




Depression and Chronic Pain: Considerations for Treatment

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Objectives:

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- A decorative illustration of various flowers and leaves in a light teal color, framing the text. The flowers include a large daisy-like flower in the top right, a rose in the bottom left, and several smaller flowers and leaves scattered throughout.
- ◆ Describe the symptoms and consequences of major depressive disorder
 - ◆ Identify how chronic pain can exacerbate depressive symptoms and discuss the interplay between comorbid depression and chronic pain symptoms
 - ◆ List the various treatment options available and how to discuss behavioral pain and depression management with patients.



1.

Major Depressive Disorder

Diagnostic Criteria and Outcomes

DSM-5 Criteria for MDD

- ◆ Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure. **Note:** Do not include symptoms that are clearly attributable to another medical condition.
 - **Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful)**
 - **Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day**
 - **Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month) or decrease or increase in appetite nearly every day.**
 - **Insomnia or hypersomnia nearly every day**
 - **Psychomotor agitation or retardation nearly every day**
 - **Fatigue or loss of energy nearly everyday**
 - **Feelings of worthlessness or inappropriate guilt nearly every day**
 - **Diminished ability to think or concentrate, or indecisiveness, nearly every day**
 - **Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for attempting/completing suicide.**

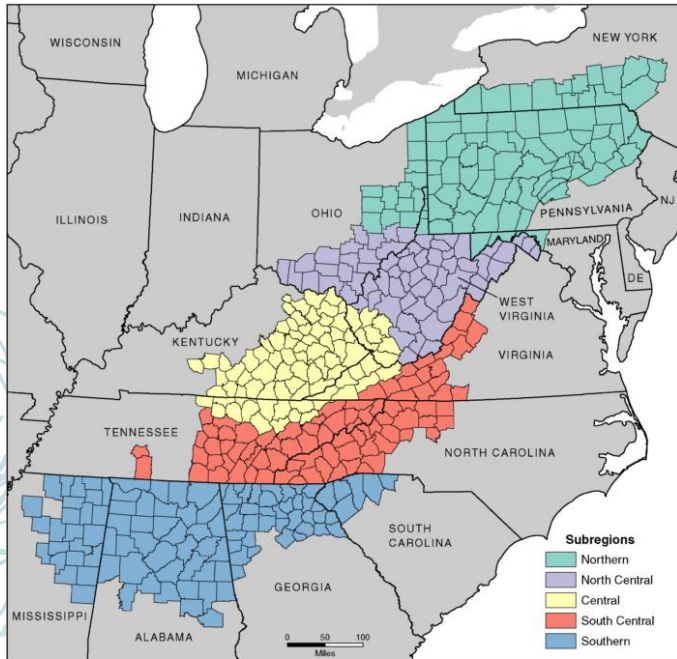
Potential Outcomes of Depression

- **A high percentage of patients who meet criteria for MDD (in one study up to 46%, in another 68%) suffer from a comorbid physical health condition, and a significant portion of these individuals report that their health condition directly impacts their depressive symptoms (Druss & Walker, 2011).**
- **Medical diagnoses and worse physical functioning have been associated with the onset of MDD (King, Goldstein, rist-Christoph, & Connolly Gibbons, 2021).**
- **Depression has been demonstrated to be a risk factor for medical conditions such as heart disease, arthritis, asthma, ,and other chronic illnesses (Patten et al., 2008).**
- **Results from the Adverse Childhood Experiences (ACEs) study indicate long-term mental and physical health outcomes from traumatic experiences early in life (Felitti, 2002).**

Rural Appalachia – Depression and Chronic Medical Conditions

- ◆ de Groot et al. (2014) found that 88% patients meeting criteria for type II DM reported depressive symptoms, with one of the predictors of symptom severity being diabetes treatment complexity.
- ◆ Greater social support has been demonstrated to buffer against depression, while perceived stress, loneliness, and days with poor physical help exacerbate depressive symptoms in an Appalachian sample of women. Depression was also associated with more health risk taking behavior, such as smoking (Lam et al., 2017).
- ◆ Extended family: Caregiving for family members with a chronic illness not only increases risk of CVD, but also depressive symptoms (Smith et al., 2021).

Appalachian Values



Map by: Appalachian Regional Commission, November 2009.

- ◆ Hard work – meritocracy – pride
- ◆ Familial ties – more collectivistic than individualistic, at least in terms of the family and extended family. Family loyalty is key.
- ◆ Individualism in terms of a “pull yourself up by the bootstraps” mentality - independence
- ◆ Religiosity
- ◆ Emphasis on the past and tradition
- ◆ External locus of control



2.


CBT-CP

How the CBT-CP Protocol Can Assist Chronic Pain and Depressive Symptoms to Improve Overall Functional Impairment

Appalachians and Chronic Pain

- ◆ Difficulties in emotion regulation are associated with greater pain-related disability and a greater risk of opioid misuse in an Appalachian sample (Lutz, Gross, & Vargovich, 2018).
- ◆ Patients living in rural areas are more likely to be living with chronic disease, to have limited access to healthcare, and to be in poorer health overall than those living in urban areas, including higher incidence of chronic pain and hurting conditions (Remster & Marx, 2008).

CBT-CP

 An evidence-based approach for pain management incorporating strategies to change unhelpful thoughts and to facilitate behavioral change.

Primary aim is to improve: functioning, ability to cope with pain and quality of life.

It's a toolbox for the **self-management of pain and other physical symptoms (i.e., fatigue).**

Can also help outcomes for patients that experience depressive symptoms, as many of these skills are transferrable.

CBT-CP Components

- ◆ Education
 - The Biopsychosocial Model
 - Information about chronic pain, the specific condition, and more
- ◆ Cognitive Strategies
 - Challenging negative thinking habits including pain catastrophizing
 - Restructuring negative thoughts
- ◆ Relaxation Training
 - Relaxation strategies including diaphragmatic breathing, imagery, and progressive muscle relaxation.

CBT-CP Components

- ◆ Behavioral Pacing
 - Practicing principles such as activity – rest cycling
- ◆ Increasing Activity Level
 - Goal setting
 - Exercise promotion
 - Behavioral activation
- ◆ Health Behavior Change
 - Education on the role of smoking cessation, weight management, regular exercise, and good sleep habits.

CBT-CP Components

- ◆ Assertive Communication Training
- ◆ Mindfulness
 - Mindfulness practice and other acceptance-based strategies
- ◆ Value Clarification
 - Creating a life focused on building meaning and personal priorities vs. a life focused on pain management.
- ◆ Managing Stress, Depression, Anger
 - Using various CBT strategies which are likely already in your arsenal.

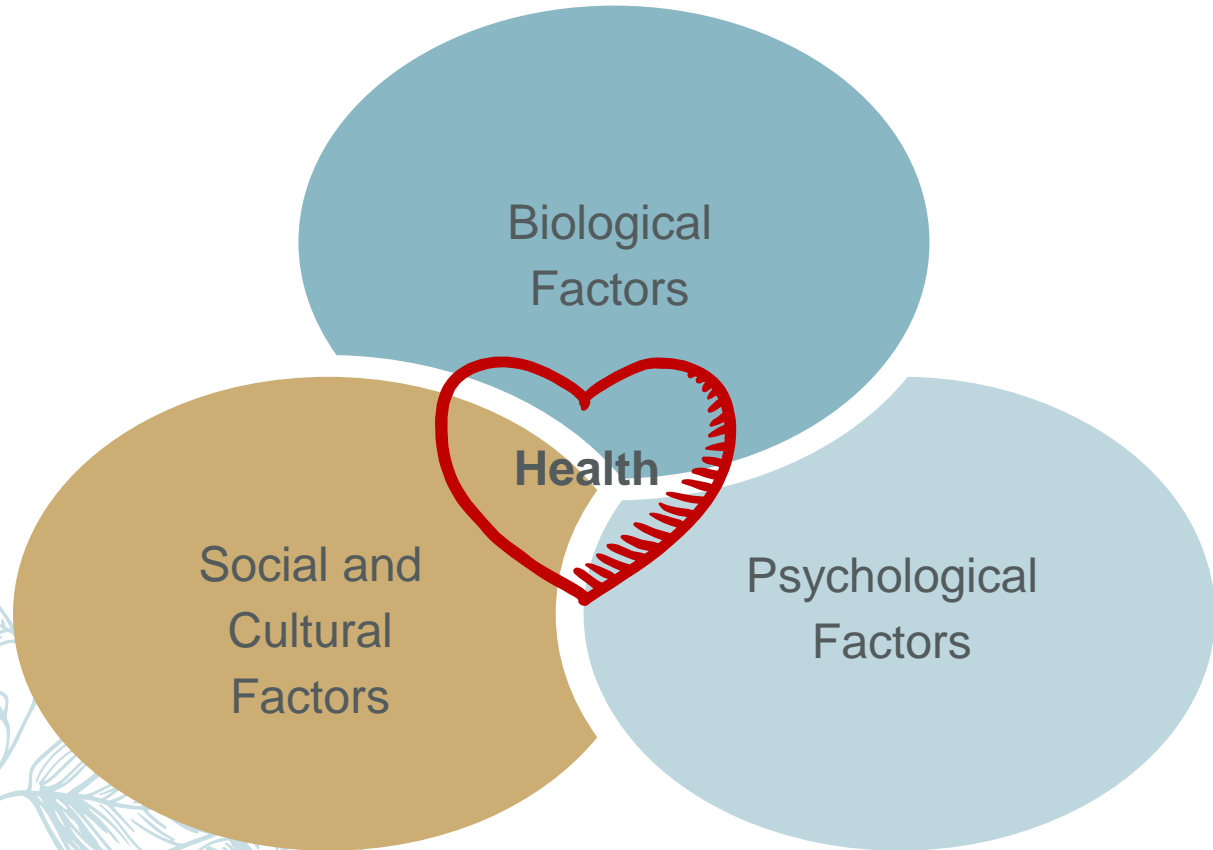


3.

The Relationship Between Behavioral and Physical Health

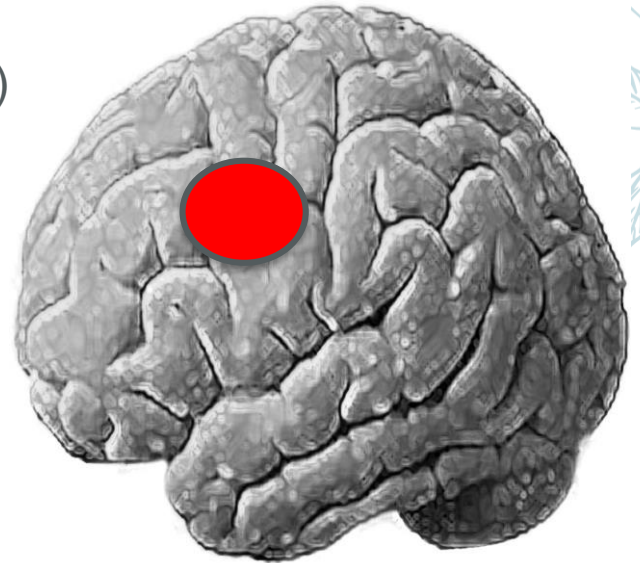
The Biopsychosocial model and the Gate Control/Neuromatrix theory of Pain, and how these can also impact depressive symptoms.

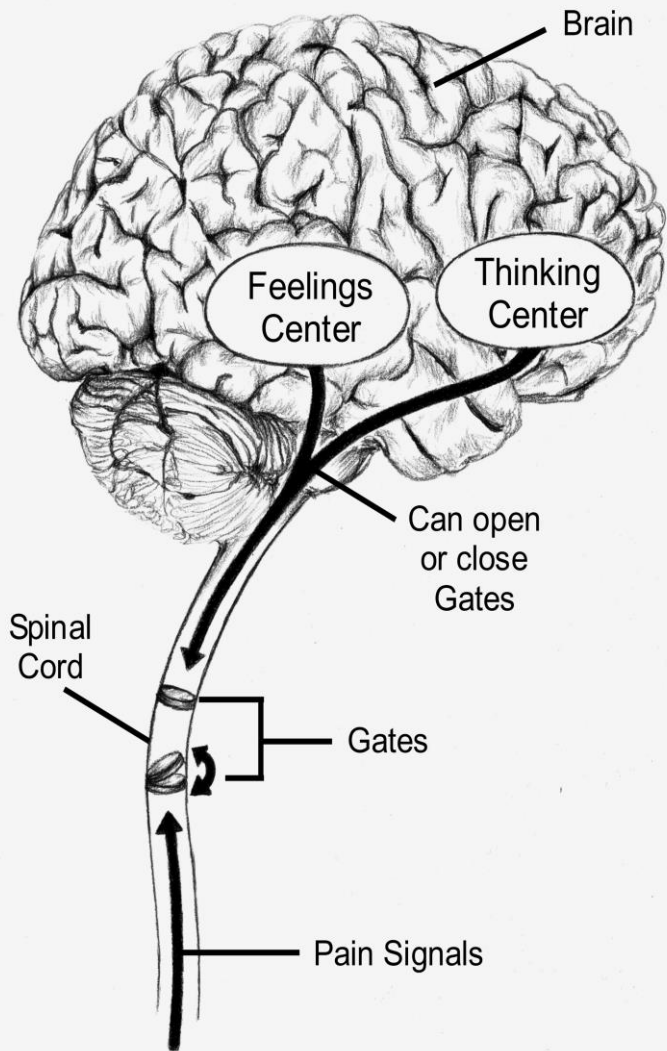
The Biopsychosocial Model



What Activates the Brain's Pain Center?

- ♦ f-MRI studies show that activity in the brain's pain center can be triggered by:
 - Physical pain (Pujol, 2009)
 - Social pain/rejection (Eisenberg, et al 2003)
 - Seeing a loved one in pain (Singer, 2004)
 - Imagined pain (Derbyshire, 2004)
 - Cognitive catastrophizing (Gracely, 2004)



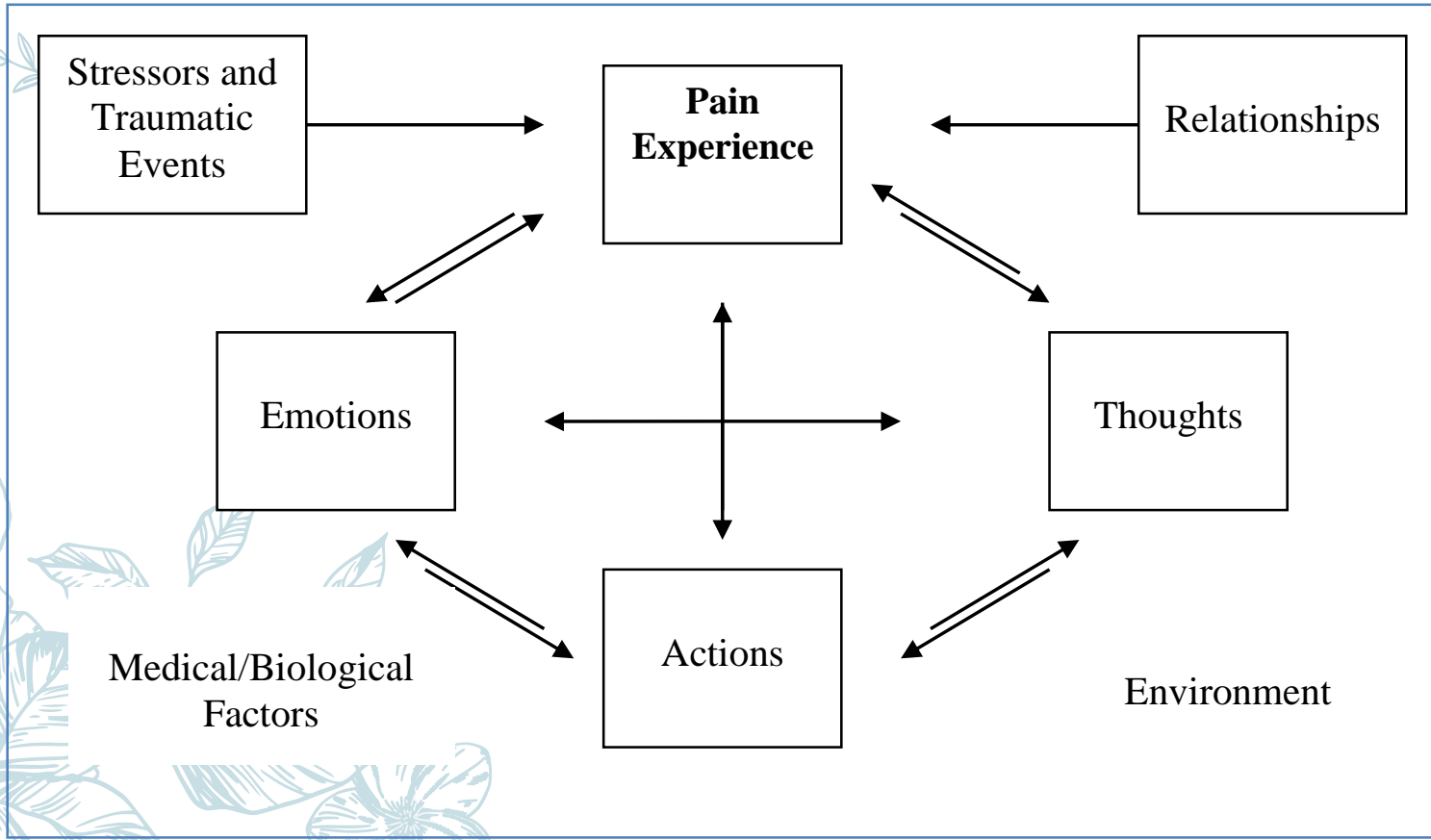


Gate Control / Neuromatrix Theory of Pain

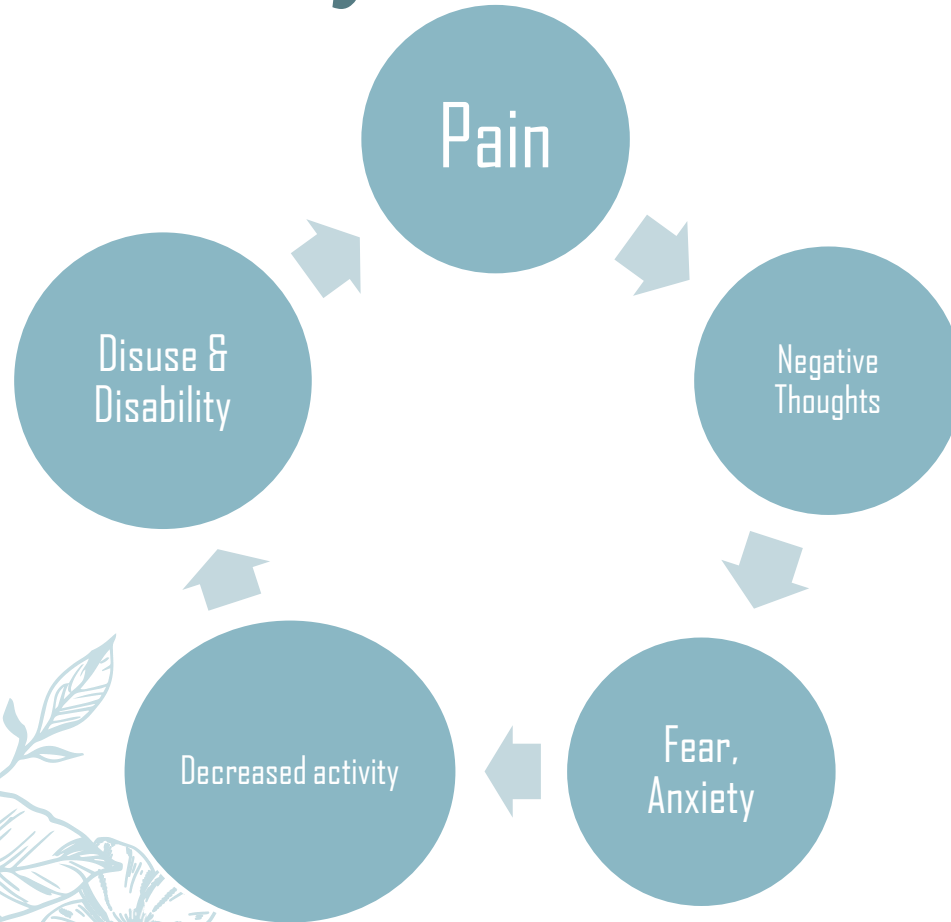
Essentially, this boils down to, cognitions and the brain can override pain signals.



The Biopsychosocial Model of Chronic Pain



Vicious Cycle of Disability





4. Empirical Support

On to: the research supporting behavioral approaches to managing pain conditions, outcomes for CBT, and using the literature to determine which patients make the best candidates. Also, how improving pain outcomes and depression outcomes can improve overall health outcomes and QoL.

Management of Fibromyalgia

Table 4. Comparison of the Recommendations of the 4 Guidelines (According to the APS Criteria Order of Scientific Evidence)

| | | Strong For | | For | | Weak Against | | Strong Against | |
|-------------------------|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|
| | | APS | | AWMF | | CPS | | EULAR | |
| | | Evid. | Strength | Evid. | Strength | Evid. | Strength | Evid. | Strength |
| All Guidelines | Exercise | II | Strong For | IIa | Strong For | II | Strong For | II | Strong For |
| | CBT | II | Strong For | Ia | Strong For | II | Strong For | III | For |
| | Amitriptyline | II | Strong For | IIa | For | II | Strong For | III | For |
| | Cyclobenzaprine | II | Strong For | Ia | Weak Against | - | - | II | For |
| | Multicomp therapy | II | Strong For | Ia | Strong For | II | Strong For | II | For |
| | Tramadol | II | For | - | - | III | Weak Against | II | For |
| | Balneotherapy | II | For | Ib | For | - | - | III | For |
| | Patient education only | II | For | Ia | open | - | - | - | - |
| | Hypnotherapy | II | For | IIIa | open | - | - | II* | Weak Against |
| | Biofeedback | II | For | IIa | open | - | - | IV | Weak Against |
| | Massage therapy | II | For | IIa | Weak Against | - | - | III - II | Weak Against |
| | Anticonvulsants | II | For | Ia | open | II | Strong For | II | For |
| | SSRI (Fluoxetine) | II | For | IIa | open | II | Strong For | I - I | Weak Against |
| | SNRI (Duloxetine) | II | For | Ia | For | II | Strong For | II | For |
| | Strong opioids | III | Weak Against | IVb | Weak Against | V | Weak Against | V | Weak Against |
| | Acupuncture | II | Weak Against | IIa | open | - | - | II | For |
| Trigger point injection | III | Weak Against | IV | - | - | - | - | - | |
| Meditative movement | - | - | Ia | Strong For | - | - | II | For | |
| Guided imagery | - | - | IIIa | open | - | - | II* | Weak Against | |
| Mindfulness | - | - | IIa | Weak Against | II | Strong For | III | For | |
| MAOIs | - | - | IIa | Weak Against | - | - | III | Weak Against | |
| NSAIDs | - | - | IIIa | Weak Against | V | consensus | III | For | |

Source: Thieme, Mathys, & Turk (2017)

CBT for Fibromyalgia

- ◆ Cochrane Review (Bernardy et al., 2013): Modest but long-term reductions seen in:
 - Pain intensity
 - Pain ratings 0.5 point lower at end of treatment and then 0.6 points lower 6 months post-treatment.
 - Depressed mood
 - 0.7 points lower at end of treatment and then 1.3 points lower 6 months post-treatment
 - Disability
 - 0.7 points lower at end of treatment and then 1.2 points lower 6 months post-treatment

◆ Additional findings for CBT-CP in general:

- Associated with returning disabled patients to work (Cutler et al, 1994).
- Achieving significantly better outcomes on multiple domains, including decreased fear of pain and catastrophizing (Hanson, 2010).

Behavioral Interventions for Rheumatoid Arthritis

| Intervention | Evidence |
|--------------------------------|--|
| CBT | “Definitely efficacious” Benefits seen in: pain ratings, fatigue, sleep, coping, self-efficacy, & disability related outcomes Dosage: at least 6 sessions of CBT Greatest benefits when offered early in disease trajectory |
| Expressive Writing | Level I evidence. Definitely efficacious. One head-to-head trial with CBT found CBT was more effective than expressive writing. |
| Mindfulness | “Definitely efficacious” but smaller effects than CBT Found to be particularly helpful for patients with comorbid depression |
| Problem Solving | No evidence for RA, specifically, but Level II evidence for older patients who have arthritis and a clinical depression. Possibly efficacious. |
| IFS-based Psychotherapy | Level II evidence. Possibly efficacious. |
| ACT | No evidence specifically for RA. Level II evidence for chronic pain. Definitely efficacious for chronic pain, unclear for RA. |

Source: Sharpe (2016)

Psychosocial Predictors of Poor Outcomes

- ◆ High levels of depression/emotional distress
- ◆ Perception of poor health, somatic focus
- ◆ Maladaptive coping
 - Fear-avoidance
 - Pain catastrophizing
- ◆ Level of pain intensity and functional disability
- ◆ Length of time out of work, work dissatisfaction
- ◆ Ongoing litigation/worker's comp case
- ◆ Positive reinforcement of pain behaviors

Which patients are the best candidates for CBT-Pain?

Factors contributing to the best outcomes:

- Fewer physical sx
- Better functioning at baseline
- Fewer or less severe co-occurring psychological problems
- Interventions that include more components
- Intervening early
- Good relationship with physician
- Accepting the connection between psychosocial factors, including stress, and their physical sx