# Posttraumatic Stress Disorder, Part II

## Self-Care And PTSD

A 2018 review of 1,349 studies (29 met eligibility criteria) concluded that individuals with PTSD are 5% less likely to have healthy diets, 9% less likely to be physically active, 31% more likely to be obese, and 22% more likely to smoke.[1] Self-care strategies can complement treatments specifically aimed at PTSD symptoms. For example the National Center for PTSD recommends that people with PTSD do the following, all of which tie into various self-care circles within the Circle of Health[2]:

- Have more contact with other trauma survivors
- Start exercising
- Change neighborhoods if living in a high-crime area
- Volunteer
- Avoid alcohol and drugs
- Invest more in personal relationships

Many of the psychotherapeutic approaches that are beneficial in treating PTSD draw in proactive strategies, such as goal setting, increasing problem-solving or coping skills, clarifying values, and broadening social support.

Considerations specifically related to PTSD for each of the eight components of proactive self-care are listed below. These are framed as specific steps a care team member can follow when advising self-care practices for someone with PTSD. Of course, which steps are taken will vary according to each individual's needs.

## Mindful Awareness

A 2018 scoping review concluded that mindfulness-based approaches have medium to large effect sizes and low attrition rates.[3] The review included a number of studies focused on different formal approaches for enhancing mindful awareness, including Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT) and metta Loving-Kindness approaches. The same study noted that neuroimaging research indicates that mindful awareness training targets over- and under-modulation of emotions, which are critical features of PTSD. A 2018 review noted that fear extinction, in particular, may be tied to the benefits of mindful awareness for PTSD.[4] Another meta-analysis from 2017, which included 18 studies of mindfulness training, concluded that longer training periods had stronger effects.[5] These effects were not affected by gender or age. Another 2017 review of 10 meditation trials (n=643) found that meditation approaches appear to be effective for PTSD symptoms (and noted that more research is needed).[6] Yet another 2017 review emphasized that mindfulness approaches should not be used as first-line treatments but nevertheless do have potential benefit.[7]

Developed in 2014, Trauma Interventions Using Mindfulness-Based Extinction and Reconsolidation (TIMBER) is based on Mindfulness-Based Cognitive Therapy (MBCT), and it

combines principles of Mindfulness-Based Exposure Therapy trauma memories work.[8] TIMBER is an example of how various mind-body approaches are being adapted to the care of PTSD.

To cultivate mindful awareness, there are now many ways to weave in new technology. For example, clinicians can recommend smartphone apps that allow people to self-monitor symptoms. Some of these are listed in the "Education" section above. More resource are available in the resources section of Part III of this overview.

One review suggested that the mechanisms of action for mindfulness as it relates to PTSD might include the following[9]:

1. Mindfulness increases ability to shift attention, so that those with PTSD can reframe how they focus on trauma-related stimuli.
1. It allows one to modify maladaptive cognitive styles, allowing one to move away from worry and rumination.
2. It enables one to adopt a nonjudgmental stance, changing the way that interpretations and negative attributions are habitually done. This can help to counteract avoidance.

Additional research is needed to confirm these theories.

## Mind and Emotions

> *Traumatic events, by definition, overwhelm our ability to cope. When the mind becomes flooded with emotion, a circuit breaker is thrown that allows us to survive the experience fairly intact, that is, without becoming psychotic or frying out one of the brain centers. The cost of this blown circuit is emotion frozen within the body. In other words, we often unconsciously stop feeling our trauma partway into it, like a movie that is still going after the sound has been turned off. We cannot heal until we move fully through that trauma, including all the feelings of the event.*
>
> *—Susan Pease Banitt,*
> *The Trauma Tool Kit: Healing PTSD from the Inside Out*

A 2018 review found that, for 15 studies that met inclusion criteria, meditation, mantra repetition, breathing exercises, and yoga combined with breathwork all led to "significant improvements" in symptoms of PTSD.[10] A 2013 systematic review of the literature found 16 of 92 articles that met review criteria. Studies were usually small, but there was an association between an array of mind-body practices and PTSD symptoms.[11]

When talking about Mind and Emotions with people with PTSD, the following points are worth considering… Explore how the mind-body relationship manifests in daily life, noting what triggers lead to increased tension and hypervigilance.[12]. PTSD is characterized by an altered parasympathetic response to stressors, whereas mind-body approaches typically enhance this response.[13] Teach relaxation techniques to combat hypervigilance and tension. Although evidence is still preliminary, mindfulness-based and other related approaches, such as Acceptance and Commitment Therapy (ACT)and Dialectical Behavioral Therapy (DBT), show promise for helping patients with PTSD.[14] Many mind-body therapies are used frequently enough in that they are most appropriately considered conventional therapies. All of these therapies and the state of the evidence regarding their use are described in the conventional therapies section below.

**Meditation**
A 2019 review did not find conclusive evidence that mediation was beneficial for PTSD, but concluded that "...available empirical evidence demonstrates that meditation is associated with overall reduction in PTSD symptoms, and it improves mental and somatic quality of life in PTSD patients."[15] A 2018 systematic review of 15 studies found benefit for seated or gentle yoga that was accompanied by breathwork and various other types of meditation.[10] A 2017 review of 18 studies indicated a potential benefit of mindfulness training, noting that benefits based on the length of time a person was trained.[5]

**Mantram Meditation,** the repetitive use of a sacred word or phrase throughout the day, was found to be feasible, associated with moderate to high satisfaction, and had a promising effect size in a small cadre of 15 veterans.[16] A 2012 study by the same lead authors found, in a group of 146 Veterans (66 in the intervention group), that 24% of the intervention group versus 12% of controls showed improvements in PTSD symptom severity.[17] This mind-body approach shows increasing promise as research continues.[18]

**Hypnotherapy**
This approach has promise for PTSD care, but more research is needed.[19,20]

**Biofeedback**
A study of 52 people with PTSD had significant symptom improvement with neurofeedback (biofeedback using EEG measurements), and a 2018 systematic review found it showed promise in general for a variety of outcomes measures.[21,22] In a 2018 study, a group of 20 people with PTSD were trained using fMRI to up-regulate blood oxygen supply to their amygdalae (a structure in the lower front part of the brain), which markedly improved symptoms in 80% (versus 38% of controls using sham fMRI feedback).[23] Heart rate variability (HRV) biofeedback combined with Cognitive Behavioral Therapy (CBT) was helpful for a small group of people with noncombat-related PTSD.[24] Pre-deployment resilience training that involved HRV biofeedback resulted in lower post-deployment PTSD symptom scores in a group of 342 Army National Guard soldiers.[25]

**Guided Imagery**
Research at this point for Guided Imagery is quite limited. Guided Imagery should be used with caution and only by an experienced professional if a person is prone to having flashbacks.

**Writing Therapy**
In a 2013 meta-analysis of six studies Writing Therapy was found to have significant benefit for PTSD.[26]

**Creative Arts Therapies**
A 2018 review noted that evidence for Music, Art, and Drama therapies is not conclusive of clear benefit, and more research is needed.[27]

**Mind-Body Approaches for Regulating the Autonomic Nervous System**
In 2011, the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury published a review of 13 different mind-body techniques.[28] These were classed into the following five categories:

- Breath
- Body-based tension modulation practices, including yoga
- Mental focused practices, such as mindfulness, meditation, Guided Imagery, and iRest® Yoga Nidra.
- Mind-body programs that offered multiple techniques in the form of taught skills courses
- Biofeedback

The report concluded that

*"…integrative practices designed to regulate the autonomic nervous system and improve mood stress regulation and arousal are promising. However, in order for these and other related practices to achieve greater recognition and be used in the mainstream military health community, there is a need to compare the relative effectiveness of techniques…to each other, as well as to other more mainstream stress and energy management practices, such as exercise, counseling, and psychopharmacology."*[28]

**Psychotherapies**
These are featured in the "Conventional Care" section, of Part III of this overview..

## Spirit & Soul

Spirituality may be defined, generally, as what brings meaning, purpose, and connection to a person's life. Each of us has a unique definition of what matters most. Traumatic experiences affect people deeply; there is a reason people refer to them as "soul wounds." Spirit and soul are important to explore with people with PTSD. A 2018 review of eight studies of spiritual and religious interventions for PTSD found that seven of them showed significant benefit.[29] Another review noted that being religious either reduced or contributed to PTSD depending on a person's race and the presence of anxiety or depression.[30] A review of PTSD and spirituality for people who had been in combat suggested that "...understanding the possible spiritual context of veterans' trauma-related concerns might add prognostic value and equip clinicians to alleviate PTSD symptomatology among those veterans who possess spiritual resources or are somehow struggling in this domain."[31]

Of course, care team members should never impose their spiritual and religious perspectives on others; as with all aspects of self-care, integrative care is tailored to the individual. As you develop a PHP related to Spirit and Soul, keep the following in mind:

**Consider Moral Injury**
Moral injury is defined as pain and suffering that arise because individuals have been damaged at the level of their moral foundation—the level of their core values.[32] A morally injurious event is one that cannot be justified based on someone's moral or personal beliefs.[33] People feel compelled, often by an authority figure, to do something that in other circumstances, they never would have done. As one research study puts it,

*Moral injury is an emerging construct to more fully capture the many possible psychological, ethical, and spiritual/existential challenges among persons who served in modern wars and other trauma-exposed professional groups.*[34]

Moral injury and PTSD have been described as overlapping in terms of many of the symptoms they cause, such as anger, affective disorders, substance misuse, and insomnia. However, they are different in some respects.[35] Moral injury is more commonly associated with feelings of alienation, shame, and regret; PTSD, in contrast, is more likely to be linked to fear, flashbacks, and memory loss. While research related to working with moral injury is in its early stages, it is clear that healing often relies on lessening the pain of these injuries, just as one would ease any other cause of suffering.

**Work with Chaplains**
If a person has concerns, would like to set a goal related to Spirit and Soul, or is struggling with moral injury (described above), asking for the support of a chaplain or other experienced professional is essential.[36,37] A 2018 article made a case for contextualizing care, noting that chaplains are especially skilled at providing "nonjudgmental, person-centered, culturally relevant care rooted in communities...."[33] A 2019 review noted that spirituality and religion are closely linked to moral injury and that "...help from chaplains may support healing, self-regulation, and mending of relationships, moral emotions, and social connection."[38] Chapter 11 of the *Passport to Whole Health* features more information about chaplains.

**Explore How Faith Affects One's Understanding of Traumatic Experiences**
Edward Tick, who among other things has trained over 2,000 Army Chaplains, holds that PTSD is, at its core, a "soul wound" that must be addressed as such. Drawing in chaplains, clergy, and others who can offer spiritual support, based on a patient's personal beliefs, is appropriate.[39] A 2005 (nonsystematic) review of 11 studies found that typically, religion and spirituality are beneficial to people in the aftermath of trauma and that traumatic experiences often lead to a *deepening* of religion or spirituality.[40] Spirituality is closely linked to posttraumatic growth, which is described in the "Personal Development" section below.

**Focus on Meaning**
A 2019 evaluation of data from the National Health and Resilience in Veterans Study concluded that a higher level of "global meaning" reported by veterans was linked to a significantly lower likelihood of suicide in veterans who experienced morally injurious experiences related to deployment.[41] Exploring a person's MAP is essential for helping people with PTSD.

Find more information in the "Spirit & Soul" overview.

## Family, Friends, & Co-Workers

PTSD has a negative impact on a person's ability to be in healthy relationships.[42] Conversely, good peer relationships, e.g. during military deployment, reduce risk of PTSD.[43] Positive family interactions are linked to a lower risk of PTSD over the following 12 months.[44] A 2019 study, asking why only 6%-10% of people with trauma end up being diagnosed with PTSD, noted that a significant proportion of the risk may be explained by differences in social cognition.[45] People with PTSD are more likely to have deficits in understanding social cues, and particularly cues related to perceiving threats.

Consider the following when collaborating with someone with PTSD who wants to focus on relationships:

**Build Community**
A sense of community and community support are extremely important to many people, particularly veterans. Often, people with PTSD have a sense that they are best understood by others with similar experiences. Support groups may be helpful. For more information about PTSD and community, refer to the National Center for PTSD website.

**Ascertain How PTSD Symptoms Affect Close Relationships**
There is some data supporting family-focused therapies,[46] and it can help to place more emphasis on therapeutic approaches that include family members.[47] While mores studies are needed, it seems there is benefit to incorporating emotion regulation skills into couple- and family-based treatments for PTSD.[48] Be sure to discuss the extent to which family and friends are knowledgeable of one's diagnosis and whether or not further disclosure would be beneficial.

**Animal-Assisted Therapies May Help**
Placement of a PTSD service dog was found to improve physiological and psychosocial indicators of well-being for people with PTSD (the study noted that clinical significance still needs to be explored).[49] A study of 141 post-9/11 military members and veterans concluded that trained service dogs "may confer clinically meaningful improvements" in PTSD symptoms.[50] Yet another 2018 study found that therapeutic horseback riding decreased PTSD scores on different measurement scales.[51] Refer to the "Animal-Assisted Therapy" tool for more information.

## Physical Activity
Take care to explore whether exercise is beneficial for a person's PTSD symptoms and if so, how. Enhance physical activity as appropriate; refer to the "Physical Activity" overview and Chapter 5 of the *Passport to Whole Health.* Study findings specific to PTSD and the benefits of physical activity include the following:

- A 2016 review concluded that regular exercise is inversely linked to PTSD and its symptoms.[52] Hyperarousal symptoms, in particular, may improve with physical activity.[53]
- Physical activity may offer benefit in people who are resistant to standard medical treatment.[54]
- In a small group of adults, PTSD symptoms were reduced after 12 exercise sessions of 40 minutes each. Improvements were maintained at one-month follow up.[55]
- An eight-week program that included three 40-minute aerobic exercise sessions each week led to reduced PTSD, anxiety, and depression symptoms in adolescent females with PTSD.[56]
- Ninety percent of adolescents who regularly exercised three times weekly for 60-90 minutes had significant reductions in PTSD symptoms.[57]
- In contrast, a Cochrane Review did not find any research that met inclusion criteria addressing whether or not sports and games decreased PTSD symptoms.[58]
- [59]A 2018 meta-analysis found only "...a weak recommendation for yoga as an adjunctive intervention."[60] A 2017 review of seven studies found that yoga "contributed to a significant overall reduction in PTSD symptoms."[61] Another 2017 review concluded that yoga in combination with meditation has promise as complements to conventional PTSD treatment.[62] A 2014 trial involving yoga for 64 women with PTSD did find marked

improvement in PTSD symptoms in the yoga group.[63] In fact, 16 of the 31 participants in the yoga group no longer met criteria for PTSD at the end of the study.
- There is limited data supporting the use of tai chi or qi gong for PTSD.

Given that exercise can have overall benefits for anxiety disorders, and given that exercise tends to offer many other health benefits as well, it is reasonable to add it as an adjunct to first-line therapies.[64] There is a growing recognition that running or walking groups can be a helpful component to PTSD specialty clinics' treatment programs.

## Surroundings

Some surroundings-related recommendations specific to PTSD:

- Discuss how surroundings are easing or exacerbating symptoms of avoidance, arousal, or re-experiencing trauma. The Surroundings overview has additional information on this important topic.
- Long-term exposures to green spaces are linked to less anxiety; it is reasonable to assume more time in nature may also benefit certain patients with PTSD.[65]

## Recharge

Sleep is often severely compromised in PTSD, with people reporting trauma-related nightmares, insomnia, and other problems.[66] Fear of sleep, decreased parasympathetic activity, abnormal rapid eye movement (REM) sleep, and other factors seem to be involved. Explore the relationship between sleep and PTSD symptoms for each individual. Offer suggestions for improving sleep quality, falling asleep, or enhancing sleep hygiene, as appropriate. The "Recharge" chapter of the *Passport to Whole Health* discusses these further.

Cognitive Behavioral Therapy for Insomnia (CBT-I), along with new CBT-I smartphone applications can be helpful in improving sleep symptoms in patients with PTSD.[67] CBT-I can often prove more effective than medications. Refer to the "Recharge" overview for more information on CBT-I and other psychotherapeutic approaches for improving sleep. Keep medications, such as prazosin, in mind as options, if appropriate.[68]

## Nutrition

Most of the research related to nutrition and PTSD is focused on comorbidities. Consider the following:

- A review that included nearly 590,000 subjects concluded that the odds ratio for obesity among those with PTSD is 1.55.[69] As noted previously, metabolic syndrome is highly prevalent in people with PTSD (39%), to the point where some are questioning whether PTSD should be considered a cardiovascular disease risk factor itself.[70,71] Abnormal eating behaviors are linked to PTSD.[72] Working with healthy eating patterns is essential to reduce the elevated risk of vascular disease that plagues people with PTSD.[73]
- Address alcohol use. Excessive alcohol use often is done to try to blunt PTSD symptoms but ultimately worsens symptoms and interferes with treatment.[74]
- Explore whether dietary patterns influence symptoms. Some people are more likely to be emotionally labile if they are hungry.

### Personal Development

Personal Development also has a role:

- Discuss whether any activities, hobbies, and/or creative pursuits ease PTSD symptoms and whether or not people have insights about this.
- Explore posttraumatic growth, which is

  *…the development of positive changes and outlook following trauma, including increased personal strength, identification of new possibilities, increased appreciation of life, improved relationships with others, and positive spiritual changes.*[75]

A survey of 272 primarily "older" veterans of Operation Enduring Freedom and Operation Iraqi Freedom found that:

- 72% endorsed a significant degree of posttraumatic growth.
- 52% reported having changed priorities about what is important in life.
- 51% reported a greater appreciation for each day.
- 49% reported being better able to handle difficulties.

Of note, those with higher PTSD scores often score higher for these measures as well; it would seem that posttraumatic stress and posttraumatic growth are not opposite ends of a spectrum, but *actually can coexist*.[76] Over 50% of people report moderate-to-high posttraumatic growth after a traumatic experience.[77] A 2018 systematic review of 21 studies confirmed that moderate posttraumatic growth, not just PTSD alone, can arise for military service personnel who have experienced trauma.[78] Explore what people need to foster posttraumatic growth as part of their integrative care.

## Author(s)

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