabetes and of certain parts of the brain in Parkinson's disease - research in chronic disease began to focus on the effects of direct physical trauma to the organ systems believed to be most directly involved with each disease.

When the incidence of type 1 diabetes did not increase following World War I and II the role of trauma as a potential cause of the disease shifted. The role of trauma became limited to a trigger for the onset of a process that already existed and had not yet become manifest. As such the only role of trauma in the onset of type 1 diabetes was if it came in the form of direct physical trauma to the pancreas (Joslin, 1943).

The same shift in perspective has occurred in research studies in MS (Sibley, 1991), Parkinson's (Grimberg, 1934), and in other diseases.

Inconsistent and Conflicting Findings

The belief that trauma played a role in chronic illness was gradually eliminated when studies could not consistently identify a relationship between trauma and specific chronic diseases.

One such example is seen in multiple sclerosis (MS) research (Goodin, 1999; Koch-Henriksen, 2011).

In separate studies investigators considered different types of traumatic events as potential contributors to risk. Some studies found an increased risk for MS with a history of head trauma in childhood (Lunny, 2014; Gusev, 1996) or in the 6 years before onset (Kang, 2012), while others found no increased risk from head injury (Koch-Henriksen, 2011) or other types of physical trauma (Goodin, 1999).

In other MS research, investigators counted one kind of event as traumatic, such as electrical shock, but dismissed cases in which electrical shock that preceded onset of symptoms was too weak to cause known physical injury (Sibley, 1999, p. 588). This approach to the selection of cases lead to conflicting findings, and trauma as a risk factor for MS has been almost entirely dismissed.

The same is true for research studies in many other chronic diseases.

Making Sense of Trauma

The shifts in perception towards a decreasing role of trauma in affecting risk for chronic illness stem from a lack of understanding of the common characteristics of trauma.

It turns out that it is not a single event nor a limited group of events that affects risk for chronic illness (or PTSD) but a complex web of factors that are difficult to identify and recognize until there is a clear understanding of ALEs.

What we've learned about the characteristics of trauma in the past 100 years (McFarlane, 2015) helps make sense of these areas of confusion in the research literature for chronic illnesses of all kinds. It explains why establishing a link can be so challenging - both in large research studies as well as in our own personal lives.

One of the features of trauma, for example, is that symptoms result not only from physical trauma but also occur following life experiences that are *emotionally* traumatic. In other words, the effects of traumatic events are based on a person's *experience*, rather than on the presence or absence of physical injury (Levine, 2010; McFarlane, 2015; Yehuda, 2016).

Another facet of trauma is a varying length of delay between a traumatic event and the onset of symptoms. The speed with which symptoms develop after an ALE, for example, is based partly on the intensity of the event. It is also, however, influenced by the number as well as the severity of ALEs that have been experienced at other times in a person's life, including in childhood.

While these well-known findings have been clearly identified in study after study they are not yet recognized - or taught - in medical training.

Understanding the Role of Trauma

Learning about the characteristics of trauma is a useful way to consider whether we have experienced ALEs in our lives. It is a means of evaluating whether ALEs may have played a role in the development of our chronic illnesses. And it is a perspective that can help us make sense of our stories.

It's important to remember that experiencing the long-term effects of ALEs does not mean that we are crazy or broken or that the situation is hopeless. And it does not mean that being sick is your fault.

Most people experience some form of trauma in their lives and many develop a chronic illness or other set of difficult symptoms at some point.

Life experiences play a remarkably important role in determining why one twin develops a chronic illness when his or her genetically identical twin does not (Paterson, 2013).

ALEs are among the critical and underestimated kinds of life experiences that shape our health. They influence the initiation, evolution and development of symptoms and of chronic illnesses. Trauma can affect

- the type of symptoms we experience.
- the kind of chronic illnesses we develop.
- the age at which chronic illness occurs.
- the speed at which our illnesses develop or worsen.
- the degree of sensitivity we have to our environments.
- the frequency, severity and types of flares we experience as well as their occurrence in response to stress and triggers, which are reminders of traumatic events.
- whether a genetic predisposition progresses to a particular chronic illness or remains silent and unexpressed.

Even when we have experienced ALEs and are living with a chronic illness or other effects of unresolved trauma, however, it is not a life sentence.

The effects of trauma arise from our brains and bodies' most courageous attempts to keep us alive in circumstances that were otherwise too difficult to bear. They are designed to help us survive until the threat is gone so that we can move on and live our lives to the fullest.

Symptoms and chronic illness are long-term side effects that occur when we have been unable to heal as we are designed to do. They are the result of a normal response to an overwhelming experience.

For now, know that if ALEs have affected the development of your chronic illness, then healing from trauma offers potent new tools for treatment. Understanding trauma also introduces a perspective that makes it easier to understand the ups and downs and daily variations that occur when living with chronic illnesses of all kinds.

These tools provide a context for better managing symptoms, and even more than that, they can help to reduce and improve symptoms. This is true even if the experience of ALEs occurred in the distant past, such as in childhood. This is also true even if you have had your chronic illness for a long period of time.

This is because - contrary to what most of us have been lead to believe - it is possible to heal the effects of trauma.

Causes &Treatment of Chronic Illness

I have developed the theories described in this book from over 15 years of research since leaving my career as a family doctor and retraining as a therapist to work with trauma and the brain-body connection (Mead, 2003).

The ideas I'll be telling you about come from a diverse array of fields including embryology and neuroscience, epigenetics, parent-child relationships and childhood trauma, influences of birth events and parent-infant bonding, as well as stress and trauma.

These theories, along with my work as a trauma therapist, have enabled my clients with chronic illness to begin to

- make sense of their symptoms.
- reduce some or many of their symptoms.
- prevent or minimize spikes and periods of worsening (which are sometimes referred to as "flares" or "flare-ups").

- return more fully to their sense of self, their daily lives, and to connection and relationship.
- and sometimes return to their careers even after a period of disability.

I have also been testing and refining this theory through my own experience of living with a chronic illness for nearly 20 years. My personal journey of healing has not been fast, but the patterns, the setbacks, and the progress have all helped me continue to hone and refine what I sometimes refer to as "The Chronic Illness Model."

The Chronic Illness Model

The Chronic Illness Model integrates science from the field of trauma research to examine and understand findings in many chronic illnesses, which are usually studied in isolation from one another. I used to call it a theory but the science has progressed to the point where the role of trauma, especially in childhood, is becoming recognized as the biggest public health crisis of our time (Shonkoff, 2012; Naviaux, 2018).

While current medical perspectives hold that each disease is caused by a different risk factor that is unique to that disease, our understanding of trauma suggests otherwise.

The Chronic Illness Model provides a different explanation for the causes and the process of evolution of chronic illness, which I introduce in this book (see my blog post for a recap and descriptive graphics like the one on this page).

The Model offers a context for understanding the patterns we see in so many different types of chronic diseases. It also clarifies why and how stress and trauma affect so many of us and our symptoms, regardless of which disease we have.

The model provides a framework for developing and using tools that can more effectively help us reduce our symptoms of chronic illness. Based on the

accumulating evidence, I suspect that it may also enable us to begin to heal and sometimes even fully recover from these symptoms.

The research continues to evolve. The Amercian Academy of Pediatrics is updating its guidelines to acknowledge the role of life experiences in shaping health. Studies are happening at Harvard and Columbia. And some doctors are beginning to take notice. Learn more in my latest summary.

My Personal Experience of Chronic Illness

I developed symptoms of chronic fatigue in my 30s when I was a medical doctor. Multiple family members on both sides of my family have also experienced the disabling effects of chronic fatigue syndrome.

Working with my own symptoms of chronic fatigue from a trauma perspective has been life-altering as well as motivating and quietly reassuring.

While my family and I may have genetic predispositions for this disease, looking at our health from the perspectives presented in this book suggests that there is more to it. I suspect that our illnesses have also been influenced by the cumulative effects of the different types of trauma presented in section 5 - including multigenerational trauma - rather than from permanent or purely genetic mutations or defects.

As such, I wonder about the extent to which our health - including my own - has been influenced by potentially reversible epigenetic changes.

This is one of the benefits of a trauma perspective - that it offers a potential mechanism for understanding as well as working with symptoms. This is true even when a chronic illness runs in the family.

Another seems to be a contribution to my process of slowly recovering. Ten years after the onset of my first symptoms I became bedridden and remained so for about a year. In the seven years since then, the process of healing from the effects of trauma, as well as the skills I developed out of my trauma work and research, have allowed me to begin to slowly improve.

The progress has been gradual as I have tested the model, explored ways of working with and healing from ALEs, and begun to recognize personal experiences that were traumatic for me but had never recognized as such.

In short, difficult life events are often deceptively subtle and difficult to acknowledge, especially as a source of risk for the development of a chronic illness. And their effects are complex.

By the time the undersea volcano begins to peak above the water line and we develop a full-blown chronic illness, the effects are also deeply imbedded in our physiologies, which is why symptoms can be so difficult to treat and change.

One of the benefits of the trauma perspective has been gaining a context for understanding symptoms and flares.

Using this lens, I've been learning how to identify experiences that trigger flares (triggers are reminders of unresolved trauma from the past). Recognizing triggers has sometimes enabled me to recover from exacerbations of fatigue within hours or to prevent flares altogether. It has also revealed patterns I've then been able to address in trauma therapy.

These trauma perspectives are helping me to decrease the frequency and intensity of symptoms over time and have been gently enabling me to improve my baseline levels of energy.

I now take a nap every day for 1-3 hours but otherwise rarely need to lie down other than at night.

I am still significantly limited in what I can do but I am able to run occasional errands, and sometimes a few in a row.

I take two 30 minute walks most days, and have recently been able to walk to the point of being quite tired without suffering a relapse.

In the past couple years I can sometimes recover a portion of my energy in the middle of the day after an errand by resting or with my nap. The inability to

recover with rest is a hallmark of chronic fatigue. While this pattern continues for me it has been decreasing and is much less severe than it used to be.

Connections Between Chronic Illness and Trauma

What I have found through experiences of working with clients in the past, from the research, and as a result of my own personal explorations is that trauma is an important contributor to risk and development of chronic illness. This is true for diseases as different as:

- type 1 and type 2 diabetes
- heart disease
- obesity
- multiple chemical sensitivities,
- multiple sclerosis
- chronic fatigue
- lupus
- fibromyalgia
- rheumatoid arthritis
- hypertension
- Parkinson's disease
- Alzheimer's
- autism
- schizophrenia
- depression

Trauma is also a common contributor to mysterious illnesses and unexplained symptoms for which no abnormalities can be found on exam, in labs or in other tests.

My references to chronic illness throughout the book include these types of poorly understood, unnamed symptoms and illnesses, which are just as real as diseases that we can diagnose.

Through all of my different experiences, the relationship between traumatic events and the origins and development of chronic illness has become more coherent and comprehensive.

These links, and the research studies, suggest that the causes of chronic illnesses of many kinds are more similar than unique for each disease. And that the effects of difficult life experiences are cumulative in their influence on risk.

3. What is Trauma?

Trauma is not just something that happens to people who serve in a war, who are physically wounded, or who survive assault or kidnapping. Trauma can occur as the result of accidents and falls, surgery, natural disasters, harassment or bullying, or from witnessing violence and suffering.

In fact, trauma can look like nothing at all and can result from experiences that we often normalize. (For additional reading and references about what I'll describing in this section on trauma see Levine, 1997 & 2010; McFarlane, 2002 & 2015; Scaer, 2005; van der Kolk, 1996 & 2014; Yehuda, 2015.)

An experience that is traumatic is one that we perceive as overwhelming. It may feel inescapable and it occurs outside of our control. At some level - conscious or unconscious - trauma feels life-threatening even if it does not actually put our lives in danger.

The loss of a parent can be traumatic, for example, whether it is through death or divorce. This is especially true if it occurs in childhood even as such an event is frequently dismissed as just a normal part of life.

The fact that the loss of a parent is a remarkably common occurrence in our society does not make it benign. This is because children are dependent on their adult caregivers for survival and for basic needs such as food, shelter, and safety. This makes children more vulnerable and, consequently, more sensitive to the effects of trauma.

When children lose a parent it can actually feel, usually at a deeply unconscious level, as though survival and safety are at stake. There are also intensely painful emotions of grief or despair, hopelessness or longing that can be too overwhelming for a child to tolerate.

An experience that is too much to integrate is one of the hallmarks of trauma.

When a child loses a parent the experience is usually compounded by the fact that the remaining parent is also often experiencing intense emotions of grief and loss,

anger or resentment, as well as fear about how they will manage - emotionally, financially, logistically, etc. If this parent also becomes less emotionally available or physically present as they try to cope with their own often intensely difficult feelings it can add yet another layer of pain - and trauma - for a child.

At the other end of the spectrum, a child who hears loud noises can also be frightened and experience overwhelm or terror. These can range from the sound of thunder to being yelled at by a raging or terrified parent (Levine, 2005) to hearing or seeing a parent wailing in uncontainable grief (Fleshler, 2013). Such experiences can therefore also be traumatizing even though they seem minor to the outside observer.

These are two examples of experiences that can be traumatic but that are rarely recognized as such in our society or in our medical culture.

Trauma in childhood is just one factor that has been identified as a risk factor for developing a chronic illness (Felitti, 1998).

Trauma Changes Our Ability to Adapt

Events that are traumatic tend to leave us with difficulties in our ability to be and to act in the world. They also interfere with our ability to adapt. It is not uncommon to forget the event itself and even then we may feel that we have lost a part of ourselves in the forgetting or that we have had to suppress some aspect of ourselves in order to “move on.”

Reliving the Event

When we have experienced ALEs, we may have nightmares or flashbacks in which the event repeats itself, as if occurring in the present moment with all of its original feelings, sensations and visuals.

We may have difficulty using words to describe what happened or feel an intense aversion to even thinking about the event for fear of triggering old feelings that were too intense to bear.

These kinds of intrusive and unpredictable feelings, behaviors and sensations associated with ALEs occur outside of our control. They come unbidden but are no less disturbing for that.

They can make it difficult to go about our daily lives and to feel free to take action, take risks, or to be fully who we are.

This is one of the ways we can recognize whether or not we have experienced trauma.

Another pattern we may experience is avoidance.

Avoidance

ALEs can lead us to do everything we can to avoid remembering or talking about an event. We may avoid visiting certain people or places that remind us of a difficult experience. The effects of ALEs can make us feel intensely uncomfortable around related experiences in the present.

If you find it difficult to schedule a doctor's appointment or a medical procedure, for example, it can be the result of traumatizing events such as

- being diagnosed with a chronic or life-threatening illness.
- undergoing treatment that causes other problems or fails to help or cure.
- having had difficult or negating experiences with a health care professional.
- having undergone painful medical treatment in the past (Alonzo, 2000).

The distress associated with making an appointment (or avoiding scheduling altogether) is not a sign of weakness or laziness but an indication that you have experienced unresolved trauma and are suffering its effects.

Stress vs Trauma

Although stress is a term often used interchangeably with trauma the two are not the same.

Here's an example of the difference:

An Example of Stress

Crossing a chaotic and busy city street can be a stressful experience. It requires adaptation - such as timing things correctly, signaling drivers, or making sure that they see us. It may activate the stress response of fight and flight as we dash and sprint, stopping at a moment's notice or dodging in and out of other pedestrians as we move towards our goal.

When we get safely to the other side it is a small victory.

We may feel relief or even a subtle sense of accomplishment. We may even feel giddiness and joy as the adrenaline pumps through our bodies.

Such a success, even though tiny in the scheme of things, can give us a sense of being capable and make it easier to do it again, even more easily, in the future.

When the stress of crossing that busy street is over our adrenaline runs it course and we calm back down.

Our brains and bodies know that we made it. They know that we are safe. We no longer think about it and can move on with the next task of the day.

Trauma is different.

An Example of Trauma

While crossing the busy street can be stressful, being struck by a car when trying to cross that street can be traumatic. We may be mildly or seriously hurt. We may experience feelings of terror and helplessness, see our lives flash before our eyes, find ourselves in shock, not know what happened, or forget where we are. We may feel as though everything has slowed down or as though we are floating or observing from afar.

These are symptoms of a trauma reaction.

Although our bodies will try, it is not possible to successfully fight off a multi-ton vehicle or to fully protect or defend ourselves at such a moment. Nor is it possible to run faster or to escape at the last minute.

When our survival responses to run faster or escape are otherwise overcome, our nervous systems default to freeze. The helplessness and shock, the disorientation and slow motion, and/or the sense of being out of one's body are all characteristics of the freeze response.

The Freeze Response is "Real." The freeze response is initiated by our brains. It is not something we choose. It is not invited through will. And it occurs outside of our control.

In trauma, a state of high energy (fight and flight) is involuntarily suppressed by a death-like state of suspended animation and immobility (freeze).

The freeze response is one way that mammals have evolved to survive overwhelming threat.

The freeze state comes from our primitive survival-based animal instincts. A gazelle that cannot outrun a predator may suddenly, in full run, drop to the ground as though dead.

This is a deeply ***physiological*** process and state.

It is referred to as "feigned death" because even though the animal is not actually dead it looks and smells like death. It's breathing and heart rate often slow down. And feelings of numbness may arise, which minimize the pain of being eaten should it get killed.

The freeze state has evolved to fool predators, who often need movement to stimulate their impulses to complete a kill.

This state of freeze is not faked.

It is not "pretend."

It is a very real, deeply biological process that is initiated in our nervous systems and in our bodies.

In this survival response, underlying states of high activation are masked and suppressed by the freeze response. If an avenue of escape opens up - such as when the cheetah is distracted and has to protect its newly acquired meal from another predator - the suppressed state of high energy can enable the gazelle to emerge from immobility into a full run within seconds. To go “from zero to sixty” in moments. You’ll find videos of this well-known pattern on youtube.

The gazelle that is able to utilize all of her suppressed energy of fight and flight will not develop symptoms as a result of having survived this life-threatening event. Her nervous system will be informed by the act of escape, which signals her brain that she is safe and that the threat is gone.

Similarly, these instincts that we share with other mammals enable us to recover from traumatic experiences.

As with wild animals this can occur if we successfully escape.

If we do not mobilize for escape, recovery can occur through the process of shaking. It can also be facilitated by being present to sensations that reflect survival impulses - such as the movements of fight and flight our bodies were engaging in as they prepared to shield us from a collision. This could be experienced as arm tension or subtle impulses to turn our heads to shield us from contact.

We can also recover from trauma and prevent long-term effects by feeling the supportive and reassuring presence of a calm and connecting bystander.

Like animals observed in the wild, we, too, can recover from brushes with death and avoid developing symptoms following life-threatening events.

For a detailed example of this process, see traumatologist Peter Levine’s book “In An Unspoken Voice” (2010), in which he describes an accident he recovered from using these insights and skills, which he has been developing for over 40 years.

Long-Term Effects of Trauma. We risk developing symptoms when the process of resolving the effects of a trauma reaction are interrupted or prevented.

Of note, the trauma responses just described can all occur even when we are not physically harmed. They can arise even if we simply have a close call and never come into contact with that car when crossing the street.

In the study of trauma we have learned that a near miss or the witnessing of a traumatic event can be just as devastating as experiencing direct physical harm or an actually life-threatening situation.

Trauma is about how we ***experience*** and ***perceive*** an event more than about whether we are physically injured. This is because our bodies mount survival responses of fight, flight and freeze regardless of whether we come to harm or whether our lives are actually in danger.

We often mistakenly refer to both of the events described in the previous examples - successfully crossing the busy city street or having an accident or close call - as stressful.

But as you've started to see, stress and trauma are different.

A Definition of Stress

We are designed to adapt to life experiences, rise to meet challenges and then to recover.

Stress comes from experiences that ask us to change gears. To speed up or slow down. To manage and integrate painful emotions such as fear, grief or anger and then to experience support and connection, and to once again feel safety and be able to relax. To engage in physical exertion and then to rest and recover. To keep our bodies warm in cold environments and maintain our temperatures in hot ones. And to cope with unfamiliar or difficult situations.

Stressors can just as easily be pleasurable (think weddings and birthday parties, promotions or moving to a new home) - as they can be distressing (having an argument with your spouse, being late for work, crossing that busy city street).

When a stressor is removed, however, our bodies return to baseline states of ease that are associated with a sense of comfort and safety.

How Trauma Differs From Stress

Trauma arises from experiences in which too much happens too fast and in which our innate capacities for adaptation are overwhelmed.

We are designed to recover from ALEs just as we are designed to recover from stress.

When an experience is too intense to manage or cope with, however, our bodies maintain the states of survival. This is how trauma shifts our abilities to adapt.

Trauma Prevents A Return to Safety

Trauma alters our ability to adapt to the present moment.

It changes the way our brains function.

Events that are traumatizing keep us in states of survival - fight, flight and freeze - long after the threat is gone. This is one of the critical ways in which trauma differs from stress.

When we experience the effects of ALEs it is because our brains and bodies do not recognize that the danger is over and that we have survived. As such, one of the underpinnings of trauma is a perception that we are not safe.

This perception of lack of safety occurs at a level far outside of our conscious awareness. We are sometimes aware of this sense of threat or danger but most often, we are not.

Trauma prevents the return to baseline states of ease and calm, rest and recovery and the sense that it's over, even after the danger, the stress or the threat is gone. This occurs because when we experience an event from which we are unable to successfully escape our survival states of fight (anger, attack, setting boundaries,

presenting an argument, saying no etc) or flight (leaving the situation, running away, etc) are ineffective.

When neither fighting nor fleeing are an option for survival, the body defaults to the state of freeze and immobility.

“Freeze” is the state that makes us feel numb or leaves us feeling disoriented and unsure of where we are or what happened.

It’s what makes it difficult to talk or describe what happened, sometimes hours after an event and sometimes for year afterwards. It’s what can make it difficult to run away even when a path to escape opens up.

This is not because we are faking it or “playing the victim,” but because our bodies and brains take precedence over conscious thought when our lives are in danger. This is a strategy designed to maximize our chances of survival.

The state of freeze can also make an experience feel as though it is happening in slow motion or to someone else. It is what leads some of us to feel as though we are watching an event from the ceiling or the doorway or from outside of our bodies.

To reiterate, the inability to mobilize out of the freeze state, to feel that we have successfully escaped or survived, is what leads to the effects of trauma.

Why Reducing Stress is Not Always Sufficient

Some of us can recover or greatly improve our symptoms and chronic illnesses by simplifying, slowing down, and implementing stress reduction techniques.

For some people, making a change in one area - such as by resigning from the pressure-filled job, leaving the abusive relationship, creating more space and time to enjoy life, exercising and making dietary changes, meditating or starting yoga or Tai Chi, etc - is sufficient to greatly improve from a chronic illness or to recover. For others drastic changes in all or most of the areas is necessary for improvement to occur.

For many people with chronic illness, however, none of these kinds of changes are enough to lead to a cure, to significantly decrease symptoms or to prevent a worsening course or progression of a disease.

This is not because some people are stronger, smarter or more dedicated than others.

It's not that some people are weak, or failures, or lack will power.

It's not because some chronic illnesses - such as the ones that respond to stress reduction techniques, for example - are any "less real" than others.

It's because we all experience the effects of trauma - and sensitivity to stress - in our own ways. And what is needed for each one of us to recover is also unique.

Sometimes all our bodies need is a little help in order to heal the effects of stress or trauma, as we are designed to do.

Sometimes, we need a more direct and focused approach to treatment.

For many people with chronic illness, stress reduction and stress reduction techniques are helpful but are not specific enough to resolve the effects of trauma. They are not direct enough to help the body address the patterns that keep us in states of fight, flight and freeze and to reinstate the sense of safety in the present moment (Levine, 1997).

Working with trauma is part of how we can heal.

Sensitivity to Stress is Often a Sign of Prior Trauma

We have been misdiagnosing events that are traumatic as merely another form of stress - something we should all be able to recover from and put behind us as a normal part of being a healthy and responsible human being.

When a person develops a chronic illness or experiences symptoms that seem excessive or are difficult to understand following a stressful event, however, it suggests that something important is going on.

It suggests the tip of a growing undersea volcano rather than an isolated event.

It indicates that a person is experiencing the reactivation of a trauma response.

The stressful event that triggers the onset of symptoms could be

- a minor car accident where no one gets hurt and barely a scratch is seen on the bumper.
- forced retirement.
- surviving a flood that doesn't kill anyone and that leaves only minor damage to the house.
- the loss of a beloved pet.

When we disbelieve someone who is experiencing symptoms following a seemingly minor stressor, however, we are dismissing important clues.

We have been underestimating the effects of difficult life events on our health.

And we have been judging, shaming and blaming people for symptoms we don't understand or have difficulty diagnosing or explaining.

This is because we have been thinking of stress and trauma as being the same thing.

This is in part because everyone's experiences of, and responses to, difficult life events are different.

It is also because sensitivity to stress is often the result of past experiences of trauma - events that are rarely asked about as part of a medical history or that are not recognized for their impact by health care professionals.

Traumatic events are rarely volunteered by patients, often for fear of being dismissed or judged harshly, or because of having learned to discount such painful experiences.

ALEs make our brains and bodies more responsive and sensitive to stress. This is actually a healthy pattern designed to help us react more quickly.

Rapid responses can spare our lives in the future. The young rabbit that escapes his first chase by a fox will be much more cautious the next time he sees one. He will also develop multiple ways of recognizing this particular threat - through sound, smell and intuition, and over time by recognizing certain locations and habitats. As he gains experience, the rabbit will become more sensitive to this particular threat in his environment.

It's when this sensitivity and awareness start to get out of proportion to the events in our lives - such as feeling anxious when we approach a busy city street, experiencing panic when we hear the sound of a car horn, or avoiding driving or getting into cars altogether - that the evolutionary benefits of sensitivity begin to take a toll.

This is due to the effects of unresolved trauma.

It's Time to Stop the Blame & Recognize the Research

It is time to stop dismissing people for being sensitive to stress or whose chronic illnesses begin following a stressful event.

It is time to stop shaming and doubting entire groups of people for seeming to be "too emotional" or because their symptoms are influenced by stressors of all kinds.

This way of thinking is inaccurate. It is stigmatizing. And it is based on faulty assumptions.

The long-term effects of trauma arise when there is an imbalance between the availability of resources, support and pleasurable experiences and difficult, overwhelming or life-threatening events.

It is time to incorporate what that we have learned about trauma and to begin to look at the origins, evolution and treatment of chronic illness from a broader perspective.

Because what we know about trauma holds a wealth of possibility and potential within it.

4. Why Understanding Trauma Matters

One of the most common questions I get asked when I introduce the possibility that ALEs may have played a role in the origins of a person's chronic illness is,"Why does it matter if trauma is a cause of chronic illness when I can't change what happened in my past?"

This is a very appropriate question because even our medical professionals do not know or realize that trauma and its effects can be healed.

It's also an important question because thinking or talking about traumatic events, even if they happened long ago, can be very painful, depressing and even invoke old feelings of overwhelm and helplessness.

These are normal responses.

Why it Matters if Trauma Affects Risk

The reason it is helpful to know whether ALEs have influenced your risk for chronic illness is that it is possible to heal from trauma.

This is true even if the trauma you experienced happened in the distant past.

Epigenetics and Trauma

When soldiers are treated and heal from PTSD their epigenetics change. This is because trauma affects our genes through a process that is designed to be adaptive and protective (Yehuda, 2013).

Epigenetics refers to tiny chemicals that attach to the surface of our genes to guide and direct their behavior by turning them on and off (Yehuda, 2013).

Epigenetics are part of normal healthy functioning and shape how our bodies grow and develop in infancy, through childhood and into adulthood (Francis, 2012).

Our bodies and brains are designed to be influenced by interactions with our environments as a way of preparing us for the world we will be born into and that

we live in (Schore, 1994). This is also why ALEs affect our developing bodies, especially very early in life but also throughout the course of our lives (for more, you can read my blog post on epigenetics and why chronic illness may be reversible).

The development of brain function is affected by selective strengthening of some neural pathways and the weakening or "pruning" away of others.

Pathways that are used frequently become stronger. They are stabilized through the addition of myelin, which is a substance that coats our neurons and makes the transmission of messages more rapid and smooth.

Life experiences, including trauma, shape these pathways as well as their development and function (Diamond, 1999; Doidge, 2015; Schore, 1994). Learn more in my blog post on pruning.

Interactions Between Life Experiences, Mind, and Body

The evidence that ALEs affect physical as well as mental health comes from

- over a hundred years of research in trauma (McFarlane, 2015).
- an increasing awareness of how the brain and body develop in the womb and throughout early life.
- new knowledge showing that life experiences mold our brains and bodies (National Research Council and Institute of Medicine, 2000; Schore, 1994).

Mind and body, brain, and physiology interact and influence one another.

Even though physical diseases and mental illnesses are treated as separate entities through the different specialties of medicine and psychiatry they are not separate.

And chronic illnesses affecting mental as well as physical health share common causes.

Epigenetics can be Altered

Epigenetics are modifiable throughout our lives.

Stress reduction, exercise and diet are some of the ways that epigenetics can be influenced, altered or reversed (Francis, 2012).

Healing from trauma is another (Yehuda, 2013).

Trauma Perspectives Offer a New Context

The fact that our brains and nervous systems influence our bodies and physiologies does not make the reality or the symptoms of chronic illness any less valid.

Nor does not mean that chronic illnesses are a form of somatization or that they are "all in our heads."

It means that we are more sensitive to our environments and to life experiences than we have recognized until now.

It also means that we are more sensitive to treatment approaches designed to heal the effects of trauma than we have previously recognized. This knowledge offers a host of potent new approaches for working with and treating chronic diseases.

To reiterate, our health is shaped by our life experiences. And the initiation, evolution and development of chronic diseases of all kinds are profoundly affected by these events as well.

Understanding trauma offers a new context for explaining - and working with - symptoms of chronic illness. It is a game changer for those of us living with chronic disease.

A trauma perspective of chronic illness

- removes blame, shame and judgment.
- invites compassion for ourselves and for others because trauma is something that happens to us, not something we choose.
- explains the role of stress before the onset of chronic illness.
- gives a context for understanding why some people develop chronic illness after certain stressors while others do not.

- helps identify links between triggers and symptom flares.

A trauma perspective also offers tools to potentially

- delay or prevent the onset of chronic illness, just as trauma treatment can prevent the development of PTSD.
- slow or prevent the worsening of a chronic illness or even reverse progression or worsening.
- reduce, delay, minimize and sometimes prevent symptom flares.
- decrease sensitivity and reactivity to stress.

The Benefits of Healing from Trauma

We are learning the following from people who recover from the effects of trauma, such as with the help of trauma therapy:

As we heal from trauma we become

- less sensitive to reminders of past trauma (also called "triggers").
- less reactive to stress.
- less prone to flares.

As we heal from trauma we also

- gain resilience.
- better withstand the challenges of everyday life.
- recover more quickly when we do experience stress.
- handle symptom spikes with less reactivity, fear or stress.
- improve more quickly following flares in symptoms.

You can learn more about ALEs and the treatment of trauma in Recommended Reading at the end of the book as well as on my blog. I will describe additional benefits in the section 6 "Approaches for Working with Trauma."

5. Recognizing if You Have Experienced Trauma

This section of the book presents 3 facets of trauma:

Types of trauma

Characteristics of trauma

Symptoms resulting from trauma

Learning more about each of these aspects of ALEs will help you get a better sense of whether you may have experienced trauma in your own life and whether it may have influenced your risk of developing a chronic illness.

As you learn more about ALEs in the following pages, see what resonates with you, what helps makes sense of your symptoms, or what validates hunches you may have had about the role of stress and trauma in your life.

Follow what feels helpful and let the rest go.

Remember that some experiences - such as war, abuse, and natural disasters - are more likely to be traumatic for most people. This is because such events are often inherently life-threatening. They are also events in which you or another person may be seriously hurt and where others sometime die.

What is important to remember is that not everyone experiences the same event as traumatic. And many people recover spontaneously from ALEs given enough time and support. Ultimately, it is not so much the event itself that is associated with trauma as the way it is *perceived* and *experienced*, that affects risk.

This means that everyone is affected differently by life experiences, whether big or small.

As you read the following pages honor the nonverbal cues you get, such as the quickening of your pulse, the stirring of feelings, or the sense of recognition that emerges when you read about certain types of ALEs, even if you do not have a clear memory.

Many ALEs are not held in our conscious awareness - either because they occurred at an age where the parts of our brains that are capable of consciousness were not yet fully formed, such as in prenatal life, at birth and in very early childhood - or because a common feature of trauma is to store information in forms of memory that cannot be accessed through our cognitive brains (Scaer, 2005).

Use your awareness to guide you as you read.

Allow yourself to:

- take breaks as you need them
- do something that gives you pleasure, is calming, or helps you relax
- seek support any time you need it

This is because even reading about trauma, as you may have already gathered in your reading so far, can elicit reactions in our bodies, emotions, thoughts and feelings.

You can learn more about symptoms in Ebook 2, Making Sense of Symptoms.

Types of Trauma

People who have a chronic illness have often experienced ALEs during many different periods in their lives.

These events have frequently been too subtle to recognize or seemingly too minor to give credence to. They may have also been suppressed or forgotten, which are common responses to overwhelming pain or grief.

There are different types of trauma that affect risk for chronic illness. These categories of ALEs are especially influential in shaping our physiology and health when our our bodies are undergoing tremendous growth or change, such as during early development and growth.

If you have a chronic illness give yourself the time to observe your reactions to the examples and types of ALEs that follow.

Give yourself time to consider whether you have experienced traumatic events in any or all of the categories.

Remember that there are ways of addressing and healing the effects of all of these kinds of ALEs.

These ways of working with trauma are not about reliving the event but about helping your system regain a sense of safety. These include ways of working with ALEs that are gentle and respectful, that follow your pacing, and that recognize the impulses that your body already wants to follow and express.

Trauma in Childhood

Adverse Childhood Experiences Plus (ACEs+)

One of the most significant areas of research linking trauma to an increased risk for chronic illness comes from studies looking at adverse childhood events or "ACEs" (Felitti, 1998 & 2014).

ACEs look specifically at 10 types of traumatic events in childhood that affect risk. These range from abuse and neglect, to loss of a parent to witnessing domestic violence.

Other types of adversity also affect risk - such as the loss of a loved one other than a parent, loss of a beloved pet, being bullied or harassed, falls and accidents, as well as hospitalizations and surgeries, among others. I build on the ACE name and refer to this group of risk factors as ACEs+ (adverse childhood experiences plus).

You can read more and learn about the research in my blog post introducing ACEs with an example from the movie "Boyhood."

For more detail, my other blog post on ACEs includes downloadableACE fact sheets to give your doctor and others (teachers, social workers, nurses, emergency workers etc), and 3 journal articles to share with your health care professionals about this research.

Trauma in Parent-Child Relationships

Adverse Childhood Relationship Experiences (ACREs)

Trauma that arises from strain in the relationship between children and their parents also affects risk for chronic illness (Maunder, 2001; Puig, 2012).

This type of trauma, known as insecure forms of attachment, developmental trauma or complex PTSD, is among the most overlooked and under-recognized categories of ALEs. This is mostly because it can be extremely subtle and appear completely normal to the outside observer.

Such experiences often feel natural to the person who experienced them as a child, especially when parents were not abusive but were perhaps very strict, depressed or anxious; or were preoccupied with work, finances or their own stressors and worries.

One of the tell-tale questions to help you identify whether you experienced trauma in your early relationships is:

"As a child, when you felt sad, upset or angry, was there anyone you could talk to – even when he or she was the one who had triggered your negative emotions?" (Mate, 2003, p. 128).

You'll find more detail and references on the role of this type of often subtle ALE in my blog post about "invisible ACEs."

Adverse Babyhood Experiences (ABEs)

Stress and Trauma in Prenatal Life

Events that parents or babies experience in the few years before conception and during pregnancy also affect risk for chronic illness (Nathanielsz, 1999; Wadhwa, 2009).

Prenatal stress, as it is commonly referred to in the literature, is frequently an experience that is life-threatening to the fetus given the degree of utter dependence and vulnerability a prenate has at such an early stage of development.

Prenatal stressors are therefore often a form of trauma. Examples include illness in mother or baby, threatened miscarriage or premature delivery, as well as parental experiences of ALEs during pregnancy, such as accidents, financial and work-related stress or experiences of domestic violence.

Trauma Around the Time of Birth

Of all the eye-opening research I have learned about since leaving medicine this is the area that has been the most revealing to me.

As a doctor I assisted hundreds of women in the birth of their babies. I often wondered about long-term effects of especially difficult labors, illness in moms or their babies, and the need for medical interventions. I was also concerned about the nonchalance with which we sometimes used such interventions for convenience rather than necessity.

It turns out that events occurring just before, during and after birth have a profound impact on a baby's physiology. These natural events, which include the spontaneous onset of labor, travel through the vaginal canal, and a quiet period of increased alertness immediately after birth, are designed to facilitate the transition from the womb to the outside world. They support the tremendous changes that happen during this time.

Interruption of these events affect lung function, gut development and gut flora, the developing immune system, as well as the brain's leanings towards states of rest and recovery versus fight, flight and freeze.

ALEs during birth also indirectly affect long-term health by influencing the ease with which parents and newborns bond, as they are inherently designed to do. This bond also influences health.

Events that might act as ALEs for babies include

- prolonged or complicated labors.
- the need for resuscitation, assisted breathing or incubators.
- illness in mom or baby before, during or after birth.

- loss of a twin.
- medical interventions such as the use of medications to start or stimulate labor.

All of these factors turn out to be important in long-term health (Klaus, 1976).

This is in large part because of the tremendous amount of physical change that babies' bodies undergo during this huge life transition in which changes occur in the lungs, heart, gut, brain and other immature organ systems (Changeux, 2012).

Adverse Multigenerational Experiences (AMEs)

ALEs influence the health of future generations, including our children to grandchildren and perhaps later generations as well (Yehuda, 1998).

This occurs both through epigenetics (Paterson, 2013; Yehuda, 2014) as well as because ALEs can decrease the ability of parents to be responsive, nurturing and connecting (Klaus, 1976) with their children as well as with their spouses and other family members.

AMEs include any type of trauma that our ancestors have experienced, such as

- living through WWII or the Holocaust.
- serving in the military.
- experiencing abuse, especially during childhood.
- having a difficult birth of their own.
- losing a sibling or other loved one early in life.
- experiencing bankruptcy, accidents, mental or chronic illness and other ALEs.

Adverse Pre-Onset Experiences (APOEs)

Stress or Trauma Before Onset of Chronic Illness

Many people with chronic illness can identify a specific event or stressful time period that occurred before the onset of their symptoms. This may have involved

caring for a loved one during a prolonged illness, a car accident, job loss or a cross-country move, or other ALE.

Triggers of onset also include positive events such as marriage or job promotion, which can also be stressful (learn more in the following section on the characteristics of trauma).

Immunizations, infections and toxins are also frequent triggers for the onset of chronic illness. While they may contribute to risk due to their direct effects, they can also serve as stressors to a system that is especially sensitive, susceptible or in which an evolving predisposition towards chronic illness has been developing for some time.

Stressful events that trigger the onset of chronic diseases are often the last in a series of events rather than the cause of a chronic illness.

Adverse Institutional Experiences (AIEs)

Institutions are created by people and are informed by the degree of understanding we have about the effects of trauma and adversity.

Hospitals and medical care are often oblivious to how past traumas can make us more sensitive to invasive procedures, being doubted and disbelieved, or being told we are faking our illnesses. Such experiences can be traumatizing. So can experiences in many other institutions such as foster care, the school system, insurance companies, how we deal with immigration and keeping families together or separating children from parents etc.

Experiences of discrimination, judgement, and ostracism occur for many reasons based on personal characteristics such as

- gender
- race
- physical ability

- ethnicity
- religion
- sexual orientation
- body appearance
- and more

All of the types of adverse institutional experiences (AIEs) presented here are forms of systemic trauma. These are also risk factors for chronic illness.

So if you have a family history of exposure to slavery, the holocaust, lobotomies, adoptions or serious chronic diseases requiring hospitalization or if you represent a group that has been disempowered throughout the years or decades,your everyday experiences can be risk factors.

As with the other types of trauma, it is possible to begin to heal.

Trauma at Other Times in our Lives

Traumatic events that occur after childhood and before the stressor that triggers the onset of chronic illness also influence risk. This category is a “catch-all” for the ALEs that occur at times in our lives other than those distinct periods that have been previously mentioned.

These events include accidents and surgeries, war and loss, assault and near drownings and other experiences of trauma.

The effects of these ALEs are additive.

As such they, too, promote the growth of the undersea volcano.

Remember that even if you have experienced trauma, even if it happened long ago such as in childhood or at birth or in your ancestors’ lives, there are ways of healing from its effects.

You'll find more information, suggested reading and links on my blog and at the end of this book.

Characteristics of Trauma

There are many well-recognized characteristics of trauma that are also experienced with great frequency in people who develop chronic illnesses of all kinds. Following are some of the most well-known.

Triggers

Triggers are reminders of past traumatic events that stimulate old, as-yet unresolved reactions such as fear, the onset of sweating, or increases in heart rate.

Reminders of combat, such as hearing fireworks or the backfire of a car, for example, can trigger the onset or flares in symptoms of PTSD in a war veteran (Yehuda, 2015; McFarlane, 2002).

The same is seen in chronic illness, in which triggers often precede the onset of the disease as well as symptom flares.

Cumulative Effects of Trauma

We are more likely to experience the effects of ALEs with events that are more intense, more overwhelming, or more frequent. This occurs when we feel we are in greater danger, when someone involved in the same event is seriously hurt or dies, or when exposure takes place repeatedly or over a long period of time.

We are also at greater risk of developing symptoms such as PTSD or a chronic illness as we experience a higher number of ALEs. The age at which a chronic illness develops decreases as we experience a larger number or higher intensity of ALEs.

Soldiers who serve multiple tours of duty or who are exposed to combat for long periods of time have a greater risk of developing symptoms of PTSD (Yehuda, 2015). Similarly, the greater the number and types of ALEs that a child

experiences, the higher the risk they have of developing a chronic illness later in life (Felitti, 1998). The same is true over the course of our life times.

The Timing of Trauma Affects Risk

The time frames when physical organs and the nervous system are especially sensitive to the influence of their environments are known as critical periods (Rice, 2010).

Exposure to ALEs during the formation of egg and sperm, as well as during periods of rapid development of the brain and other organ systems, influences the trajectory of growth and how that organ will function in response to stress and other life events (Nathanielsz, 1999; Schore, 1994). As a result, the timing of exposure to stress or trauma has an impact on the type of chronic illness a child may develop (Schulz, 2010; Wadhwa, 2009).

Children born to women who experience ALEs during the first part of their pregnancies, for example, are at risk for different types of chronic illnesses than when their mothers are exposed to trauma late in their pregnancies (Francis, 2012; Nathanielsz, 1999).

Resources ("Buffers")

Resources are experiences that support our sense of safety and of feeling capable. They may be positive events, such as experiences that gives us joy, and can also be the result of successful navigation of stressful experiences, such as alluded to in the example of feeling accomplishment on successfully reaching the other side of the busy city street.

Resourcing experiences are also protective and counteract the effects of ALEs. Resources can therefore decrease risk, delay onset or even prevent the development of PTSD (Lehrner, 2016, McFarlane, 1987) or chronic illness (Rabkin, 1976).

For this reason resources are also called "buffers" in the trauma literature and in research in different chronic illnesses.

Resources include supportive caregivers, family closeness, protective and responsive parents in childhood (Hillis, 2010).

In difficult early environments the presence of a single attuning and helpful adult can be a protective buffer against the effects of trauma.

Other examples of resources include:

- loving relationships in adulthood
- engagement in hobbies and passions
- satisfying connections and time with our spouses, families or friends
- access to nature
- the enjoyment of a good book or movie

Resources are helpful in the treatment of PTSD as well as in working with symptoms of chronic illness.

Chronic Illness is not Inevitable After Trauma

We are inherently designed to heal and recover from the effects of stress and trauma. As a result, not everyone develops PTSD or chronic illness following stress or ALEs (Rabkin, 1976).

This is also because

- a person may not be at risk of developing a chronic illness if he or she does not experience stress or trauma during critical periods early in life (such as in prenatal life, around the time of birth or as a result of multigenerational trauma).
- a person who has a genetic or other predisposition to developing a chronic illness may not experience a sufficient number of stressful and traumatic events during their lives to turn such genes on (or off) or to promote the evolution of symptoms.
- the availability of resources or buffers may have protected an individual from experiencing an event as traumatic or stressful and therefore from experiencing any negative effects.
- healing from the effects of trauma may have occurred as a result of treatment, which can prevent evolution or progression of effects.

- seeming difficult events may not have been experienced as difficult, traumatic, or triggering.

The Experience of Trauma is Different for Everyone

The qualities that make an experience traumatic are complex.

We are influenced by factors such as the different types of ALEs we have experienced, the presence of buffers, as well as by our personalities and genetic make-up.

In short, the experiences we live through influence the way we experience the world. This includes how we perceive and assess the present moment and how our bodies and brains respond to potentially difficult events in our lives (Yehuda, 2015).

The nuances that make our perceptions of life experiences unique are some of the reasons that studying the effects of trauma can be so challenging. It is also why research exploring the role of ALEs as risk factors for the development of chronic disease has been so challenging and has so often come up with contradictory results or an apparent lack of association.

The Freeze Response

Trauma results from events that are so overwhelming or where there is so little time or support that we experience a freeze response rather than, or in addition to, fight and flight.

While we are designed to move through the freeze response, this process can be interrupted or prevented (Levine, 2010; Scaer, 2005; van der Kolk, 2014).

It is the inability to recover from the freeze response that leads to symptoms over time (Levine, 2010; Scaer, 2005; van der Kolk, 2014), including chronic illness.

Stress Before Onset

Stressful or traumatic events can trigger the onset of chronic illness.

What constitutes a stressful or traumatic event is unique to each person and is based on past experience. This is why the kinds of events that precede the onset of chronic illness are so variable and so different for everyone.

Events That Trigger Onset of Chronic Illness Are Not Always Stressful or Traumatic

Events that trigger the onset of chronic illness are not always stressful, overwhelming, or life-threatening. This is because such events may be ***triggers,*** which are reminders of past traumatic events and not inherently stressful or traumatizing in and of themselves (Yehuda, 2015).

Experiencing a near miss years after surviving a serious car accident is an example of the kind of event that serves as a trigger and that can stimulate the onset of chronic illness in some individuals. Unexpectedly coming upon a former childhood abuser at a family gathering is another.

Events That Trigger Onset Are Not The Cause

The stressful event that precedes the onset of PTSD or chronic illness ***unmasks*** symptoms that have been evolving for some time.

It is not the cause of symptoms (Kulkov, 1932 citing Roussy, p. 364; Poser, 1986; Rice, 2000).

This is how a final stressor contributes to growth of an existing trauma pattern or "volcano" to makes the tip rise above sea level and become visible as PTSD or chronic illness.

The ways in which difficult life events unmask a pre-existing process is why stressful events do not all lead to chronic illness; why the same kind of event (such as electrical shock or surgery) do not all lead to a particular disease; and why ALEs do not cause the same disease or the same symptoms in everyone.

Delays Between Trauma and Onset of Chronic Illness

There is often a delay of days, weeks and sometimes months or years between a traumatic or stressful event and the onset of symptoms of PTSD. This time delay is called a latency period (McFarlane, 2015).

Latency periods are also commonly seen in chronic illnesses of all kinds, which can begin hours or weeks, months or years, and sometimes decades after a stressful or traumatic event.

The latency period is the result of the time it takes for groups of neurons to strengthen and wire together as they learn to execute new functions. These new functions result from the nervous and other organ systems developing increasingly accessible pathways to fight, flight and / or freeze following trauma.

The process by which pathways and symptoms develop tends to occur more slowly and to take more time if ALEs occur in the form of small or infrequent events. A younger age of onset or more rapid development of symptoms can occur when ALEs have been more intense, more frequent, or prolonged.

The process by which the body learns new ways of responding to its environment is similar to the time it takes to learn any new skill, such as how to ride a bicycle, for example.

This emergent process is what grows the volcano. In the trauma literature, it is referred to as “kindling,” in reference to the small sticks and twigs that make it easier to grow a campfire. Once the bigger logs catch, the fire grows, is more easily sustained, and becomes more difficult to extinguish.

The inability to explain the variable and sometimes lengthy latency periods between ALEs and the onset of PTSD or chronic illnesses such as Parkinson’s (Grimber, 1934; Kulkov, 1932; Smith, 2002) has been due to a lack of familiarity with what is a well-known characteristic of trauma.

It is Possible to Heal the Effects of Trauma

Healing ALEs involves a process of reversing states of hypervigilance and freeze (Levine, 2005 and 2010; van der Kolk, 2014).

This occurs by repairing the brain's false perception that it is still facing threat.

There are many ways of healing from trauma and I will introduce you to the process briefly in Part 6. You can also learn more in a blog post on Therapies for Healing from Trauma and in the section on recommended reading at the end of this book.

Most of the approaches for healing from trauma remain unknown in medical settings. This is in part due to a lack of understanding of trauma and its effects. It is also due to the mistaken belief that the effects of ALEs are limited to emotional and psychological symptoms and thus relegated exclusively to the field of mental health.

Symptoms of Trauma

This book introduces the view that the biological, cellular, immune system and other physiological processes that drive symptoms of chronic disease are a consequence of trauma.

That the physical symptoms of chronic illness reflect the ***effects*** of trauma and stem from altered perceptions by the brain.

It proposes that the false perceptions resulting from unresolved trauma are the basis of extreme states of defense and self-protection that, in some individuals over time, evolve into chronic illness.

This perspective holds that these very real, unconscious, intelligent attempts at adaptation and survival following ALEs represent changes in brain states rather than being the result of defective or broken bodies.

These changes are facilitated by multiple mechanisms, including epigenetics.

This paradigm contends that trauma can lead to symptoms in all areas of our health - including physical, behavioral, emotional, psychological and biological.

What this means is that people who suffer the effects of trauma often have symptoms in many or all of these areas of their health. It means that people with

chronic illness often experience well-known symptoms of PTSD alongside their very real physical and biological symptoms of chronic illness.

This is because we cannot separate mind and body, brain and physiology.

The context provided by what we know about trauma helps explain symptoms that have long made little sense in medicine.

Following are some of the symptoms that are recognized as common effects of trauma.

They are also frequently experienced by people with chronic illnesses of all kinds.

To reiterate, this is because chronic illness, like PTSD, can be the result of unresolved trauma and not because emotional or psychological effects of trauma are themselves the cause of chronic illness.

If you experience some or many of the symptoms listed in the following pages, have experienced one or more of the different types of ALEs, or recognize characteristics of trauma in your everyday life, it also means that healing from trauma can offer many benefits in your process of managing, reducing, and improving your symptoms of chronic illness.

Common Symptoms of Unresolved Trauma

Examples of symptoms resulting from unresolved trauma include (Yehuda, 2015)

- depression and anxiety, which are two of the most common symptoms associated with unresolved trauma.
- emotional numbness or detachment.
- feelings of isolation or of being alone in the world.
- hypervigilance.
- nightmares, flashbacks or distress when thinking of ALEs.
- difficulty resting and digesting, sleeping, and “settling,” even when life has slowed down and things don’t seem stressful.
- brain fog / loss of mental clarity.

- fatigue.
- increased sensitivity to light or sound.
- increased sensitivity to social interactions.
- increased sensitivity to stress.
- lack of motivation, such as in work-related tasks, interactions with friends or family, or in self-care [these are common symptoms of a freeze response (Alonzo, 2000)].
- difficulty making or sticking to lifestyle changes such as alterations in diet or exercise [these can come from repeated failures to gain benefit from such changes, which often require a great deal of will power and effort; they may also arise as an expression of the freeze response (Alonzo, 2000)].
- fluctuations in cortisol levels, which are common after ALEs. Cortisol levels are often high with stress. Low levels of cortisol are a characteristic of the freeze response. Low levels are often seen in the acute aftermath of ALEs when there is a history of prior trauma. They are also a late effect of trauma and sometimes seen with a history of multigenerational trauma (Lehrner, 2016).
- addictions are a common and poorly recognized effect of ALEs that reflect intelligent albeit ultimately unsuccessful attempts to alleviate emotional or physical pain (Mate, 2010; Felitti, 2014). Examples of trauma-related influences on behavior include addictions to
    - work, exercise, or food.
    - alcohol and other substances.
    - staying busy.
    - hoarding, and more.
- feeling “wired but tired” or a sense of simultaneously having one foot on the gas (a state of fight/flight) and one foot on the brake (the freeze response) is a characteristic of trauma. Trauma decreases the ability to shift between states of survival and states of ease even when threat is no longer present.

- swings in blood pressure, emotions, symptoms, cortisol levels and more - from high to low and back - are a common effect of ALEs. This is known as alternating between states of fight / flight and states of freeze. It is due to decreased nervous system capacities to regulate between survival states of fight/flight / freeze and baseline states of ease.
- feelings of discomfort, anxiety, or stress when slowing down or trying to rest or relax.
- negative beliefs, often subtle, such as “I am not good enough,” ”I am a failure,” “I am not lovable” or “I can’t.”
- difficulty forming long-term relationships or connecting to others in ways that feel nurturing, satisfying and supportive.

Note that the symptoms, feelings and beliefs described above are not the *cause* of chronic illness as has been frequently believed and as has been used to judge individuals with diseases of all kinds.

Rather, the wide range of symptoms presented above, as well as chronic illness, are *effects* of ALEs.

You can learn more about symptoms in Ebook 2, Making Sense of Symptoms.

6. Approaches for Working With Chronic Illness

If you or a loved one has a chronic illness and suspect that trauma has played a role in your risk of developing your illness, you are not alone. You are not a failure or "too sensitive." You are not crazy or "the problem."

Your chronic illness is not psychological. And it is not your fault.

The effects of trauma are real. And the findings that ALEs affect risk for chronic illness means that there is hope.

Over a hundred years of research in the field of trauma have shown us that the effects of ALEs are not limited to PTSD and psychological wounds (McFarlane, 2015).

Trauma affects the body as well as the mind.

It affects the brain and nervous system as well as our emotions.

And it affects our physiology and our genes as well as our behaviors and long-term relationships.

If you cannot remember significant ALEs in your life it is possible that such events are not accessible to the thinking part of your brain. This is a common protective effect of trauma. It also occurs when ALEs happen early in life before the brain structures capable of forming memories that can be accessed through conscious recall have formed.

If you've had few traumatic experiences your risk may also have been influenced by multigenerational trauma, which is often held in the form of family secrets because trauma can be so difficult to talk about.

Healing from trauma is about emerging from states of suspended animation and freeze as well as states of overactive fight and flight.

The effects of healing old wounds are about coming back to life.

Feeling alive means connecting with the parts of ourselves that we have had to relegate to the shadows.

It is about experiencing nurturing and enjoyable relationships with others. About being able to appreciate and find the beauty in the little things, such as the feel of a breeze on your check, the rustle of the first leaves of spring, or the smell of a rose.

There are specific, direct, and effective ways of addressing the effects of ALEs. These are important approaches to consider if trauma has played a role in shaping the evolution of your chronic illness.

What Gets Healed

The effects of unresolved trauma provide highly directed cues that guide the process of healing. These cues are specific to each person and are based on each individual's unique set of past experiences.

Healing the effects trauma is not about reliving an event but about accessing the underlying health that exists in all of us. It is about helping our nervous systems recognize that we really did survive. That we made it. And that it's over.

When the brain receives the information that it really did escape and that threat no longer exists, it shifts back into the present moment. When our unconscious finally knows that the threat is gone our bodies settle into their baseline states of ease and capacity for rest and recovery, connection and safety.

The Benefits of Healing Trauma

Working with trauma can offer benefits very quickly even as it may take time to work through the complex layers that accumulate with time.

Healing from ALEs decreases our sensitivity to stress. It provides a broad context for understanding symptoms. And it helps us begin to recognize triggers.

It offers a perspective for coping with the daily ups and downs that are part and parcel of living with chronic illness.

Over time, healing from ALEs makes it easier to cope with as well as manage symptoms.

It helps us decrease the risk of flares and reduce their intensity and duration. In time, it also helps us gain the capacity to begin to prevent some of them or nip them in the bud very quickly after they start.

Recovering from ALEs complements other treatment modalities commonly used for working with the symptoms of chronic illness. These include stress reduction techniques such as mindfulness practices and meditation, as well as diet and exercise.

Healing from the effects of trauma can make other approaches we use more effective. It can also help us gain clarity about when to try something new, when to tolerate side effects, and when to try something else. And it can be used in conjunction with medications, alternative therapies and more.

Treating Symptoms By Healing Trauma

The following are more specific benefits that can be gained by healing the effects of unresolved trauma. Treating trauma can

- reduce your anxiety and sensitivity to stress, which are often stimulated by subtle reminders of past events rather than being ordinary responses to current events.
- increase your access to energy, joy and resilience by releasing the often inhibiting energies of fight and flight (this is where the sense of aliveness can hide).
- restore your capacity to tolerate bright or fluorescent lighting.
- repair your ability to tolerate sounds and noise.
- enable you to appreciate or recharge from select social interactions.

- soften the moments of rage or irritability that may come unbidden over seemingly little things.
- improve your ability to sleep, rest, and relax.
- support your ability to be in safe, meaningful relationships.
- allow you to think and talk about past traumatic events without the emotional charge or distress that accompanies reminders of such events. This is not because trauma therapy makes you numb but because it alleviates the fight / flight / freeze patterns of survival that are aroused when talking about unresolved traumatic experiences.
- help you recognize triggers, which is a big step in the process of beginning to heal.
- enable you to identify resources, which is another supportive step in the process of healing.
- reduce emotional and physiological reactions of distress (anxiety or rage, panic or sleeplessness, palpitations or gut dysfunction, etc).
- facilitate your ability to dip into sometimes difficult emotions without getting overwhelmed by them.
- provide a context for understanding many of your symptoms, the timing in which they emerge, and / or the triggers that stimulate their onset.
- explore your hopes, fears and longings by seeking the intelligence inherent within them from a place of curiosity and nonjudgment.
- grow your sense of self, self-empowerment and self-compassion by healing the boundaries that get crossed or invaded as a result of ALEs.

Tools for Working With Trauma

The following are a few approaches for understanding, addressing and resolving trauma.

The Trauma Perspective is a Tool

Understanding how to recognize trauma and its effects is empowering. It guides and helps us refine our inherent capacities to heal from the effects of ALEs. It is a source of reassurance. And it is calming to have an explanation for patterns we see with our symptoms and with reactions we have to current events.

These are tools that help us in the process of working with symptoms of chronic illness.

The trauma perspective also enables us to develop skills for healing from trauma. These skills include

- understanding and making sense of symptoms and flare-ups.
- recognizing emotions, behaviors and symptom flares that stem from the past rather than from the present.
- telling the difference between acting in response to present moment experiences and reacting to reminders of ALEs.
- recognizing and taking in the support of resources, including from other people.
- allowing ourselves to follow impulses for pleasure even if they seem "frivolous."
- gaining the capacity to slow down and feel appreciation, gratitude, joy, or peace from the little things.
- coming back into connection with ourselves, with loved ones and with the present.

These and other skills and tools help us take charge of our lives with chronic illness, as we so often long to do. (See more detail in existing blog posts such as 10 Tools for Working with and Healing from Trauma.)

Trauma Therapy

Trauma therapy is a way of working with the brain to restore balance and recovery.

It is about reinstating the nervous system's innate capacity to change states with ease based on current experiences rather than triggers from the past.

Trauma therapy is a powerful way of working with symptoms that do not respond to anything else. And it is a potent tool for addressing the root cause of symptoms of chronic illness.

It is a gentle, efficient and direct way of working with each of our own unique and very specific physiologies and symptoms, sensitivities to stress, and reactions to triggers.

While I focus on trauma therapies in this book there are many different approaches for healing that have not been incorporated into medical care or in the treatment of chronic illness but that fit the trauma perspective. These work with brain plasticity.

As you explore new options for healing allow yourself to look for approaches that feel like a good fit *for you*.

Somatically Based Trauma Therapies

Among the many tools for healing from trauma are the somatically based trauma therapies. Somatic approaches for addressing trauma work with information that is held in the body. They look for the natural process of healing that already exists. And they focus on the body through attention to sensations and impulses, emotions and needs, behaviors and thoughts.

These represent the nonverbal layers where the effects of trauma are maintained.

Such approaches include Somatic Experiencing (SE), Sensorimotor Psychotherapy, "Brain Spotting" and EMDR (Eye Movement Desensitization and Reprocessing). These forms of therapy harness the intelligence of the nonverbal and unconscious patterns that form in our bodies and nervous systems as a result of unresolved trauma.

They can complement cognitive behavioral or talk therapies, which focus on the conscious process, on will power, and on education.

But they are not the same.

You'll find more information about approaches for working with trauma on my blog page "Therapies for Healing from Trauma." This page provides an overview of a few of the therapies mentioned earlier. It also contains links to websites for each of these modalities and to lists of trained and qualified health care professionals who practice these modalities around the world.

You'll also find suggestions on how to look for a therapist that is a good fit for you at the bottom of that page. (See an example of what working with trauma looks like in a post on my blog about a dog named Kane).

Here is a blog post of books for understanding trauma, working on your own, and for inspiration with stories of healing (see Dr. Norman Doidge's 2015 book, "The Brain's Way of Healing" for such stories and additional methods people have used for healing).

Working with a Trauma Therapist

If you have a chronic illness it indicates the presence of an undersea volcano of relative complexity.

It suggests that you have probably experienced a number of ALEs, both in the recent as well as the distant past. This generally takes more time to work through than a single event.

I have found it profoundly helpful and supportive to work with the compassionate guidance of a trained trauma specialist. This is the case even as I acknowledge that it can feel like one more task to add to an already extensive list of to-dos or like one cost too many in the process of working with chronic illness in our daily lives.

Working with a skillful therapist, however, can be one of the most supportive, rewarding, encouraging and healing gifts you can offer yourself when living with the symptoms of chronic illness.

If trauma appears to have played a role in the development of your chronic illness consider incorporating a trauma-based approach to healing as a critical treatment modality in your life.

Be patient and allow yourself to search for a therapist just as you would for the right home or for the right teacher for your child.

Give yourself the time to look until you find someone who really understands trauma, who is able and interested in going at a pace that works for *you*, and with whom you feel sufficiently comfortable and respected. Allow yourself the time to find a person and a modality that feels like a good fit for you.

Working with Trauma on Your Own

One of the resources I have gained from working with a trauma therapist as well as from learning about trauma is that we all have impulses that enable us to chip away at the effects of trauma in our everyday lives.

These impulses can take time to emerge following traumatic events. And they may arrive so softly that we don't recognize them at first. But they are a part of the underlying and innate drive for health and healing that exists in all of us.

Impulses for healing often show up as a desire for pleasure.

This desire may be to make art, such as by drawing, painting, scribbling or working with clay. It may emerge as a longing to spend time in nature, to read a favorite old book, or to spend time with a friend. Impulses can also arise to indulge in hobbies, passions or creative projects.

Telling your story is another tool that supports healing. This can be something you do in a private book of notes, such as in a journal. It may take the form of sharing parts of your story with a trusted friend. It may also arise from writing fiction or engaging in a creative project.

We have a tendency in our culture to consider some of these impulses as frivolous or wasteful. But the desire to indulge in tasks that have no purpose or goal is one of the paths our bodies and minds use in order to heal.

This is a “nonlinear” path.

It is guided by a deep wisdom that is held deep inside each of us. It is about listening rather than fixing, “figuring it out,” or pushing through.

A series of exercises for working on your own is presented by trauma specialist Dr. Peter Levine in “Healing Trauma.” It is available as a book and as an audio file as well as in an online course.

Taking Your Time

As we arrive at the end of Book 1, remember that the trauma perspective is here to help, not to add to your burden or to your list of things to do.

Take your time to digest the information, to mull it over, to read over what may not have been clear.

Then see whether working with trauma is something that feels relevant or potentially helpful to you.

It can take time to feel ready to take a next step.

Know that there is no rush.

Allow yourself to take the time that you need.

Recall that pacing ourselves is actually a tool for working with trauma. It’s about giving ourselves time and space.

Time to learn about options, let things integrate and sink in. Space to allow the process to inform us so we can make our decisions from a place of curiosity and impulse, clarity and nonjudgment. As we are ready.

7. Stories of Healing

The following stories and research offer examples of how adverse life events (ALEs) affect risk for chronic illness.

They also show how healing the effects of trauma can actually improve health.

As you become more familiar and gain an increasing understanding of trauma and its subtleties that we tend to overlook - in medicine, in society, in our culture - you will begin to recognize ALEs and their effects more easily.

You will start to make sense of events that “didn’t seem that bad” in your life and in other people’s lives, but that may still have influenced and shaped your health.

Such events could include having had a difficult birth, having been bullied as a child or told you were “the problem;” whether you were abused physically, emotionally, or sexually; were hospitalized, had a fall or other accident, and more.

In the following personal stories and research, you will find examples of people who have decreased their symptoms, learned to manage symptoms in more effective ways, or who have greatly improved and sometimes even recovered from a chronic illness.

Over time, you will also begin to recognize patterns and symptoms, as well as examples of healing in the news, on TV, in movies and in those around you.

These journeys inform our own.

They are paths that offer inspiration and show us that there really are new, powerful, and informed ways of treating and healing chronic illness.

Asthma

Psychologist Tony Madrid has discovered that a significant number of children with asthma have experienced some form of trauma in early life.

Their asthma is often linked to difficulties mothers or babies experienced during pregnancy.

Trauma and stress experienced in pregnancy can interrupt a mother's natural and innate ability to bond with her baby.

Separation of a mother from her baby at birth can also interrupt this bond.

What Dr. Madrid found was that emotional or physical separation can occur from all kinds of events that take place outside of a mother's control.

Tony also discovered was that when he treats mothers for difficulties they encountered during pregnancy, in labor or when giving birth, or just before the onset of their childrens' symptoms their childrens' asthma improves.

In fact, it often resolves.

This is an example of a very direct connection between early trauma, a frequently serious chronic illness and the power of trauma resolution.

Recent studies have also shown that such events alter our genes, so it's not psychological - neither for mothers, nor for babies.

You can learn more about Tony's research and treatment approach in a post on my blog, on his website "Asthma Busters," in his book (Madrid, 2010), as well as in his research studies (Madrid, 2005 & 2006).

Autoimmune Disease

Journalist Donna Jackson Nakazawa is the author of Childhood Disrupted*: How Your Biography Becomes Your Biology, and How You Can Heal* (2015).

In her book, Donna describes the science of stress and a focus on "toxic stress," which is a term used for trauma in childhood.

Her curiosity stems from her own experiences with life-altering and debilitating autoimmune and other chronic diseases. These include:

- Guillain Bare Syndrome, which left her with numbness and weakness that made it difficult to conduct daily activities, climb stairs and be an involved parent
- a serious blood disorder, which her father also had, suggesting an underlying genetic factor
- thyroiditis
- chronic fatigue
- seizures
- severe eczema (an inflammatory skin disorder)
- a long-standing heart arrhythmia that required the placement of a pacemaker in her 20s.
- irritable bowel syndrome, headaches & other symptoms

Donna first embarked on her journey after an unexpected encounter with a new doctor, who asked her if anything significant had happened in her childhood.

In asking this question, her doctor had been acting on information garnered from a Kaiser-CDC study of over 17,000 adults finding that exposure to 10 specific types of adverse childhood experiences (ACEs) significantly increase risk for chronic physical and autoimmune illnesses of all kinds.

Her doctor was referring to the hundreds of ACE studies that have been conducted since the first study in 1998 (You can learn more about ACEs in chapter 5 of this book as well as in a detailed post on my blog).

The question took Donna by surprise.

Like most of us - and most health care providers even today in 2018, 20 years after the first ACE study - she had never heard of ACEs.

Her doctor's question, however, helped Donna begin to recognize just how deeply she had been affected by her father's unexpected death when she was 12 years old. The loss of a parent is one of the types of trauma evaluated in the ACE study and found to increase risk for chronic illness later in life.

Over the course of a year Donna explored practices in mindfulness, meditation and yoga along with other approaches to healing.

The realization about the extend of the impact from her father's death as well as the tools she began to implement, started to change Donna's life - and her health.

She learned that being left to her own devices to essentially fend for herself from the ages of 12 to 18 had been a significant experience of loss and trauma in her life.

As the year progressed, Donna began to feel more peace and joy in her life.

She became more compassionate with herself.

Her markers of inflammation decreased from 96, which is severe, to 33.

Her blood cells began to normalize even though she had the same problems her father had had.

Science is showing us that even though genetic factors can be transmitted across generations to affect health, these genes must be turned on or off to exert their effects. A

diverse life events are one of the factors that turn genes on and off.

Healing the effects of trauma and stress are tools that can reverse these epigenetic changes and that can sometimes make genes inactive and stop their negative effects.

Donna regained her ability to climb stairs and take walks.

Her baseline levels of energy improved.

The effects of her autoimmune disease, which left her with limitations following her episodes of paralysis, began to reverse.

Donna's book provides an exquisite example of how healing the effects of trauma in childhood can lead to changes in health, including chronic illness.

You can read a synopsis of Donna's book on ACEs too High as well as the outpouring of comments it engendered from people in all stages of healing who realized that their health had also been affected by unrecognized trauma.

Multiple Sclerosis

Ann Boroch, a naturopath who cured herself of multiple sclerosis (MS) and now teaches, treats and helps others do the same, has a primary focus on diet.

In her book she also mentions having addressed the effects of childhood trauma associated with her parents' divorce and other challenges (Boroch, 2015). Loss of a parent through divorce is an adverse childhood experience (ACE), and known to increase risk of chronic illness later in life.

Dr. Boroch's story is another example of how resolving traumatic events may be an important component of healing from chronic illness. And that there are many approaches to healing, including diet.

Parkinson's Disease

In his book on the plasticity of the brain, psychiatrist Norman Doidge describes how World War II veteran John Pepper has been managing his symptoms of Parkinson's through a program devised by John himself (Doidge, 2015).

John has a significant history of multiple types of trauma beyond his service in WWII, which may have affected his risk of developing the disease.

His approach has been to get active and to "mobilize."

He's learned how to how to rest, how not to push too hard in his regimen, and how to keep his stress levels down.

John Pepper's approach has also involved becoming very mindful - of his gait, of patterns associated with his tremors, of how his body works or does not work well - and to note each of these issues with focused concentration.

Mobilizing and mindfulness are also traditional tools in the healing of trauma.

John Pepper's process has been sufficient to maintain many of his abilities to move, see, and hear rather than becoming immobilized or "frozen," which is one of the hallmarks of Parkinson's disease and which becomes more prominent over time.

This state of freeze in Parkinson's may very well be an expression of unresolved trauma.

When John has had to slow down or stop his activities due to an acute illness or injury, his symptoms have worsened. Resuming his practices has, more than once, enabled him to regain function again and have thus reversed symptoms.

John's story is an example of the malleability of our brains, nervous systems and bodies.

As a reflection on how much our bodies can change and improve according to the principles of brain plasticity that are now being discovered.

It's also a powerful example of how many ways there are to slow the worsening of a disease. to heal and to even reverse symptoms.

John's improvements have continued despite having had Parkinson's for 50 years.

Type 1 Diabetes (T1D)

The Difference One Person Can Make

Supreme court justice Sonia Sotomayor developed type 1 diabetes (T1D) in childhood.

Type 1 diabetes (T1D) is the less common form of diabetes, believed to result from the autoimmune destruction of insulin-producing cells in the pancreas. Individuals with this type of diabetes have little to no insulin and need to inject insulin in order to survive.

History of Trauma

Justice Sonia Sotomayor experienced many types of trauma.

She has an ACE score (adverse childhood experiences) of at least 5, including:

- her father was an alcoholic and died when Sonia was 9 years old (one ACE for each of these experiences)
- her mother avoided being home with him and therefore spent little time caring for her children. She was so depressed after his death that she locked herself in her bedroom for weeks while Sonia and her brother took care of themselves (3 more ACEs: parental depression (mental illness), emotional neglect, and physical neglect)

These experiences also meant that even though Sonia's parents loved her, they were not available to help her emotionally, to connect with her and her brother, nor to offer support and the safety of physical and emotional presence.

Emotional neglect and lack of physical presence are also an example of a different kind of trauma - the kind that occurs in the parent-child relationship aka adverse childhood relationship experiences (ACREs).

Acres are also a risk factor for chronic illness and autoimmune disease (Maunder, 2001, 2015).

Adverse Multigenerational Events

In her memoir, Justice Sotomayor also describes the trauma her own parents experienced, which shaped ***their*** health.

These adverse multigenerational experiences (AMEs) help explain where some of the trauma she herself experienced came from.

It gives an idea of how trauma and behaviors that create more trauma do not emerge "out of nowhere."

Both of Justice Sotomayor's parents lost a parent when they were young children, which greatly affected their childhoods and the care they received (and did not receive).

A Form of Healing Because of One Special Adult

In the face of all this adversity, there was one important living resource in her life.

Sonia had a beloved grandmother who "saw" her. Who was tender with her, cared for her emotionally and often physically and with whom she loved spending time.

The presence of even one adult who sees you, provides some sense of safety even if only temporarily and intermittently, and who offers emotional connection can make all the difference for a child.

In this example of healing in type 1 diabetes, Sonia's grandmother may have made the difference between her succeeding in life instead of struggling – whether financially, or with depression, or from being unable to find the energy or will or passion to stay in school and then pursue a career.

The other significant difference is that, while her grandmother may not have been sufficient to prevent the onset of a chronic illness, her presence may have helped her diabetes have greater stability. Or fewer complications or severe fluctuations in blood sugar levels – which are often much more severe and require more frequent hospitalizations for children in difficult circumstances, especially when they lose a parent (Leaverton, 1980).

Having one person in our lives can be a potent force in counteracting adversity in our lives even if ALEs happen.

Research in Type 1 Diabetes

A 2015 prospective Swedish study by Nygren has shown the large role of trauma in childhood in shaping risk.

10,000 children were followed from birth to 14 years of age. The children who developed T1D experienced three times more traumatic events than did the children who remained healthy. Here are two of the many articles written about the study (Time magazine, the New York Times). Many more studies show similar risk.

Types of Trauma That Increase Risk for T1D

Additional research studies scattered throughout the literature show that risk for T1D is increased by all of the types of trauma mentioned in this ebook (Mead, 2003; 2004; 2007). And in a series of blog posts summarizing the role of trauma in T1D.

These include traumatic events

- during birth, pregnancy and infancy
- in childhood
- in childhood relationships with parents
- in the months and few years before onset
- in parents' and grandparents' lives

Characteristics of Trauma Seen in T1D

- Antibodies can exist before the onset of T1D for as long as 10 years or more (Wegmann, 2000). This represents a "latency period, " which is also seen in trauma.
- Antibodies resolve spontaneously more than 70% of the time. The effects of trauma on the nervous system can also heal and reverse.
- Individuals whose antibodies disappear do not develop type 1 diabetes (Bennet, 1997). This is similar to the fact that many people exposed to trauma never develop post-traumatic stress disorder (PTSD).
- Fluctuations in antibody levels are a window into the undersea volcano. The volcano can grow and lead to disease or disintegrate and never lead to illness. This pattern of waxing and waning and potential resolution is another characteristic of trauma.

The Role of the Brain in T1D

We've come to think that diseases occur because of problems within very specific organs - such as the pancreas in diabetes. Some research is showing that many different chronic illnesses appear to be affected by the nervous system and its effects on other organs, rather than on the individual organ systems themselves.

This is also what has been learned about the effects of trauma.

Three recent articles support the perspective that the mechanism by which T1D arises involves the brain and how it affects the antibody-forming branches of the immune system.

1) Michael Schwartz and his colleagues propose that the current view of T1D is too narrow and that the brain most likely plays an important role in driving the development, onset and perpetuation of symptoms in T1D.

2) The second study looked at the insulin-producing cells from people recently diagnosed with T1D (Krogvold, 2015).

These cells, which lead to the symptoms of the disease by losing their capacity to make insulin, recovered significant degrees of normal function within a few days of being placed in a supportive environment outside of the body.

This showed a striking level of reversibility for what has been believed to be an irreparably destructive process.

This second study also supports the role of the brain as contributing to - or perhaps even guiding - the autoimmune process.

1) The newest study (April, 2017) also published in *Nature* (Nature Medicine), finds that the destruction of insulin-producing beta cells leading to type 1 diabetes comes from messages released by these cells when they are stressed.

Although the authors suspect this is due to a mistake, our bodies don't tend to make as many "mistakes" as we think.

Just as we've learned that what was once thought to be "junk DNA" actually serves many different functions, this 3rd study may suggest an intelligent process by which the body creates specific immune destroying mechanisms in order to survive.

From a trauma perspective, this happens because the nervous system perceives threat in many ways when trauma is unresolved (see earlier chapters).

You'll find more about the role of trauma in T1D on my blog.

Chronic Fatigue Syndrome (ME/CFS)

In his book, CFS Unravelled, Dan Neuffer describes how the onset of his symptoms of chronic fatigue syndrome were triggered by a vaccine (2013).

He had experienced a series of difficult events before that, which included nearly losing his wife during the birth of their son.

After 5 years of symptoms that worsened and eventually left him unable to work despite many forms of treatment, Dan began his own personal research into potential causes of CFS.

He found that the myriad symptoms and biochemical abnormalities associated with chronic fatigue seemed to link to a common source.

This source was an underlying change in autonomic nervous system functioning.

In other words - Dan's discovery was that his brain was driving his symptoms of ME/CFS.

By following principles he discovered, Dan made a full recovery in about 18 months. He is back to working full time, being an involved parent and successfully engaging in sports and exercise without negative repercussions.

He has also successfully applied what he's learned to helping others recover from ME/CFS.

Dan has written about his research and findings and outlines his recommendations for recovery in his book.

These can seem plain or ordinary at first glance (diet, meditation, stress reduction, etc) but his critical realization has been that healing takes place by reducing the brain's states of heightened reactivity and sensitivity.

In other words, it's not just about reducing inflammation through diet or mindbody practices, but also about working with nervous system perceptions of threat.

Dan's discoveries align with the principles presented here, which draw from the science explaining how changes in the nervous system result from the effects of unresolved ALEs.

Dan also mentions that important triggers include the common experience so many of us with chronic illness have - the fears associated with symptoms as well as with having to manage our care in a medical system that is often unhelpful, disbelieving or that provides treatment strategies that make things worse instead of better.

As I've emphasized throughout my ebook, the links between trauma and altered brain function are not all in our heads or the result of a little too much stress.

Similarly, the link between trauma and CFS and other chronic illnesses is not psychological.

It's in our nervous systems.

Inflammatory Bowel Disease (Crohn's, Ulcerative Colitis)

Rachel Remen is a pediatrician and faculty at Stanford who became a counselor so she could truly listen to her patients and help them heal in a different way.

She has specialized in working with people with cancer and other life-threatening illnesses, as well as with physicians suffering from burnout.

Rachel developed inflammatory bowel disease (IBD) in the 1940s at the age of 15, when life expectancy for people with IBD was 40.

Her 1996 book, "Kitchen Table Wisdom," presents a moving collection of short stories about healing.

In her book, we learn about a way of being that Rachel gradually developed with her patients and clients and, eventually, with herself. It is gentle and loving, compassionate and respectful. And it is based in curiosity and nonjudgment.

One particular theme that emerges throughout Kitchen Table Wisdom is the feeling of isolation and aloneness.

This is also common in trauma, which ruptures our boundaries, our sense of self, and our ability to connect.

Rachel's stories offer examples of how this can change to allow a new sense of connection, support and resource.

This is similar to what Donna Jackson Nakazawa learned in her year of practices that began to reduce her symptoms of autoimmune and other chronic illnesses.

And it is similar to Sonia Sotomayor's story in that she had a very special person in her life too, in her grandfather.

You'll get a sense of the kinds of transformation that can arise from the ordinary as old wounds heal in this kind of nurturing, attuning relationship with oneself and with others. And she's experienced many ALEs, including being born prematurely.

While Dr. Remen doesn't talk about trauma as a risk factor for chronic illness nor work with her health from this particular perspective, many of her tools support healing of the nervous system and of trauma. You can learn more about the nervous system in trauma in my post The Essential Guide to Chronic Illness, Trauma and the Nervous System.

Through her process of softening and learning how to listen to herself, Rachel's own symptoms of severe IBD also improved.

They decreased significantly with time, and she was still conducting workshops in 2017 when I wrote the first draft of this ebook. She was approaching 80 at the time.

In Conclusion

The stories I have shared offer inspiration.

They also offer a glimpse of what is possible when looking at chronic illness from a trauma perspective.

They also reaffirm that there are many ways of healing from chronic illness and other health conditions. Most approaches are also part of healing when using a trauma perspective.

Afterword

When considering the potential role of trauma in the evolution of our chronic illnesses, it is important to remember that this perspective does not imply blame.

It does not mean we have caused our chronic diseases or that being sick is our fault.

It is not because chronic illness is psychological.

And if we are still sick despite much effort and dedication to healing, it does not mean that we are failures.

It is more simply a reflection of the complexity with which life experiences can affect us and our health.

Even as we do not know how far the process of healing from trauma can take us with respect to recovering physically from chronic illness, saying yes to all of who we are; to making room for the parts of us that may have never been heard; and to looking at our journeys from new eyes - brings relief.

It makes the journey easier.

It brings comfort and alleviates the sense of isolation.

It creates space. It may reduce symptoms, make them less intense or decrease their sensitivity to stress or triggers.

And it begins to replace the sense of survival with feelings of aliveness.

This creates room for joy and connection and peace. This is also how we heal.

If you or a loved one are living with a chronic illness, you have probably been trying to make the best of drastic changes in your life.

Learning how to tolerate the fatigue or the physical weakness.

Figuring out how to cope with the pain or the unexpectedness of the changes in your health.

Exploring how to accept your limitations or disabilities.

Discovering what it means to go on, even as you grieve the loss of your hopes and of how you had planned to live your life.

If you or a loved one are living with a chronic illness, you have very likely been coping with determination despite the fears and discouragement and frustrations.

Despite the judgment of others.

And in spite of the inability of your doctors and our health care system to understand, recognize and treat what is truly ailing you.

From a trauma perspective these mechanisms of coping and determination represent acts of courage.

And in the great majority of our experience, these acts of courage take place behind closed doors.

Most medical professionals do not realize how much it takes to get up and face each new day when living with chronic illness.

This does not diminish the fact that these very qualities are a strength. And they, too, help us on our journeys of healing.

In beginning to understand the science showing that adversity and trauma affect long-term health, we are exploring a paradigm that has yet to be fully understood, tested or recognized. But when the data are pulled together, the evidence is remarkably comprehensive and solid.

The evidence also exists in our histories.

And it has gone unrecognized for far too long.

Learning how to recognize adverse life experiences and their effects is a way to make sense of our symptoms - and of our lives.

And it offers a way to take steps. Now.

Without having to wait for our doctors, our medical system, or for researchers to figure it out.

It is possible to heal from the effects of adverse life experiences of all kinds, whether from events that happened in the recent or distant past; in childhood or before birth; in the period before the onset of our symptoms; or in our ancestors's lives.

The connection between trauma and chronic illness offers an opportunity to apply our tremendous will for health to healing. And to being pioneers on a different kind of journey towards health.

To forging a new path.

To putting in guide posts along the road and to sharing the lessons.

There is a need for a place to have a dialogue about this exploration and this journey.

I created my blog Chronic Illness Trauma Studies so that we can hold such a conversation.

I invite you to be in touch. To ask questions.

To make comments on blog posts that pique your interest.

To tell me what has been helpful in this book, and what, if anything, is missing.

I invite you to participate in the surveys I will be introducing. And to share your stories.

You can join the conversation by visiting my blog, signing up to receive blog posts and by following me on facebook.

If you have questions you are welcome to email me.

This conversation is a way to continue to refine our understanding of how trauma affects risk for chronic illness, which is a blog post that summarizes everything I've learned in the past 15 years of research.

It's a way to keep honing in on what is most helpful as we explore this new territory.

I look forward to sharing what we learn, what works, and what doesn't work with one another.

May you find the tools and the support you need to embark on this journey of gaining more skills, more self-compassion and greater ease in your life.

May you find solace and encouragement, insight and healing.

Veronique

Boulder, Colorado June, 2016

The Chronic Illness & Trauma Connection Series

These are the 3 existing books in the Chronic Illness & Trauma Connection series.

The others build on this one and offer more detail. They appear on my blog under the menu header “ebooks” along with a downloadable pdf and kindle format of many of the practical blog posts, including on on books and therapies.

Book 1. ***An Overview***

Book 2. ***Symptoms****:* ***Recognizing if You Experienced Trauma***

Book 3***.*** ***Why It’s Not Psychological***

Recommended Reading

If you would like to learn about trauma you'll find useful information in the following references.

Understanding the Effects of Trauma

Pediatrician Nadine Burke Harris wrote an easy-to-understand yet detailed a book explaining how adverse childhood experiences (ACEs) affect risk for physical health problems and chronic illness as well as other health conditions.

If you read only 1 book, this is the one:

Burke Harris, N. (2018). The Deepest Well: Healing the Long-Term Effects of Childhood Adversity, Houghton Mifflin Harcourt.

Additional books I highly recommend were written by Peter Levine, the founder of a gentle and powerful healing approach for treating trauma called "Somatic Experiencing." These books are written in a compassionate easy-to-digest style.

Levine, P. (1997). Waking the tiger. Berkeley, North Atlantic Books

The first book includes Peter's story of how he discovered his approach for working with trauma. He discovered the trauma perspective while assisting a woman with long-standing symptoms of chronic illness who responded overwhelmingly well to a spur-of-the-moment intervention. He has developed and refined this process extensively in the intervening decades. Peter explains the why and how of this approach to working with trauma in this, his first book.

Levine, P. A. (2010). In an Unspoken Voice: How the body releases trauma and restores goodness. Berkeley, North Atlantic

In this more recent book, Peter describes what happens when we experience the short and long-term effects of trauma. He begins the book with an example of

recovery from an accident he experienced and how he used the powerful tools and insights he's gathered from decades of experience to work with his personal process, including how he began to recover even as he was being driven to the hospital by ambulance.

Healing from Trauma

Levine, P. (2005/2008). Healing Trauma: A pioneering program for restoring the wisdom of your body. Boulder (CO), Sounds True.

A brief and gentle introduction to trauma and its effects followed by a series of detailed exercises for beginning to work with the effects of ALEs on your own or with the help of a trusted friend or colleague.

Remen, R. N. (1996). Kitchen Table Wisdom: Stories that Heal. New York, Riverhead Books.

A series of stories told by Rachel Remen, a physician who became a counselor and who teaches medical students about the power of listening and the spiritual side of healing. These stories include her own experiences with chronic illness as well as the stories of many of her patients who have healed from cancer, some physically as well as emotionally. It is told in a compassionate, insightful voice that presents a different set of examples for how we can heal and recover from old wounds.

The Neurobiology of Trauma

Scaer, R. (2005). The Trauma Spectrum: hidden wounds and human resiliency. 2005, New York: W.W. Norton

Robert Scaer is a retired neurologist who specialized in rehabilitation medicine. Bob first learned about the effects of trauma through Peter Levine's work and research. It gave him a context to make sense of the patterns he kept seeing in his patients' symptoms. His book provides a detailed look at the neurological and physiological effects of trauma on the body. He then applies these changes in an

understanding of their role in chronic pain as well as multiple chemical sensitivities, fibromyalgia, chronic fatigue and other syndromes.

Understanding Trauma, History and Treatment

van der Kolk, B. (2014). The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma, Viking.

Bessel van der Kolk is a psychiatrist who discovered the effects of trauma early in his career when he started seeing war veterans from Vietnam who failed to respond to seemingly appropriate treatments. He describes the gradual evolution of our understanding of trauma and how current treatments have been discovered, and more.

Epigenetics

Francis, R. C. (2012). Epigenetics: how environment shapes our genes. New York, W. W. Norton & Company.

Richard Francis has a PhD in neurobiology and behavior. Here he introduces some of the research regarding the new and emerging science of epigenetics. Richard describes important studies showing the link between epigenetic changes and different types of trauma, including multigenerational trauma and the impact of early nurturing behaviors (or lack thereof) in the period just after birth.

Other Approaches for Working with Brain Plasticity

Doidge, N. (2015). The Brain's Way of Healing: Remarkable Discoveries and Recoveries from the Frontiers of Neuroplasticity Viking Adult.

Canadian psychiatrist Norman Doidge's 2nd book provides case studies of individuals with a range of symptoms and chronic illnesses. These include a man with Parkinson's who has designed a daily exercise and activity program that has reversed many of his symptoms and enabled him to stabilize and minimize the progression of his disease. There are also case studies of individuals who suffered

and recovered from strokes, and of people with MS and other autoimmune diseases who improve and, in some cases, achieve full recovery following a wide variety of treatment approaches.

Norman describes a variety of subtle yet powerful treatment approaches designed to recognize and work with the sensitivity of the brain to its environment. His work also shows how the effects of trauma are reversible, as seen in the case of a woman with a traumatic brain injury who recovered a tremendous amount of capacity very rapidly following a gentle protocol for working with her nervous system.

For the most recent books I recommend, see my blog post Chronic Illness Recovery: Books for Healing, Working on Your Own and for Inspiration

Abbreviations and Definitions

ACE: Adverse Childhood Experiences

ALE: Adverse Life Events

Brain Plasticity: The process by which nerve pathways are strengthened or weakened by use. Such pathways are influenced by our experiences and can be changed throughout life. Brain plasticity refers to the fact that our brains are malleable, adaptable and capable of healing and change.

CFS: Chronic Fatigue Syndrome. CFS is also referred to as "ME/CFS" for myalgic encephalomyelitis / chronic fatigue syndrome and "SEID" for Systemic Exertion Intolerance Disease)

Chronic Illness: I consider chronic illness to refer to chronic physical diseases of all kinds, such as lupus, rheumatoid arthritis, multiple sclerosis, Parkinson's, Alzheimer's, type 1 diabetes and other autoimmune diseases; chronic fatigue, fibromyalgia, multiple chemical sensitivities and other diseases for which symptoms can be recognized even as no clear diagnostic tests exist; mysterious illness for which no diagnostic criteria are known, and more. Chronic pain and mental illness are not specifically mentioned in this book but fit The Chronic Illness Model as well.

The Chronic Illness Model: The Model integrates research from diverse fields to offer a new way of explaining the role of trauma in the initiation, evolution and onset of chronic illness. It also makes sense of patterns commonly seen in symptom flares, such as the role of triggers. I have introduced many of the concepts in this book. You can find a shorter version of the model in my blog post.

Epigenetics: The process by which chemicals attach to the surface of genes in order to direct their behavior, such as turning genes on and off or facilitating increases and decreases in function.

Fight and Flight: Fight and Flight are the two most commonly recognized forms of responses to threat. The flight response includes impulses to leave a threatening

situation or to actively run or flee. The fight response can be manifested through words (arguing or protesting), actions (filing a law suit or yelling at someone) as well as through physical fighting. Both are mediated by the sympathetic nervous system.

Freeze: The freeze state is a third and less well-known system of self-protection. It can feel like numbness, losing the sense of fear to instead feel nothing, experiencing a slowing down of an event as if is occurring in slow motion, or having difficulty moving, speaking, escaping or fighting. Freeze states arise when fighting or fleeing cannot succeed. Like fight and flight, freeze occurs through an unconscious process. Unlike the other two, the freeze state is mediated by the parasympathetic nervous system.

It is the experience of the freeze state, and the inability to recover from it, that contributes to risk for the development of symptoms of PTSD and chronic illness.

The better known facets of the parasympathetic nervous system involve capacities such as for rest and digestion, feelings of safety and connection. These belong to a more recently evolved form of defense and self-protection than the freeze response and derive from a different branch of the parasympathetic nervous system. This process and delineation are not addressed in this book although I mention them here because some of you have heard of it in descriptions of The Polyvagal Theory, which I will describe on my blog in the future.

Healing: In this book I use this term in its broadest context, which can include but is not limited to complete cure or recovery. Healing can occur through improvement in emotional states so that greater ease, joy, and connection is experienced. It can also result from accepting a chronic illness even as we continue to strive for recovery or improvement.

PTSD: Post Traumatic Stress Disorder

Somatic: The term somatic refers to the body. I use it in this book when referring to somatically-based trauma therapies, which are approaches that work with the language of the body. These include sensations, images, dreams and impulses as well as behaviors and emotions. Working somatically is a way of healing the

nonverbal and unconscious effects of trauma in the nervous system, which cannot be accessed through words or our cognitive brains.

Stress: Stress involves a process of adaptation to a situation, such as when our bodies cope with heat or cold, navigating a traffic jam or an overwhelming work schedule, being sick, or responding to an immunization. Stressors can also include pleasurable and positive life events, such as weddings and promotions. When a stressor is over our bodies normally return to a baseline of relative ease, connection and safety.

Trauma: Experiences that overwhelm our capacities to adapt are at the other end of the spectrum from stress. They often feel life-threatening and elicit survival states not only of fight, flight but also of freeze. Traumatic events can also appear to be subtle and seemingly mild, such as when a child is yelled at by an angry parent or loses a parent to divorce.

We are designed to recover from traumatic events. The effects of trauma occur when our nervous systems are unable to recognize that we have successfully escaped and survived.

Traumatic experiences, also referred to as ALEs in this book (see above), are different for everyone. Some events can feel normal to some while being experienced as either stressful or traumatic by others.

Triggers: Triggers are reminders of traumatic events and elicit feelings, sensations, emotions and / or biological responses of fight, flight or freeze. Triggers and their responses usually occur outside of our conscious awareness and are not in our control. A war veteran may drop into a freeze or a fighting stance when hearing a helicopter or the backfiring of a car, for example, which are reminders of combat. A person who has survived a car accident may feel anxious, get sweaty palms or feel nauseous in certain conditions that were present during the original event, such as on the anniversary of the accident or when driving during a rain storm.

Acknowledgments

To the readers of my chronic illness blog, thank you. Thank you for being there and participating. For sharing your stories, writing your questions and comments, and for telling me about the things that work for you, that inspire and give you hope, and that make a difference in your lives. It motivates me to keep risking and sharing my own vulnerabilities and often deeply personal experiences.

I want to thank my friend and colleague Marjorie Jannotta, Ph.D., for her encouragement throughout the year of this writing and for the ongoing discussions that warm my heart, clarify my thinking and keep helping me refine what needs to be expressed about the ideas presented here. Thank you for all your work in making this book as understandable, readable and inviting as possible, especially with such an intense subject.

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To Cort Johnson, M.S., blogger with chronic fatigue and founder of a fantastically informative, interactive and hugely popular ME/CFS blog, Health Rising. Thank you for initiating a conversation by inviting me so compellingly to write about trauma on your blog. I so look forward to it! Your and your readers' commentaries have motivated me to keep clarifying how trauma differs from stress and how the effects of trauma are not about a psychosomatic "all-in-your-head" process. Thank you for burrowing in with such open curiosity and fresh eyes with the first sections of this book.

To my husband David, a special thank you for holding such a respectful and supportive space for my process of spending so much of my limited energy on my book and my blog in addition to all the restrictions inherent in my symptoms and chronic illness. Thank you for inspiring me to keep coming home to myself, not only in my way of being and connecting but also in my writing, which involves

letting go of my high-density academic style and integrating information into a new style that is gradually becoming a gentler, more relatable as well as a more pleasurable way to write.

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