Current research offers abundant, credible insight into the immutable mind-body connection: ~~m~~Mental stressors impact the ways our organs and body systems function and interact. This impact can persist well after the stress has subsided. This can no longer be dismissed as fringe opinion or pseudo-science; hundreds of well-designed studies spanning multiple disciplines and decades of research have ~~converged with~~reached similar findings.[5, 6]

Appreciating the value of a more holistic clinical approach eventually spurred my transition into the field of massage therapy. In the course of my education, we were assigned a capstone project, which would become the inception point for this guide. We were to develop and conduct a case study examining the efficacy of massage therapy for a condition of our choosing. I knew immediately that I wanted to explore the role of manual therapy in supporting trauma recovery.

I found an interesting connection between the neuroscience of PTSD and some novel research ~~using~~ that used real-time brain imaging during massage.[7-12] It seemed that massage promoted regulation among the same brain regions known to suffer dysregulation after trauma. By pairing manual therapy and neuroscience research, I made the case that massage therapy could help restore somatic awareness in a client with dissociation and PTSD.[13]

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"Do no harm" is the most fundamental principle of clinical care delivery. If you intend to work with trauma-exposed clients, you need to understand the basic elements of trauma-informed care. The first part of this guide includes a primer on trauma-informed care, with a focus on factors ~~we~~ you might specifically encounter in providing manual therapy to survivors.

We'll start by briefly discussing the range of experiences that can give rise to persisting trauma symptoms—whether or not these reach the clinical threshold for post-traumatic stress disorder (PTSD). Next, ~~Then~~ we'll address some of the changes ~~we~~ you might see in the nervous system following trauma, which will help ~~us~~ you appreciate how trauma interacts with various symptoms and conditions you might see in your practice. This context will set the framework for exploring the principles of trauma-informed care.

From here, we'll review some foundational strategies to promote nervous system regulation in clinical settings; this will lead ~~us~~ to a discussion ~~of~~ on specific techniques for supporting sensitized versus dissociative clients—two common presentations we'll examine in detail in chapters 5 and 6. A chapter on homecare strategies will round out your toolkit for supporting trauma-exposed clients. In closing, we'll look at some considerations for practitioner self-care, given the demands of working with survivors.

***

Our understanding of stress disorders is expanding; we now appreciate the connection between chronic stress and impaired immune function and autoimmune diseases, including rheumatoid arthritis, lupus, and multiple sclerosis.[9] Notably, many of these conditions exhibit a dose-response relationship: The more intense and chronic the trauma exposure, the higher the prevalence of these illnesses.[2]

Commented [Ed1]: What is "this" here? The connection or something else? The impact? Clarify.

Commented [Ed2]: Your wording seemed more complex than necessary, but of course you can reject my suggestion.

Commented [Ed3]: Here is a great example of how you used the active voice. This means that you (the subject) did the action rather than the action happening to you. For example, had you used the passive voice, that first sentence would read:

An interesting connection was found between the neuroscience of PTSD and some novel research. . .

Do you see how the action was kind of done by some nebulous subject? This is what I meant by passive versus active. I'll keep an eye out in the text, but so far it looks good, what you've written.

Commented [Ed4]: I changed from "we" to "you" to be more focused as you do mention you at times, but toggle back and forth. It's up to you, but I think speaking directly to the reader about what they can expect may be more effective.

Commented [Ed5]: I caution against using this word too often in this context. Try to replace some uses of this word with synonyms such as: "see," "understand," "recognize," or other such synonyms.

You use this word extensively throughout the book. I recommend that you do a search for it, and see when you can use a different word.

Substance use is another challenge ~~impacting~~ that affects the clinical picture for many survivors. The triad of sleep disorders, eating disorders, and substance use further predisposes survivors to a broad range of poor health outcomes.[10]

Of particular interest to us, as manual therapists, is the prevalence of somatic disorders in trauma-exposed patients. There is a strong relationship between physical pain and trauma: Up to 80% ~~percent~~ of patients with a history of trauma will go on to develop chronic pain.[11] Chronic pain has been described as "a separate condition in its own right, with its own medical definition and taxonomy."[12] Specific conditions associated with trauma exposure include chronic headaches and migraines, temporomandibular joint disorders, chronic back pain, fibromyalgia, myalgic encephalomyelitis (ME-CFS), and chronic pelvic pain.[3-5, 13]

It's helpful for us to understand that when clients with PTSD simultaneously experience chronic pain, the symptoms of both appear amplified.[3] This suggests that trauma and pain interact bidirectionally: A history of traumatic experience impacts how clients perceive pain, and the persistence of chronic pain exacerbates other clinical symptoms that arise in the wake of trauma.

***

Several regions of the brain show lowered concentrations of receptor sites after trauma[34] ~~—~~—essentially, there are fewer "parking spots" available. This may explain why the brain doesn't always respond as expected to medications intended to correct chemical imbalances, ~~;~~such as common antidepressants that target serotonin levels. ~~a common class of antidepressant comes to mind, which targets serotonin levels.~~ This situation would be akin to flooding a parking lot with more and more cars during a Boxing Day sale: No matter how motivated the shoppers are, the parking lot is a bottleneck~~bottle neck~~, which in turn limits ~~the limiting factor for how many~~ the number of shoppers who can actually make it into the store. Interestingly, this decreased responsiveness to certain medications also has a dose-dependent relationship with a patient's trauma history.[34]

While the nervous system's dependence on receptor sites lends context to the clinical presentations we may see in survivors, there are still more factors at play. The impact trauma has on the body isn't ~~Trauma's impacts aren't~~ limited to changes in endocrine function alone. As we zoom out to a more macroscopic view, we learn that while the endocrine system is struggling with dysregulation, various regions of the brain are simultaneously undergoing structural changes.

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Safer Treatment Spaces

Trauma in its many forms often compromises survivors' sense of control. It~~'s~~ is therefore vital that we structure our clinical environments in a way ~~so as~~ that will not to further disempower our clients. It's helpful, for example, to eliminate potentially obvious stressors from our treatment spaces, regardless of the specific populations we serve. Setting aside historical norms around clinical spaces helps us be more responsive to survivors' needs.

Commented [Ed6]: How about "factor" or "element"?

Commented [Ed7]: Does this work?

Commented [Ed8]: This is a bit unclear. When they experience chronic pain in addition to what? PTSD? Isn't PTSD a state that can be triggered or dormant, depending on the circumstances? That is a bit different than chronic pain, no?

I would suggest clarifying like this:

It's helpful for us to understand that when clients with PTSD also experience chronic pain, the symptoms of both conditions appear amplified.

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Commented [Ed9]: This is a bit confusing. Can you reword this? Are you saying that this decreased responsiveness is linked to their trauma history? You've already established that, but the thing that stands out is the reference to the dose-dependent part, which is less clear to me.

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Obviously, "clinical" settings can be retraumatizing; what may look like an inviting treatment table to some may well remind others of a hospital emergency room. As a result, where possible, structure your treatment space to offer a choice in seating for your interview time. Some survivors feel safer when they can see the door, while others prefer to sit nearest an exit. Similarly, while some practitioners choose to wear scrubs, keep in mind that the visual signalling from this uniform can trigger survivors of medicalized trauma.

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~~Where possible, structure your treatment space to offer a choice in seating for your interview time. Some survivors feel safer when they can see the door, while others prefer to sit nearest an exit.~~

If treatment tables are triggering, consider modifying your approach so your clients can remain seated in a comfortable chair to receive treatment. I've observed that even offering this option can reduce a client's anxiety during the first few appointments. Similarly, some clients feel anxious about ~~laying~~ lying prone, where they can no longer visually keep track of the room or when touch is about to occur. To help reduce this anxiety, you can offer to keep one point of contact with your client so they'll know your position in the room.

~~Similarly, some clients feel anxious about laying prone, where they can no longer visually keep track of the room or when touch is about to occur. To help reduce this anxiety, you can offer to keep one point of contact with your client so they'll know your position in the room.~~

Commented [Ed10]: This is unlike your style. I would leave this out because it may not be obvious to people who are new to this type of sensitivity to their clients.