Mindfulness and Pain Management

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Healthy Adventures Foundation's Background and mission

- Non-profit, specializing in health and wellness programming and development for communities, organizations, groups, and individuals for seniors, adults, employees, and children
- We seek to improve quality of life, while seeking balance in healthy behaviors.

My Background

- CEO / CFO Healthy Adventures Foundation
- Education
  - Ph.D. Organizational Psychology
  - MPH Public Health
  - MSW Social Work
  - MS Organizational Psychology
  - BS Physical Education, Athletic Training
  - AS Intelligence Collections
- Part-time professor at Southwestern college and USC

Rate yourself

- Scale of 1-10, 10 being the highest. Rate yourself on the following:
  - Stress
  - Energy
  - Mood
- Save your results for later

Agenda

- Chronic Pain
  - Research review
- Stress
  - Stress management techniques
- Mindfulness
  - Mindfulness techniques

Who Gets Chronic Pain

- 100 million Americans suffer from chronic pain (webmd.com)
- Women are at greater risk than men for developing chronic pain disorders (Fillingim, 2000).
- Most common causes of chronic pain are headaches, joint pain, pain from injury, and backaches.
- Most common musculoskeletal disorder is from back/spine injury and disease; 80% of all Americans will have a back injury at some point in their life.
- Stress can exacerbate pain levels.

Symptoms of Chronic Pain

- Mild to severe pain that does not go away
- Pain that may be described as shooting, burning, aching, or electrical
- Feeling of discomfort, soreness, tightness, or stiffness

http://www.webmd.com/pain-management/guide/understanding-pain-management-chronic-pain

Other Problems Associated with Pain

- Fatigue
- Sleeplessness
- Withdrawal from activity and increased need to rest
- Weakened immune system
- Changes in mood including hopelessness, fear, depression, irritability, anxiety, and stress
- Disability
- Evidence suggests that the demands imposed by intense pain and stress may deplete the reservoir of self-regulatory resources needed to cope effectively (Baumeister & Heatherton, 1996).

http://www.webmd.com/pain-management/guide/understanding-pain-management-chronic-pain

Stress and Pain Response Similarities

- Loss of prefrontal, or higher thinking, regulation in the brain
- React more from primitive/survival parts of brain: emotional thinking, reflexes, survival instincts
- Muscular System
  - Tension
  - Ready for Action
  - Jaws Clench
  - Body Braces for Action
- Central Nervous System
  - Perception – Narrowed
  - Memory - Coarse, Imprecise
  - Learning – Blocked
  - Conditioning – Defense
  - Tendency - Regress or Perseverate
  - Tone – Fight or Flight
- Autonomic Nervous System
  - Heart rate increases
  - Blood pressure increases
  - Oxygen need increases
  - Breathing rate increases
  - Palms, face sweat
  - Blood sugar increases
  - Adrenalin flows
  - Digestive tract shuts down blood to muscles
  - Blood vessels constrict in hands, face

General Adaptation Syndrome (GAS)

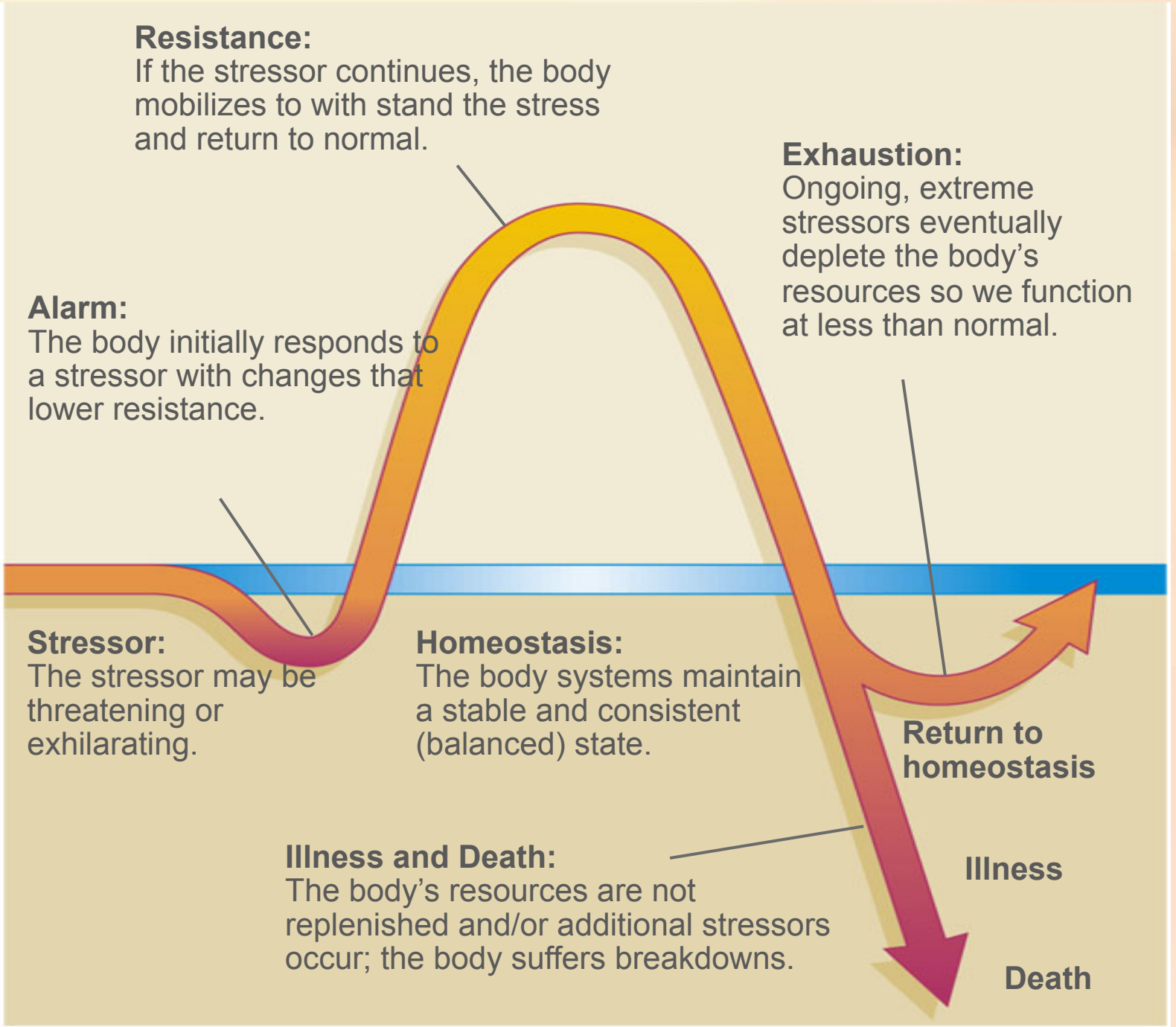

Fig. 3-1, p. 59

Health Effects of Chronic Stress

- Every system in the body can be damaged by chronic and unmanaged stress
  - Immune System
    - Both brief and long-term stressors decrease immune function: e.g. more colds, flus, etc.
  - Cardiovascular System
    - Long-term stress response can cause various forms of heart disease: e.g. blood pressure.
  - Gastrointestinal System
    - Common forms of stomach ailments can be related to stress: e.g. irritable bowel.
  - Mental Health
    - Forms of acute and chronic stress can contribute to the development of psychological illnesses: e.g. anxiety, depression, etc.
  - Weight gain or loss (cortisol effect)
  - Exacerbate chronic disease

Effects on Perception for those in Chronic Pain

- Restrains freedom of movement; restrictions on everyday life
- Impaired quality of life
- Unable to achieve a balanced life
- Living with pain is described as unpredictable and aggressive
- Women have to defend their experiences with chronic pain, as their experiences are often doubted (Juuso, Ska¨ r, Olsson, & So¨derberg, 2011).
- An experience of chaos and despair
- A gradual loss of earlier roles and identity
- An obstacle that forces the patient to change direction over and over again
- Feelings of confusion and powerlessness.
- Captured in a spiral motion of pain, stress, and exhaustion

Difficulties in Pain Management

- Patients with chronic pain with an identical medical diagnosis are not a homogeneous group, and they will not benefit equally from the same treatments to manage pain (Turk, 2005; Turk, Okifuji, Siclair, & Starz, 1996).
- Negative feelings may increase the level of substances that amplify sensations of pain, causing a vicious cycle of pain for the person.

Chronic Pain and Comorbidities

- Frank (1995) argues that seriously ill people are wounded both in body and voices. There may be needs for patients to tell their stories to construct new maps and to understand their everyday world, in order to handle their illness experiences and feel well.
- Anxiety, stress, depression, anger, and fatigue interact in complex ways with chronic pain and may decrease the body's production of natural painkillers.
- Unrelenting pain can suppress the immune system, making the person also chronically ill.

Developing Coping Skills with Chronic Pain

- Primary strategy must include coping skills
  - Improvement in coping with chronic pain has been reported after treatment with cognitive behavioral therapy (The Swedish council on Technology Assessment on Health Care, 2006).
  - Maximizing intervention effects, then, is likely to entail ensuring that individuals are developing not only a repertoire of coping strategies, but also the proficiency to use them effectively (Davis, Zautra, Wolf, Tennen, & Yeung, 2015).

Emotional Regulation with Chronic Pain

- Two central challenges to emotional regulation that arise from client's chronic pain:
  - (1) minimizing the negative consequences of pain and other stressors
  - (2) sustaining positive engagement in social relations, key sources of positive affect, despite their pain.

Davis, M.C., & Zautra, A.J. (2013). An Online Mindfulness Intervention Targeting Socioemotional Regulation in Fibromyalgia: Results of a Randomized Controlled Trial. Annuals of Behavioral Medicine, 46:273–284.

CBT for Chronic Pain

- Cognitive therapy (CT), a patient-centered approach:
  - A patients' total situation needs to be taken into account
  - Patients are encouraged to talk about their own beliefs and anxieties about their symptoms (Malterud & Hunskaar, 2002; Willis & Sanders, 2000).
  - Focus on empowerment
  - Combine stress management with problem solving, goal setting, pacing of activities, and assertiveness in order to give the individual tools to deal with a life with chronic pain.
  - The therapeutic model needs to be adjusted to the patient's situation.
  - The focus was changed from exercise and education to movement and interaction (Steihag et al., 2001).
  - Less time was spent on instruction and more on discussions.
  - Instead of reducing pain the aim became to provide tools to handle their pain.

CBT Key Components

- Training individuals to apply cognitive reappraisal strategies to address the faulty cognitions that contribute to their poor adjustment.
- Encourage individuals to adopt a more detached or “decentered” view of thoughts, considering their thoughts are not facts but temporary mental events that can be evaluated to determine their veracity and/or utility and changed, if necessary.
- Relaxation techniques and activity pacing, with the overarching goal of helping individuals respond to their pain more effectively.
- Improve coping self-efficacy, psychological and physical symptoms, and functional health.

Davis, M.C., Zautra, A.J., Wolf, L.D., Tennen, H., Yeung, E.W. (2015). Mindfulness and Cognitive–Behavioral Interventions for Chronic Pain: Differential Effects on Daily Pain Reactivity and Stress Reactivity. Journal of Consulting and Clinical Psychology: American Psychological Association, 83 (1), 24–35. http://dx.doi.org/10.1037/a0038200

Does CBT Work with Pain Management?

- A series of meta-analyses summarizing the benefits of CBT has shown that it yields moderate to large effects for cognitive coping responses and small to moderate effects for pain outcomes relative to controls (Astin et al., 2002; Dixon et al., 2007).

Mindfulness in Cognitive Therapy

- Mindfulness training teaches participants:
  - Let go of stress and negative thoughts by focusing on breathing and being presence in the moment
  - Gain acceptance of circumstances one cannot influence.
  - Become an observer instead of a victim (Kroese,2002).
  - Better handle pain conditions (Siegel, 2005) and to find ways of self-acceptance (Germer, 2009).
  - To ameliorate psychosocial well-being (McCracken & Gauntlett-Gilbert, 2007).
  - To build a better base patient and the therapist (Stern, 2004).

Acceptance-Based Approaches to Pain

- Value in fostering both awareness and acceptance of pain and other aversive experiences to help individuals with chronic pain effectively manage the physical and emotional demands of their illness (Hayes & Duckworth, 2006; Kabat-Zinn, 1990).
- Fosters the development of a decentered view that thoughts, emotions, and physical sensations are simply temporary experiences.
- Increasing individuals' capacity to be both aware and nonjudgmental of present moment experiences, including pain and their reactions to pain.
- Acceptance-oriented treatments typically include exercises designed to illustrate the principles of mindfulness - awareness and acceptance (Hayes & Duckworth, 2006).
- Attend to current experiences without suppressing or elaborating those experiences.
- Increasing the capacity to sustain awareness without judgment when faced with pain or stress may be key to decreasing automatic, maladaptive responses, including hypervigilance to threats and catastrophizing (Garland et al., 2012; Garland & Howard, 2013).
- Decrease automatic cognitive and emotional reactivity to aversive experiences, thereby increasing the ability to act more intentionally to response to pain and other stressors.

Changing Perspective with Chronic Pain

- Three constituents for managing pain:
  - finding meaning in life with pain;
    - To manage life with pain is hard but possible when there is a will to change.
    - Create a starting point for changes and managing life with pain in a meaningful way (Peilot, Andre'LL, Samuelsson, Mannheimer, Frodi & Sundler, 2014).
    - Telling their story allows people in pain to feel well again (Frank, 1995). It builds trust and a secure basis for therapy. An adult insecure attachment pattern both represents a risk factor for developing chronic pain and a vulnerability factor for poor outcome (Meredith, Strong, & Feeney, 2007). Story telling can assist in creating an attachment to the therapist.
  - feeling empowered when learning to let go and leave things behind;
    - Pain may never go away but can be more or less.
  - and building an understanding of one's body and symptoms.

Stress Reduction Basic Strategies

- Healthy lifestyle, including nutritious diet, sleep, and exercise
  - Balanced diet, with variety of nutritional options
  - 7-9 hours of sleep per night
  - 150 minutes per/week of exercise Stretching, cardio, and strength blend
  - Biofeedback: control BP, HR, respirations
  - Practicing 3 minutes/day of intentional stress management techniques

Stress Management Self-Care Techniques

- Breathing techniques
- Self-talk - change how you think about your pain and yourself
- Hypnosis
- Contract / relax or progressive muscle relaxation
- Guided imagery for 5-10 minutes a day
- Mindfulness meditation. Sit or lie quietly and notice your breathing without controlling it. If pain or thoughts interfere, simply notice them without trying to push them away. Think of them as a cloud passing over; then return to observing your breath. Do this for about 20 minutes.
- Aromatherapy
- Laughter therapy
- Doing things you enjoy

Stress Management: Breathing Techniques

- Foursquare breathing. Breathe deeply, so that your abdomen expands and contracts like a balloon with each breath. Inhale to a count of four, hold for a count of four, exhale to a count of four, then hold to a count of four. Repeat for ten cycles.
- Diaphragmatic/Belly Breathing: Stress causes quick, shallow breathing from the chest which can actually worsen symptoms of stress and anxiety. Deep Breathing uses the diaphragm to breathe fully and completely, relieving feelings of stress and anxiety.
  - Inhale slowly as if you are filling your body up like a balloon.
  - Let the air slowly fill your chest, then your rib cage, and finally your belly. Notice your chest, ribs, and belly expanding.
  - As you exhale, release the air starting from your belly, then your rib cage, and finally your chest.

4-7-9

- **4 -7- 9 Breathing:** Practice any time when you are feeling stressed, anxious, or upset.
  - Start by exhaling completely through your mouth.
  - Close your mouth and inhale through your nose for a count of **four**.
  - Hold your breath for a count of **seven**.
  - Exhale completely through your mouth for a count of **nine**.
  - Repeat the cycle 1-2 more times.

Mindfulness of Breathing

- Step one: In the first stage you use counting to stay focused on the breath. After the out-breath you count one, then you breathe in and out and count two, and so on up to ten, and then you start again at one.
- Step two: Subtly shift where you breathe, counting before the in-breath, anticipating the breath that is coming, but still counting from one to ten, and then starting again at one.
- Step three: Drop the counting and just watch the breath as it comes in and goes out.
- Step four: The focus of concentration narrows and sharpens, so you pay attention to the subtle sensation on the tip of the nose where the breath first enters and last leaves the body.

Meditation Techniques – Breath Focused

- Find a comfortable position either lying down on your back, in a chair, or on a cushion on the floor.
- Scan through the body and release unnecessary tension.
- Bring attention to the body with an attitude of friendly curiosity.
- Tune into the sensations of your body breathing and focus your attention on the feel of the breath coming in and out.
- When your mind wanders, notice, and gently guide attention back to the breath (over and over again).
- Practice for 5-30 minutes daily for lasting positive results.

Progressive Muscle Relaxation/Body Scanning

- Actively tensing then relaxing each muscle group from head to toe. By tensing your muscles, they have no other choice but to relax. When muscles are relaxed, breathing slows, blood pressure lowers, and stress is relieved. Tighten each muscle group, one at a time for 10 seconds each. Start from head to toe, then repeat in the opposite direction, starting from your toes on up to your head.

Meditation Techniques – Body Scanning

- Bring curious, friendly attention to the sensations in your feet. Feel vs think.
- Gradually move your way up the body…feeling the ankles, lower legs, knees, upper legs.
- Feel sensations in the buttocks, the lower back, middle back, and upper back.
- Notice sensations in the pelvis, abdomen, and chest.
- Sense the fingers, hands, wrists, forearms, elbows, and upper arms.
- Feel sensations in the shoulders. Notice any tension without judging it or trying to change it.
- Notice sensations in the neck, throat, jaw, and mouth.
- Sense the nose, eyes, forehead, ears, and head.
- Feel sensations in the whole body at once. The whole body as one universe of sensation.

Guided imagery

- **Guided Imagery/Deep Relaxation –** Controlled thoughts, images, and suggestions used by the mind to control the body's physical state, such as for relieving stress and promoting relaxation. Either record the script in your own voice over a tape recorder and play back to yourself or have someone read it to you. Get into a comfortable position and let go of any thoughts that may come to mind. Mentally prepare yourself to be relaxed and open so that the imagery will be effective.

What is meditation?

- Meditation is a state of consciousness that clears the mind of the daily grind of things that bombard us in order to achieve a state of inner piece and calm.
- It is intended to silent the mind to allow the participant to achieve a higher state of consciousness and control over the mind and body.
- This allows the participant to improve concentration, clarity, and enhance positive emotions.

Meditation

- Focusing on the moment and inner self, blocking out thoughts, and quiet time
  - Taking quiet time
  - Breathing techniques
  - Focusing on one word
  - Chanting
- Individuals that meditate show a marked decrease in the thickness of their artery walls and a reduction in blood pressure both of which can reduce the risk of major coronary events.

Mindfulness

- Focusing on the moment, experiencing to the fullest extent possible all the sensations of that moment
- Keep with what is and block out any what ifs of if only
- Staying present both mentally and physically

Does Mindfulness Work?

- Multiple meta-analytic studies including MBSR and MBCT trials have been published in recent years (Goyal et al., 2014; Hofmann, Sawyer, Witt, & Oh, 2010; Piet & Hougaard, 2011), with generally convergent findings.
- A recent meta-analysis of randomized clinical trials of acceptance-based treatments for chronic pain indicated that they yield small improvements in pain and depression, and small to moderate improvements in physical well-being relative to education controls or treatment-as-usual (Veehof, Oskam, Schreurs, & Bohlmeijer, 2011).
- The overall consensus appears to be "yes." (Dimidjian, S. & Segal , Z. (October 2015). Prospects for a Clinical Science of Mindfulness-Based Intervention. American Psychologist, Vol. 70, No. 7, 593–620 http://dx.doi.org/10.1037/a0039589)
- In managing RA, mindful awareness and acceptance treatment was more successful in reducing daily reactivity to both pain and stress than either cognitive– behavioral treatment or arthritis education. Specifically, mindful awareness and acceptance was the most effective approach in dampening pain-contingent increases in catastrophizing, fatigue, and disability, and stress-contingent increases in anxious affect. The CBT and education treatments outperformed mindful awareness and acceptance in one domain: limiting pain-contingent decreases in perceived control (Davis, Zautra, Wolf, Tennen, & Yeung, 2015).

Does Mindfulness Work?

- Training individuals to simply notice and label aspects of current aversive experiences can make them more adept at detecting even subtle affective cues, allowing them to begin to regulate their responses to pain and stress episodes before emotions become too intense (Teper, Segal, & Inzlicht, 2013).
- Mindfulness helps to shift attention away from affect laden appraisals (e.g., catastrophizing) toward the sensory aspects of experience, reducing reactivity to aversive events in individuals with somatic symptoms (Garland et al., 2012).
- Decreases in attentional bias to and increases in disengagement from pain-related cues (Garland & Howard, 2013; Vago & Nakamura, 2011).

Benefits of Mindfulness Practice

- Parts of brain related to attention, sensory processing, emotion and stress regulation, and empathy/compassion, are strengthened!
- Study from University of Wisconsin-Madison (Davidson) found people that meditate better at monitoring emotions and thoughts and let go of those that might cause distress.
- Meditation strengthens higher functioning part of the brain, prefrontal cortex and anterior cingulate – responsible for higher thinking and processing faculties such as intuition, empathy, and social awareness. Subdues primitive brain, instinctual behavioral reflexes driven by fear and anger.

Major Components of Mindfulness

- Mindfulness is attention training used to cultivate concentration, clarity, and equanimity.
  - Concentration: The ability to focus and stabilize one's attention.
  - Sensory Clarity: The ability to keep track of the components of sensory experience as they arise - moment awareness.
  - Equanimity: The ability to 'be with' experience with an attitude of gentle matter-of-factness - attitude of non-judgmental curiosity.

Learning How to Integrate Mindfulness

- Beginner practices:
  - Restrictive focus, such as breath meditation
  - Develops/strengthens core skills of concentration, clarity and equanimity
- Intermediate / advanced practices:
  - Open awareness to increasing amount of sensory experience, such as “choiceless awareness”

Practice Mindfulness

- Create ‘Mindful Pauses’ throughout your day.
  - Take 1-5 minutes to practice slowing down, feeling the body, breathing more fully, letting go of thoughts, and returning to the present moment with gratitude and acceptance.
- Set aside 5-30 minutes a day for meditation, yoga, art, or another mindful activity you enjoy.
- Try different mindful techniques through classes, self-help, internet, etc.
- Take a meditation retreat.

Linking Mindfulness to Motivation

- Current status over time versus retrospective recall of pain and status
  - Before/after each therapy session for those not willing to do a daily journal, with discussion of the results
  - Daily entry for those that are able and willing, examining intervention effects on real-time responses to pain (Gil et al., 2001).
- How I feel taps intrinsic motivation … if I feel better, I am more likely to continue doing it.

Aromatherapy

- The use of essential oils from plants and other aromatic compounds to help improve one's mood and reduce stress and anxiety.
- Keep around scents that you enjoy, such as: lemons, limes, oranges, cinnamon, cloves, allspice, nutmeg, vanilla, almond extract, mint, eucalyptus, etc.
- Keep the scents light, as heavy scents can also cause stress.

Aromatherapy

- Calming scents: vanilla, lavender, orange, mandarin
- •Energizing scents: lemons, limes, oranges, mint
- •Reduce tension: peppermint
- •Boost mood: jasmine and lemon

Aromatherapy

- Lemon: Enhance your performance and your attitude by rubbing lemon balm inside your wrist. The mild lemon scent sends you to a positive place. In fact, a study at the UK's Northumbria University found that exposure to lemon balm can improve cognitive performance and mood.
- Mandarin: At the Mayo Clinic, massage therapists and acupuncturists augment therapies with the gentle scent of mandarin essential oil. Patients have reported reduced stress, better digestion and less nausea.
- Grapefruit: Anecdotal evidence suggests that grapefruit aromas can curb depression and enhance memory. Or try taking a whiff before meals to control your appetite. Research from Japan's Osaka University shows that the scent of grapefruit actually boosts metabolism and reduces food cravings.

Laughter therapy

- Children smile and laugh hundreds of times in a day
- Adults average around 10-15 times
- Smiling and laughing, even if you don't feel like it, sends happy messages to the brain! This makes you happier.

Laughter therapy

- Laughter/humor therapy uses the physiological act of laughing to relieve stress, worry, and even pain. Laughter releases endorphins which are the body's natural painkillers. This induces physical and emotional changes including a strengthened immune system, lowered blood pressure, strengthened social bonds, and much more. The positive effects of a few minutes of laughter can last for hours!

Change your Environment

- Colors that create calm and still promote productivity:
  - Hues of blue
  - Hues of green
- Colors that create energy:
  - Hues of yellow
  - Hues of orange

Exercise and Stress

- Minimal amounts of exercise can lower your stress response and bring your body back to normal levels.

Exercise affects on the body

- How exercise makes your feel good:
  - Releasing feel-good brain chemicals that may ease depression (neurotransmitters and endorphins)
  - Reducing immune system chemicals, which can worsen depression
  - Increasing body temperature, which may have calming effects

Rate yourself

- Scale of 1-10, 10 being the highest. Rate yourself on the following:
  - Stress
  - Energy
  - Mood
- How did your results impact your intrinsic motivation?

References

- Alexandra Arbogast. Introduction to Mindfulness PPT.
- Astin, J. A., Beckner, W., Soeken, K., Hochberg, M. C., & Berman, B. (2002). Psychological interventions for rheumatoid arthritis: A metaanalysis of randomized controlled trials. Arthritis & Rheumatism: Arthritis Care and Research, 47, 291–302. http://dx.doi.org/10.1002/art .10416
- Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. Psychological Inquiry, 7, 1–15. http://dx.doi.org/10.1207/s15327965pli0701_1
- Davis, M.C., Zautra, A.J., Wolf, L.D., Tennen, H., Yeung, E.W. (2015). Mindfulness and Cognitive–Behavioral Interventions for Chronic Pain: Differential Effects on Daily Pain Reactivity and Stress Reactivity. Journal of Consulting and Clinical Psychology: American Psychological Association, 83 (1), 24–35. http://dx.doi.org/10.1037/a0038200
- Davis, M.C., & Zautra, A.J. (2013). An Online Mindfulness Intervention Targeting Socioemotional Regulation in Fibromyalgia: Results of a Randomized Controlled Trial. Annuals of Behavioral Medicine, 46:273–284.
- Dimidjian, S. & Segal , Z. (October 2015). Prospects for a Clinical Science of Mindfulness-Based Intervention. American Psychologist. Vol. 70. No. 7. 593–620 http://dx.doi.org/10.1037/a0039589
- Dixon, K. E., Keefe, F. J., Scipio, C. D., Perri, L. M., & Abernethy, A. P. (2007). Psychological interventions for arthritis pain management in adults: A meta-analysis. Health Psychology, 26, 241–250. http://dx.doi.org/10.1037/0278-6133.26.3.241
- Frank, A. W. (1995). The wounded storyteller. Chicago, IL: The University of Chicago Press.
- Garland, E. L., Gaylord, S. A., Palsson, O., Faurot, K., Douglas Mann, J., & Whitehead, W. E. (2012). Therapeutic mechanisms of a mindfulnessbased treatment for IBS: Effects on visceral sensitivity, catastrophizing, and affective processing of pain sensations. Journal of Behavioral Medicine, 35, 591–602. http://dx.doi.org/10.1007/s10865-011-9391-z
- Garland, E. L., & Howard, M. O. (2013). Mindfulness-oriented recovery enhancement reduces pain attentional bias in chronic pain patients. Psychotherapy and Psychosomatics, 82, 311–318. http://dx.doi.org/10.1159/000348868
- Germer, K. C. (2009). The mindful path to self-compassion. New York: The Guilford Press.
- Gil, K. M., Anthony, K. K., Carson, J. W., Redding-Lallinger, R., Daeschner, C. W., & Ware, R. E. (2001). Daily coping practice predicts treatment effects in children with sickle cell disease. Journal of Pediatric Psychology, 26, 163–173. http://dx.doi.org/10.1093/jpepsy/26.3.163
- Goyal, M., Singh, S., Sibinga, E. M., Gould, N. F., Rowland-Seymour, A., Sharma, R., . . . Haythornthwaite, J. A. (2014). Meditation programs for psychological stress and well-being: A systematic review and metaanalysis. Journal of the American Medical Association Internal Medicine, 174, 357–368. http://dx.doi.org/10.1001/jamainternmed.2013 .13018

References

- Hayes, S. C., & Duckworth, M. P. (2006). Acceptance and commitment therapy and traditional cognitive behavior therapy approaches to pain. Cognitive and Behavioral Practice, 13, 185–187. http://dx.doi.org/10.1016/j.cbpra.2006.04.002
- Wendy Hileman. Stress Management PPT.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A metaanalytic review. Journal of Consulting and Clinical Psychology, 78, 169–183. http://dx.doi.org/10.1037/a0018555
- Juuso, P., Ska¨r, L., Olsson, M., & So¨derberg, S. (2011). Living with a double burden: Meanings of pain for women with fibromyalgia. International Journal of Qualitative Studies on Health and Well-being, 6, 7184. DOI: 10.3402/qhw.v6i3. 7184.
- Kabat-Zinn, J. (1990). Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness. New York, NY: Delacorte.
- Kroese, A. J. (2002). How to reduce stress now with awareness training. Oslo: Hegnar Media.
- Malterud, K., & Hunskaar, S. (2002). Chronic myofascial pain a patient-centred approach. Abingdon: Radcliff Medical Press.
- McCracken, L. M., & Gauntlett-Gilbert, J. (2007). The role of mindfulness in a contextual cognitive-behavioural analysis of chronic pain-related suffering and disability. Pain, 131(12), 6369.
- PEILOT, ANDRE´ LL, SAMUELSSON, MANNHEIMER, FRODI & SUNDLER (2014). Time to gain trust and change: Experiences of attachment and mindfulness-based cognitive therapy among patients with chronic pain and psychiatric co-morbidity. International Journal of Qualitative Studies on Health and Well-being, 9.
- Piet, J., & Hougaard, E. (2011). The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: A systematic review and meta-analysis. Clinical Psychology Review, 31, 1032–1040. http://dx.doi.org/10.1016/j.cpr.2011.05.002

References

- Siegel, R. D. (2005). Psychophysiological disorders-embracing pain. In K. C. Germer, R. D. Siegel, & P. R. Fulton (Eds.), Mindfulness and psychotherapy. New York: The Guilford Press.
- Stern, D. N. (2004). The present moment in psychotherapy and everyday life. New York: W.W Norton & Company.
- Steihag, S., Ahlsen, B., & Malterud, K. (2001). From exercise and education to movement and interaction. Treatment groups in primary care for women with chronic muscular pain. Scandinavian Journal of Primary Health Care, 19, 249254.
- The Swedish Council on Technology Assessment on Health Care. (2006). SBU-report nr 171/1, Methods for treatment of long-term pain. A systematic literature review. Stockholm, Sweden: The Swedish Council on Technology Assessment on Health Care. IBSN 91-85413-08-9.
- Thomas Higher Education (2007)
- Turk, D. C. (2005). The potential of treatment matching for subgroups of patients with chronic pain: Lumping versus splitting. Clinical Journal of Pain, 21(1), 4455.
- Turk, D. C., Okifuji, A., Siclair, J. D., & Starz, T.W. (1996). Pain, disability, and physical functioning in subgroups of patients with fibromyalgia. The Journal of Rheumatology, 23(7), 12551262.
- Vago, D. R., & Nakamura, Y. (2011). Selective attentional bias towards pain-related threat in fibromyalgia: Preliminary evidence for effects of mindfulness meditation training. Cognitive Therapy and Research, 35, 581–594. http://dx.doi.org/10.1007/s10608-011-9391-x
- Veehof, M. M., Oskam, M.-J., Schreurs, K. M., & Bohlmeijer, E. T. (2011). Acceptance-based interventions for the treatment of chronic pain: A systematic review and meta-analysis. Pain, 152, 533–542. http://dx.doi.org/10.1016/j.pain.2010.11.002
- WebMD: http://www.webmd.com/pain-management/guide/understanding-pain-management-chronic-pain
- Willis, F., & Sanders, D. (2000). Cognitive therapy. Transforming the image. London: Sage.

Any Questions?

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