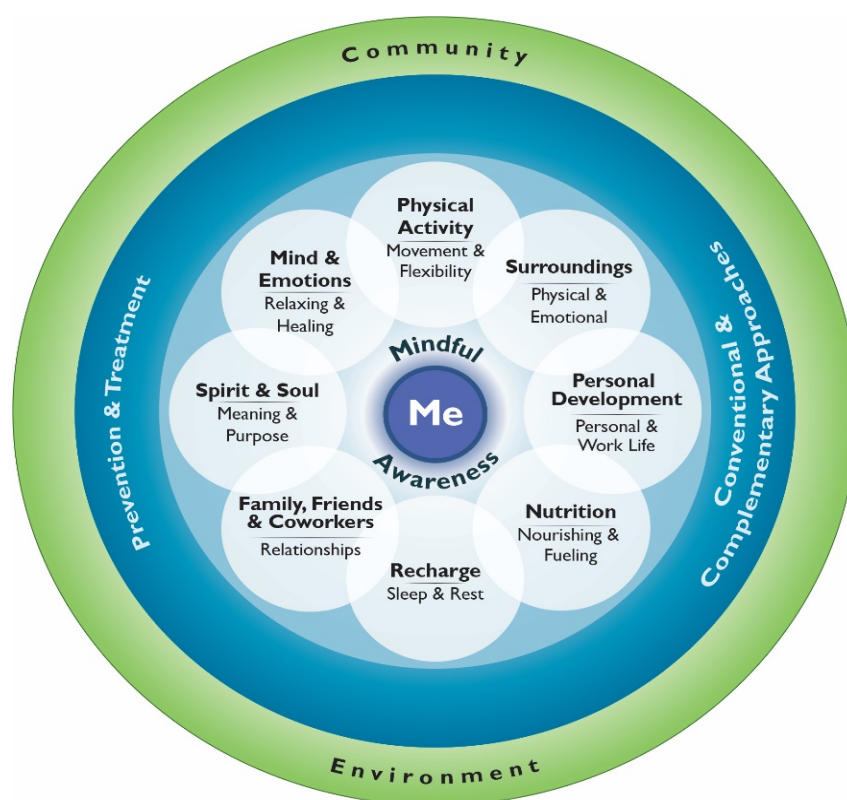


## Integrative Approach to Depression, Part II

This document reviews self-care approaches for depression. Part 1 introduced a patient, Frank. Part 3 covers professional care options, including complementary and integrative health (CIH) approaches. To see all of this applied to a patient, you review a [Personal Health Inventory](#) and the Personal Health Plan in Part III.



### Mindful Awareness

Mindful Awareness has been described as a practice of learning to focus attention on moment-by-moment experience with an attitude of curiosity, openness, and acceptance. Mindful awareness is a general approach to living, but it can be used to work with many specific issues or concerns, and depression is no exception. A particularly helpful resource is the book *The Mindful Way Through Depression*, by Mark Williams and colleagues.<sup>1</sup> Specific techniques that invoke mindful awareness are featured in the Power of the Mind section, below.

Few studies have focused specifically on using mindful-awareness training for bipolar disorder (BPD); a 2018 review found that mindful awareness may help to some degree with anxiety and depression-related symptoms, but not with manic symptoms.<sup>2</sup>

## Physical Activity

### Exercise

Exercise has been studied extensively, and generally seems to be helpful.<sup>3</sup> Exercise alone offers effective treatment for mild to moderate depression when compared to medication or psychotherapy. Combining exercise with various psychotherapeutic approaches appears to be even more effective than exercise alone.<sup>4,5</sup> It seems to augment medication effects as well.<sup>6</sup>

In addition to decreasing symptoms, further benefits of exercise include reduced risk for relapse, improved self-esteem, and, of course, higher levels of physical fitness (with all the other additional health benefits that offers).<sup>7,8</sup> A 2013 Cochrane Review focused on exercise for depression which included 39 studies with a total of 2,326 participants concluded the following<sup>9</sup>:

- Exercise is "...moderately more effective than no therapy." This effect becomes less clear when only high-quality studies are evaluated.
- It is no more effective (but also no less effective) than antidepressants or psychological therapies. This is based on a small number of studies.
- Aerobic and anaerobic activities are equally effective.<sup>10</sup> Total energy expenditure becomes more important than the number of times per week someone exercises.
- Exercising on an ongoing basis does make a difference. Consistency is key.<sup>7,8</sup>
- Physical activity may produce immediate improvement in mood.<sup>11</sup> Therefore, starting systematic exercise early on in a depressive episode may be especially beneficial during the period of waiting for medications or psychotherapy to take effect.

Physical activity reduces risk of suicidal ideation, according to a 2018 meta-analysis.<sup>12</sup> People who are active versus inactive in general have a lower risk (OR=0.87). The same was true for those who met activity guidelines versus those who did not (OR=0.91).

A 2017 study found that five different genetic patterns that were linked to an increased risk of depression and suicidal ideation were attenuated by regular exercise.<sup>13</sup>

### How Does Physical Activity Help?

Exercise has been shown to regulate neurotransmitters and promote nerve cell growth; exactly how it affects depression is unknown.<sup>14,15</sup> It may be due to changes in nerve cell development in the brain.<sup>16</sup> Reduction in nerve cell growth and toxicity in the hippocampus are thought to be mediated through proinflammatory chemicals, such as IL-6. Increases in macrophage activity and in the production of proinflammatory cytokines have been consistently reported in depressed patients.<sup>17</sup> It has been shown that exercise can alter cellular immunity and reduce markers of inflammation, thereby modifying the metabolism of key neurotransmitters.<sup>16</sup>

The [Physical Activity](#) overview has additional information.

### Yoga

Compiling study data related to yoga as a treatment for depression is challenging. There are many different forms of yoga, and practices stem from many diverse traditions incorporating a wide variety of techniques. Yoga is perhaps best used adjunctively, as a way to promote good



overall physical and mental health, rather than just as a specific intervention for depression.<sup>18</sup> A 2013 meta-analysis found that 12 randomized controlled trials (RCTs)—with some methodological limitations noted—of 619 participants concluded yoga had moderate short-term beneficial effects on severity of depression, compared to usual care.<sup>19</sup> It was less beneficial than aerobic exercise or relaxation.

Potential reasons for yoga to have positive effects on depression include modulation of the HPA axis, regulation of neurotransmitters, decreases in rumination, promotion of more adaptive thinking, and behavioral activation.<sup>18</sup>

For more information, refer to [“Yoga”](#).

## Tai chi

A 2014 meta-analysis involving 42 studies found that tai chi appears to have benefit, but methodological qualities of studies is low.<sup>20</sup> Limited evidence seems to suggest both short- and long-term tai chi practices (40-minute sessions, ranging from one to four sessions per week over a course of 6 to 48 weeks) reduce depression symptoms.<sup>21</sup> No adverse events related to the use of tai chi for depression treatment have been reported.

More information is available in the [Physical Activity](#) overview

## Surroundings

### Light Therapy

Serotonin receptor binding potential (which is associated with depression) is negatively correlated with the duration of daily sunshine one receives. Serotonin receptor binding lowers with increased sunlight during spring and rises when sunlight decreases in the fall.<sup>22</sup> High serotonin receptor density is associated with low extracellular serotonin and vice versa.<sup>23</sup> Therefore, it comes as no surprise that light therapy has been commonly used for patients with seasonal affective disorder and has been found useful as an adjunctive modality with pharmacotherapy in both unipolar and bipolar depression.<sup>24</sup> As a primary treatment, light therapy may be recommended as a one- to two-week time-limited trial in mild to moderate seasonal depression.<sup>25</sup>

American Psychiatric Association guidelines for the treatment of major depressive disorder, both seasonal and nonseasonal, consider bright light therapy a low-risk and low-cost option.<sup>26</sup> A few meta-analyses, including Cochrane review, supported at least modest benefit of bright light therapy when compared with placebo for nonseasonal depression.<sup>25,27</sup> There are a few side effects associated with Light Therapy. Headache, eye strain, nausea, agitation, and potential hypomania induction in some patients with bipolar disorder may occur.<sup>28</sup>

Light therapy dosing recommendations range from 30 to 60 minutes of full-spectrum (10,000 Lux) light daily from special bulbs, or indirect daylight exposure in the early morning. One should not stare directly at a light source. Therapy is effective so long as light is able to meet the eye at an angle of 30–60°.<sup>29</sup>

## Personal Development

### Positive Psychology

In 1998, Seligman established positive psychology, which emphasizes using skills and positive attributes to promote cognitive, physical and emotional well-being. The focus is on positive qualities and not merely on weaknesses, illness, or what is wrong.<sup>30</sup>

A recent review found that positive psychology interventions led to lasting increases in happiness and decreased depressive symptoms.<sup>31</sup> A systematic review of 3,400 studies found that use of positive psychology strategies (increasing positive emotions; developing personal strengths; and seeking direction, meaning, and engagement for the day-to-day life of patients) reduced signs and symptoms of depression and had the potential to prevent depressive episodes as well.<sup>32</sup>

### Resilience Programs

A 2016 study found that prevention programs focused on parents and children with an intent to prevent substance abuse and the onset of mental health disorders also decreased long-term suicide risk.<sup>33</sup>

## Nutrition

### General Nutrition Recommendations

Numerous clinical and observational studies have focused on whether or not there is an association between type of diet and depression onset.

- A 2018 review concluded that “...the number of persons who would need to change their diet, from the lowest- to the highest-quality category in order to prevent one case of depression is approximately 47.”<sup>34</sup> The authors note that this is on par with the number needed to treat for many other interventions (including statin drugs to prevent vascular disease.) They also note that more research is needed to confirm how diet and depression relate to one another.
- A 2009 study including nearly 2,500 participants found that a diet high in processed foods was a risk factor for depression in the next five years, whereas a whole foods diet reduced risk.<sup>35</sup>
- A 2016 review concluded a reduced risk of depression was linked most strongly with increasing dietary intake of seafood, vegetables, fruits, and nuts.<sup>36</sup>
- Isolating information about specific chemical compounds is a major challenge, and it is perhaps most useful to focus on a healthy overall diet, rather than becoming overly focused on any one chemical compound.
- A 2010 meta-analysis noted that people with obesity are 55% more likely to develop depression, and depressed patients are more likely to become obese.<sup>37</sup>

A few studies support a causal relationship between daily excess sucrose and caffeine intake and depression.<sup>38,39</sup> A small cohort trial found that eliminating refined sucrose and caffeine from the diets of people experiencing unexplained depression resulted in improvements by one week. Symptoms recurred when patients were challenged with these substances again but not when they were given placebo.<sup>40</sup>



A 2011 Spanish study found that consuming fast food and commercial baked goods may have a detrimental effect on depression as well.<sup>41</sup> Consuming raw fruits and vegetables also seems to lower risk of depression, though consuming them in processed forms may not.<sup>42</sup>

A systematic review concluded that the only *nutrients* favorably associated with depression risk were folate, omega-3 fatty acids, and monounsaturated fatty acids. Beneficial *foods* included olive oil and fish. Beneficial *diets* included those rich in fruits, vegetables, nuts, and legumes.<sup>43</sup> These associations differed between men and women, and some were nonlinear.

Eating a Mediterranean-style diet has the potential to significantly reduce depression risk.<sup>44</sup> Alcohol-related problems are more likely in depressed people.<sup>45</sup> Alcohol temporarily increases serotonin, but ultimately it decreases neurotransmitter levels.<sup>46</sup> Elimination of alcohol seems to reduce depressive symptoms.<sup>47</sup>

## Anti-Inflammatory Diet

Data from the Nurses' Health Study indicates that a proinflammatory diet pattern increases depression risk.<sup>48</sup> Several anti-inflammatory diets have been developed and may prove beneficial.<sup>49</sup> For further details, review the Integrative Health Tool: [The Anti-Inflammatory Lifestyle](#).

## Probiotics

Intestinal microbial composition influences centrally mediated systems involved in mood.<sup>50</sup> Recent studies also suggest that the intestinal microbial balance may alter the regulation of inflammatory responses and influence mood through those means. However, a 2018 meta-analysis concluded that current evidence suggests probiotic supplementation has an overall insignificant effect on mood.<sup>51</sup> Few studies specifically related to depression have been conducted, and more studies are needed, particularly around specific species and time courses, as well as different types of depressive disorders. For more information, refer to "[Promoting a Healthy Microbiome with Food and Probiotics](#)."

Keep in mind that increasingly research is finding a link between depression and chronic inflammation. Behaviors that reduce inflammation, such as eating an anti-inflammatory diet, taking omega-3 fatty acids, minimizing blood sugar spikes due to simple carbohydrates, and managing stress are worth considering.

## Recharge

### Sleep

There is growing body of research indicating that sleep and depression have a powerful influence on one another. A prospective study showed reciprocal effects for major depression and sleep deprivation among adolescents.<sup>52</sup> A 2011 meta-analysis showed that nondepressed people with insomnia (compared to people with no sleep difficulties) have double the risk of developing depression.<sup>53</sup> Poor sleep is also associated with increased risk of suicidal ideation, suicide attempts, and deaths by suicide.<sup>54,55</sup>

Melatonin and serotonin are closely related. Melatonin is stimulated by lower light levels, and serotonin by higher. Healthy sleep, in appropriately dim light levels, can decrease depression.

In a study of 166 adolescents diagnosed with depression who were assessed for sleep disturbances while being treated with conservative management, it was found that sleep disturbances were associated with poorer treatment responses.<sup>56</sup>

Cognitive Behavioral Therapy for Insomnia (CBT-I) led to a significantly greater remission rate in both depression and insomnia.<sup>57</sup> Eight weeks of [Mindfulness-Based Cognitive Therapy](#) (MBCT) targeting insomnia also improved sleep, anxiety, and depressive symptoms in patients with anxiety.<sup>58</sup>

For more information, go to [“Recharge.”](#)

## Family, Friends, & CoWorkers

Social support is a key component of depression treatment.<sup>59-61</sup> Higher social support has been linked to lower risk of suicide in OEF and OIF Veterans.<sup>62</sup> A 2018 trial found that “loneliness was associated with higher levels of depression and suicidal ideation, as well as lower patient activation and help-seeking intentions.”<sup>63</sup> The converse was also true.

Recent reviews, influenced by self-determination theory, propose that the extent to which social contacts are perceived to fulfill or undermine basic psychological needs determines both the positive or negative health mood effects of those relationships.<sup>64</sup> Interpersonal influences have an effect on emotional regulation. How a person responds may be linked to depression risk.<sup>65</sup> Social support intervention should focus on both strengthening relationships that fulfill basic psychological needs and removing those the patient sees as undermining their well-being.

## Spirit & Soul

Spirituality can play a significant role in influencing mood. Depression strikes at one’s very sense of meaning and purpose, so exploring how a person can enhance that sense is fundamental. Miller and colleagues reported a 90% decreased risk in major depression, assessed prospectively, in adult offspring of depressed people who reported that religion or spirituality was highly important to them.<sup>66</sup> Frequency of church attendance was not significantly related to depression risk.<sup>66</sup> Placing a high importance on religion or spirituality is associated with having a thicker cerebral cortex.<sup>67</sup> This may confer resilience to the development of depressive illness in individuals at high familial risk for major depression.

For more information, go to the [“Spirit & Soul”](#) overview.

## Mind and Emotions

### Mindfulness-Based Therapies

Initial research on mindfulness looked at its influence on stress reduction. Strong evidence supports the use of mindfulness approaches in this role.<sup>68,69</sup> In general, mindfulness meditation affects the prefrontal cortex, reducing vulnerability to depression, and it decreases rumination and reactivity.<sup>70</sup> A number of mindfulness-based interventions have demonstrated effectiveness for reduction in depression symptoms, including the following<sup>71,72</sup>:



## **Mindfulness-Based Stress Reduction (MBSR)**

More information about MBSR courses can be found at [UMass Center for Mindfulness](#). A systematic review and meta-analysis of six studies concluded that MBSR was effective at reducing depression in older adults with clinically significant symptoms following the intervention, but it was not clear if the positive effects were maintained over the longer term.<sup>73</sup> Similar results were found in a meta-analysis of eighteen studies in adolescents and young adults.<sup>74</sup> MBSR had moderate effects in reducing depressive symptoms at the end of intervention, but no significant effects were found in follow-up. The average treatment effect might be moderated by the control condition, treatment duration, and participant's baseline depression.

## **Mindfulness-Based Cognitive Therapy (MBCT)**

Developed by Segal, Williams, and Teasdale, MBCT adapts the principles of the MBSR eight-week training course specifically to patients with bouts of recurrent depression.<sup>75</sup> It is strongly recommended as an adjunctive treatment for unipolar (nonbipolar) depression and has strong evidence supporting its use.<sup>76</sup> It significantly reduces risk of remission of depressive episodes, as well as overall symptom levels.<sup>77</sup>

## **Mindfulness-Based Touch Therapy**

This therapy involves the use of a passive body intervention in combination with mindfulness as an active meditative discipline. A small study found it led to improvements in sleep maintenance and motivation. Feelings of anxiety decreased at both the psychological and somatic levels, and there was a decrease in general somatic symptoms as well.<sup>78</sup>

## **Compassion Training**

A recent study suggested that compassionate mind training could lead to significant reductions in depression, anxiety, self-criticism, and shame.<sup>79</sup> The function of a part of the brain known as the amygdala is impaired in a number of mental disorders, including depression.<sup>80</sup> Functional MRI studies of the effect of mindfulness on the amygdala found that after an eight-week course of cognitively-based compassion training, there was an increase in right amygdala response to negative images. This change in the amygdala was significantly correlated with a decrease in depression scores.<sup>81</sup>

## **Hypnotherapy**

Hypnotherapy has been around for more than a century, and its role in treating depression has been investigated for the past 20 years.<sup>82</sup> A recent meta-analysis based on a small number of studies suggested that hypnotherapy is a viable nonpharmacologic intervention for addressing symptoms of depression. At this point, there is a need for more trials that tease out differences in efficacy between specific types of hypnotherapy.<sup>83</sup>

In the general population, hypnotherapy appears to have minimal adverse effects. Its success depends largely on the engagement of the patient. Therapists must have skill in determining who is or is not an appropriate hypnotherapy candidate, as some people with past traumatic experiences may have them activated through entering a trance state. One study found self-hypnosis to be a preferred mode of treatment of depression in a primary care setting and comparable to medications and CBT, in a partially randomized preference study design.<sup>84</sup>

## **Cognitive Hypnotherapy (CH)**

Alladin and collaborators combined hypnotherapy and CBT to create cognitive hypnotherapy, which became the focus of an evidence-based handbook they developed.<sup>85</sup> CH is thought to achieve benefits through six means: 1) altering depressive mood, 2) establishing positive expectancy, 3) countering depressive rumination, 4) developing anti-depressive neuro pathways, 5) accessing and restricting unconscious cognitive distortions, and 6) behavioral activation.

## **Guided Imagery**

Research related to Guided Imagery for depression is limited. It is known that people with depression have more intrusive imagery and less ability to generate positive imagery, but more research is needed regarding how treatment can use imagery to help with depression.

## **Relaxation**

A 2008 Cochrane review concluded that in general, “Relaxation techniques were more effective at reducing self-rated depressive symptoms than no or minimal treatment, but not as effective as psychological treatment.”<sup>86</sup>

## **Psychotherapy**

Psychotherapy takes many forms, some of which are more widely used in health care settings than others. Various types of psychotherapy are featured in the next section on conventional approaches to depression. It should be recognized, however, that some forms are much more widely used than others. Of course, regardless of which section they are put in, in this overview, all of these therapies invoke the “Power of the Mind” in various ways.

## **Music Therapy**

A 2017 Cochrane review concluded that Music Therapy (MT) has short-term benefits for depression and works better when combined with medications than when medications are given alone.<sup>87</sup> Several trials have been published recently, mostly in older patients, which suggest potential anti-depressive effects when Music Therapy was added to usual care. A dose effect was seen: Benefits were more pronounced with longer durations of treatment.<sup>88</sup> A Cochrane Review on MT for depression found only five trials that met inclusion criteria.<sup>89</sup> It concluded MT is well tolerated by people with depression and appears to be associated mostly with improvements in mood. Risks are minimal.

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