Psychological Management of CRPS & Comorbid Conditions

Leanne R. Cianfrini, PhD

Do these sound familiar?

- "I can't do what I used to do."
- "I miss my old self."
- "I wish I could have the old me back."
- "I don't feel like myself anymore."
- "I don't know if I have the energy to deal with this anymore."
- "What if this never gets better?"

ST MARY'S MEDICAL CENTER

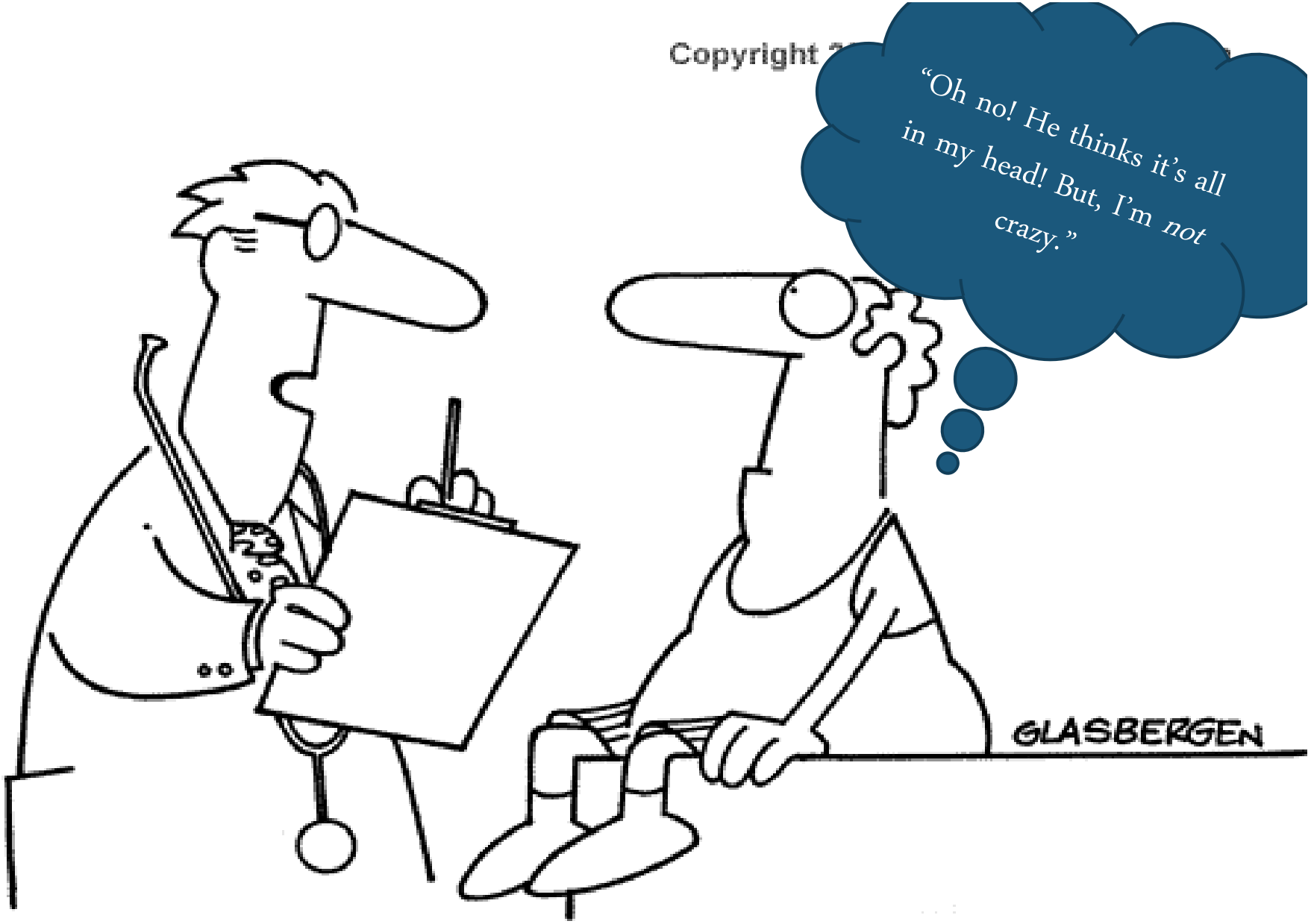
Patient Name: [redacted] Date: 10/1/07

xxxx = Burning
0000 = Aching/Dull
^^^^ = Stabbing
≈ = Throbbing
→ = Radiation
//// = Numbness

Rate your present pain on a scale of 0 to 10. See scale below.

10 – Worst Pain
9 -
8 - Very Severe
7 -
6 - Severe Pain
5 -
4 - Moderate Pain
3 -
2 - Mild Pain
1 -
0 – No Pain

PC - PAIN IDENTIFICATION
SMMC :57 - 6
Adopted Date:
Revised Date: 6/2006
Reviewed Date



"We can't find anything wrong with you, so we're going to treat you for Symptom Deficit Disorder."

Ascending Transmission / Descending Modulation

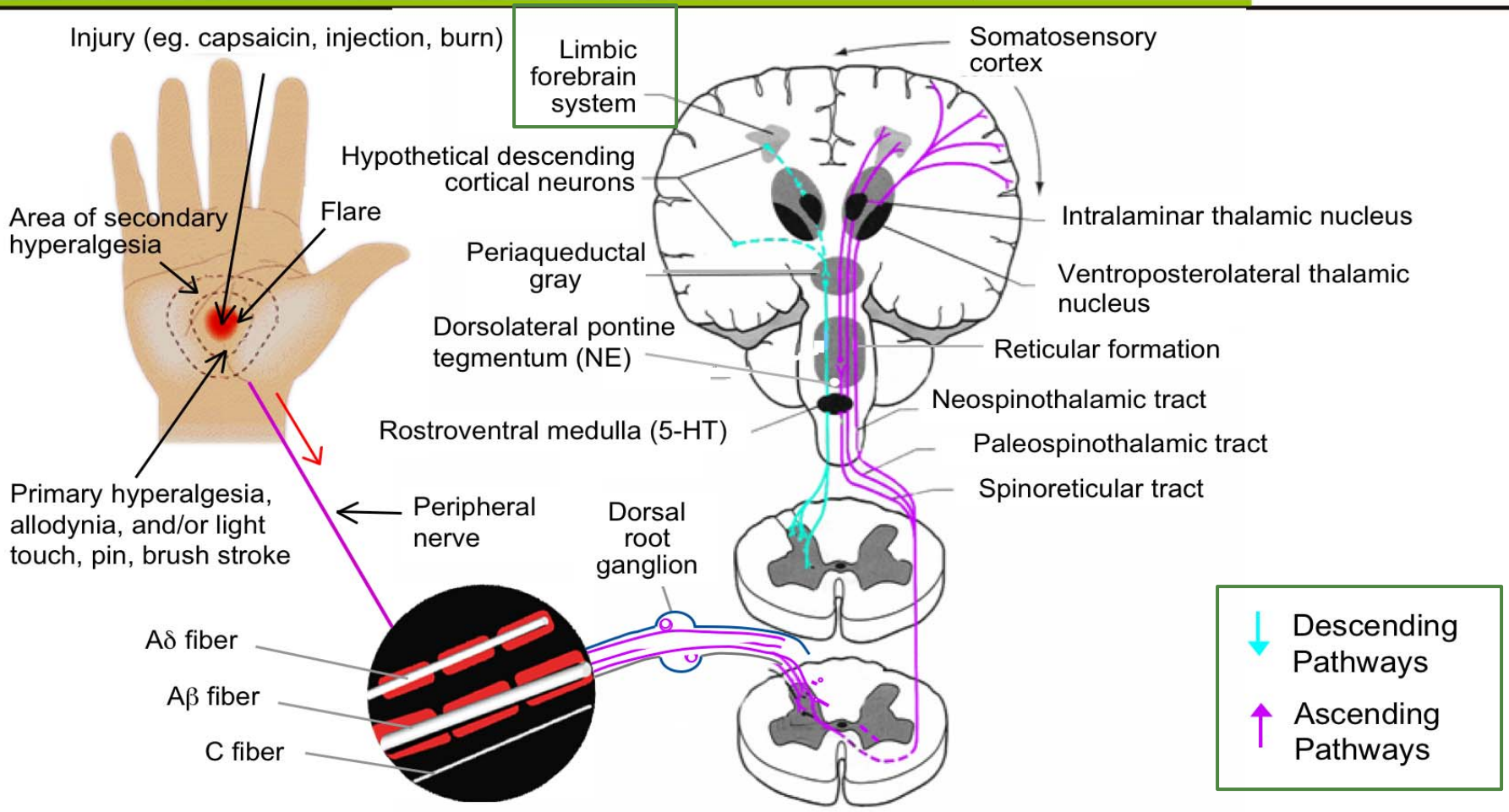
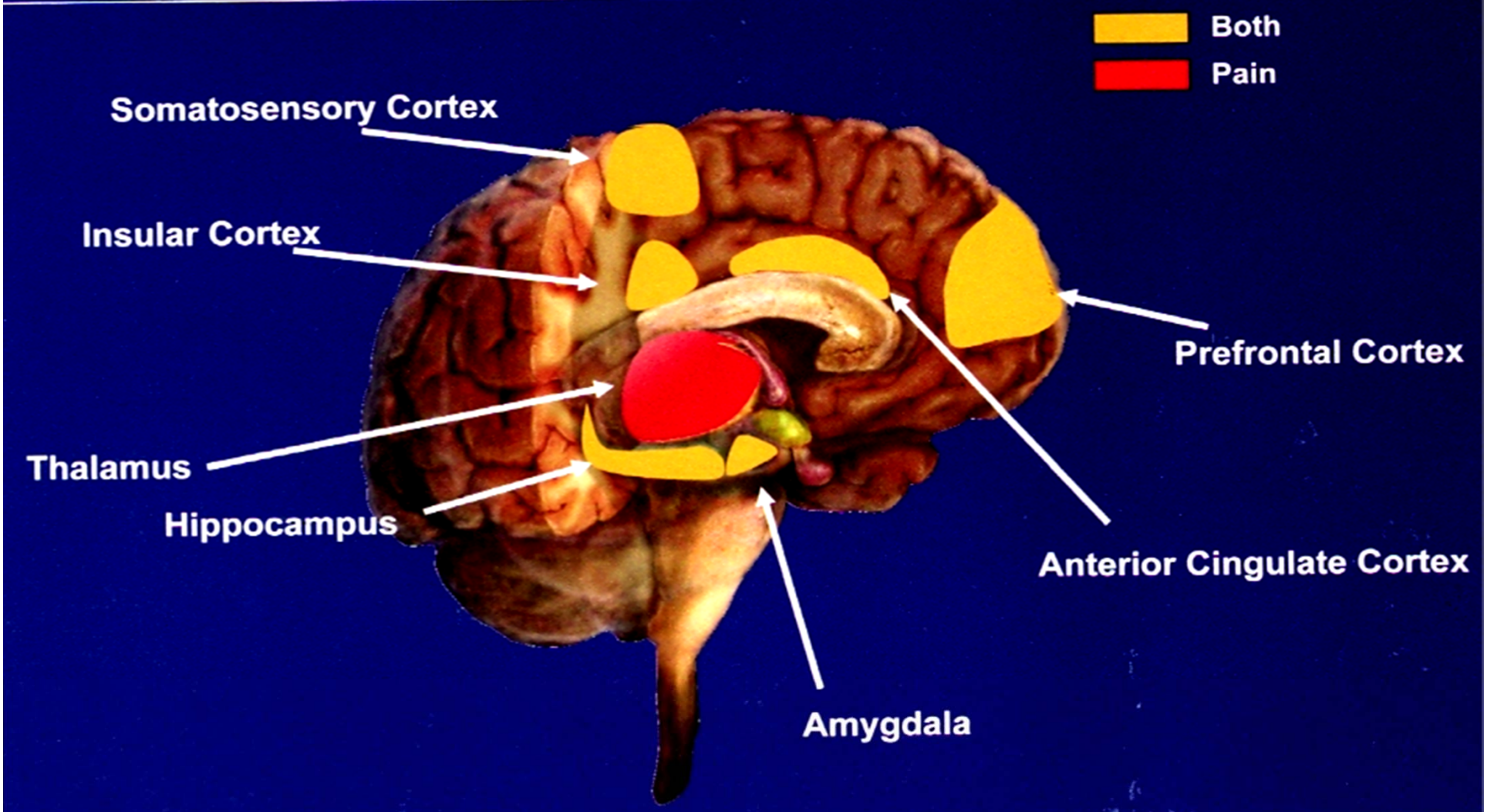


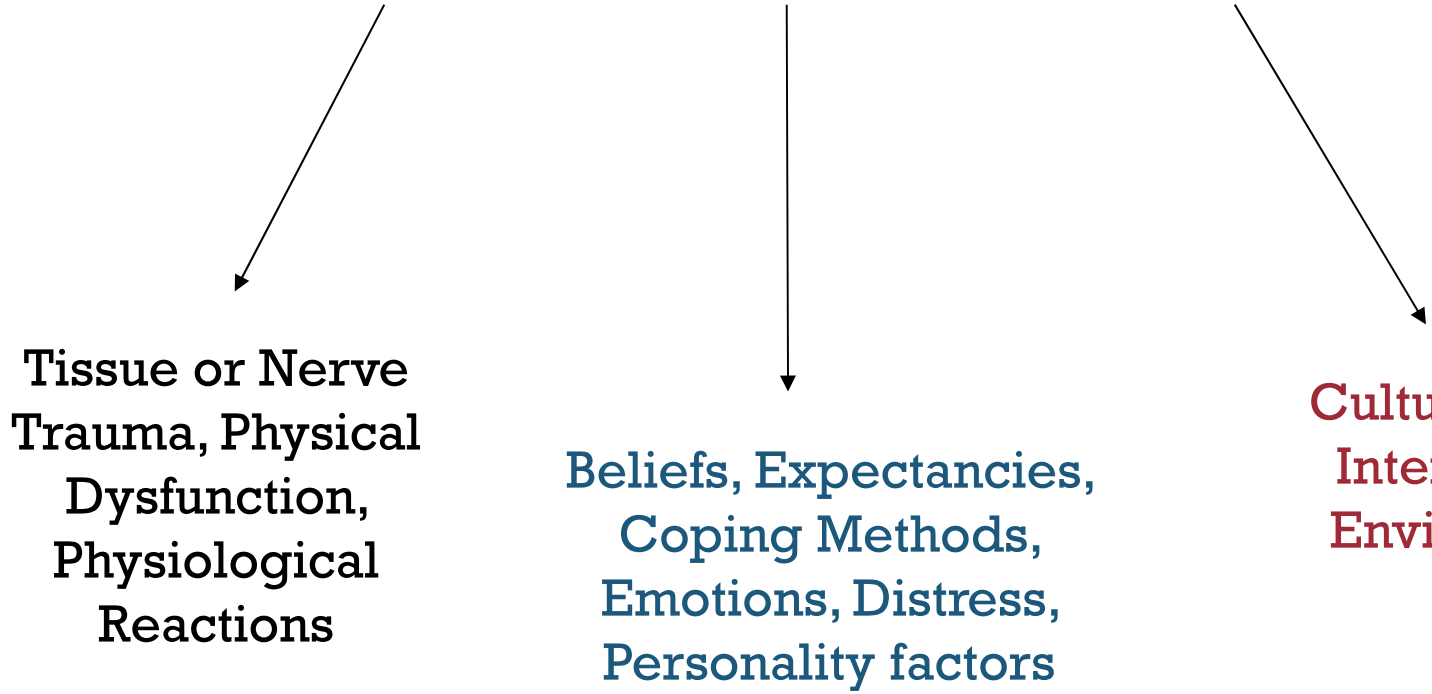
Figure adapted from: Alpay M. Pain patients. In: Stern TA, et al, eds. *Massachusetts General Hospital Handbook of General Hospital Psychiatry*; 2004:314.

Brain Regions that May Modulate Pain and Emotion[1-4]



1. Apkarian AV, et al. *Eur J Pain*. 2005;9:463-484.
2. Casey KL, Tran TD. Cortical mechanisms mediating acute and chronic pain in humans. In: Cervero F, Jensen TS, eds. *Handbook of Clin Neurology*. 2006:159-177.
3. Charney DS, Nestler EJ, Bunney BS, et al, eds. *Neurobiology of Mental Illness*. 2nd ed. 2004.
4. Schweinhardt P, et al. *Curr Opin Neurology*. 2006:19:392-400.

Bio-psycho-social



Tissue or Nerve Trauma, Physical Dysfunction, Physiological Reactions

Beliefs, Expectancies, Coping Methods, Emotions, Distress, Personality factors

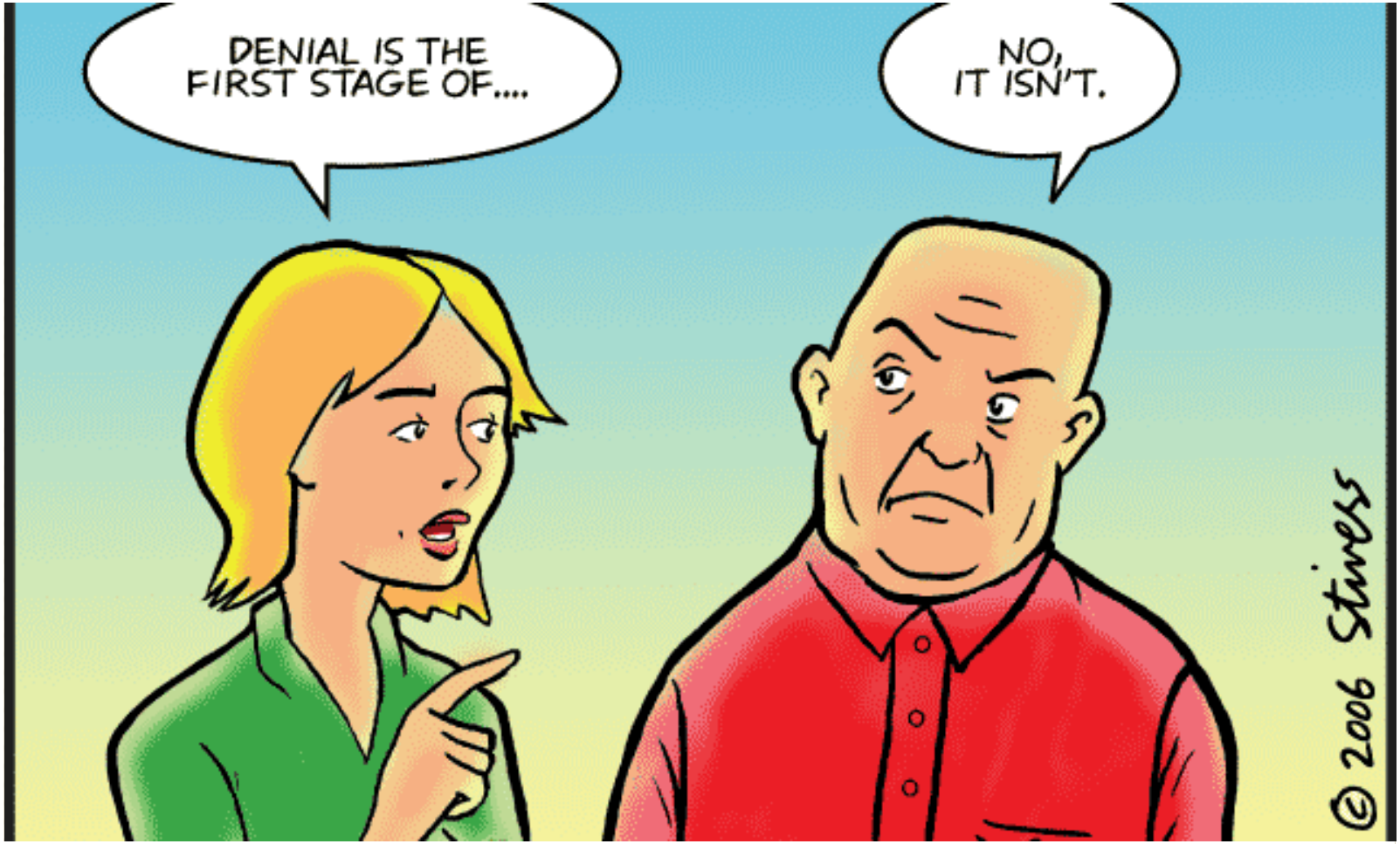
Culture, Social Interactions, Environment

Knowing the "Person Behind the Pain"

- Hippocrates: *It's far more important to know what person has the disease than what disease the person has.*
- Sir William Osler: *Care more particularly for the individual patient than for the special features of the disease.*
- Dr. Francis Peabody: *The secret of the care of the patient is in caring for the patient.*

Overlap Between Pain and Mood

- Patients with CRPS/RSD are not psychologically different from other patients with chronic pain
  - Psychological factors alone do not *cause* the physical symptoms.
- *Comorbid* psychiatric disorders are common, however: 24-49% of patients in various studies
- Mood may be "predispositional", but can also be a reaction to onset of CRPS.
- *Multidisciplinary* treatments are recommended.
  - But, research support for particular treatments is lacking.



Depression and Grief

Depression and Pain

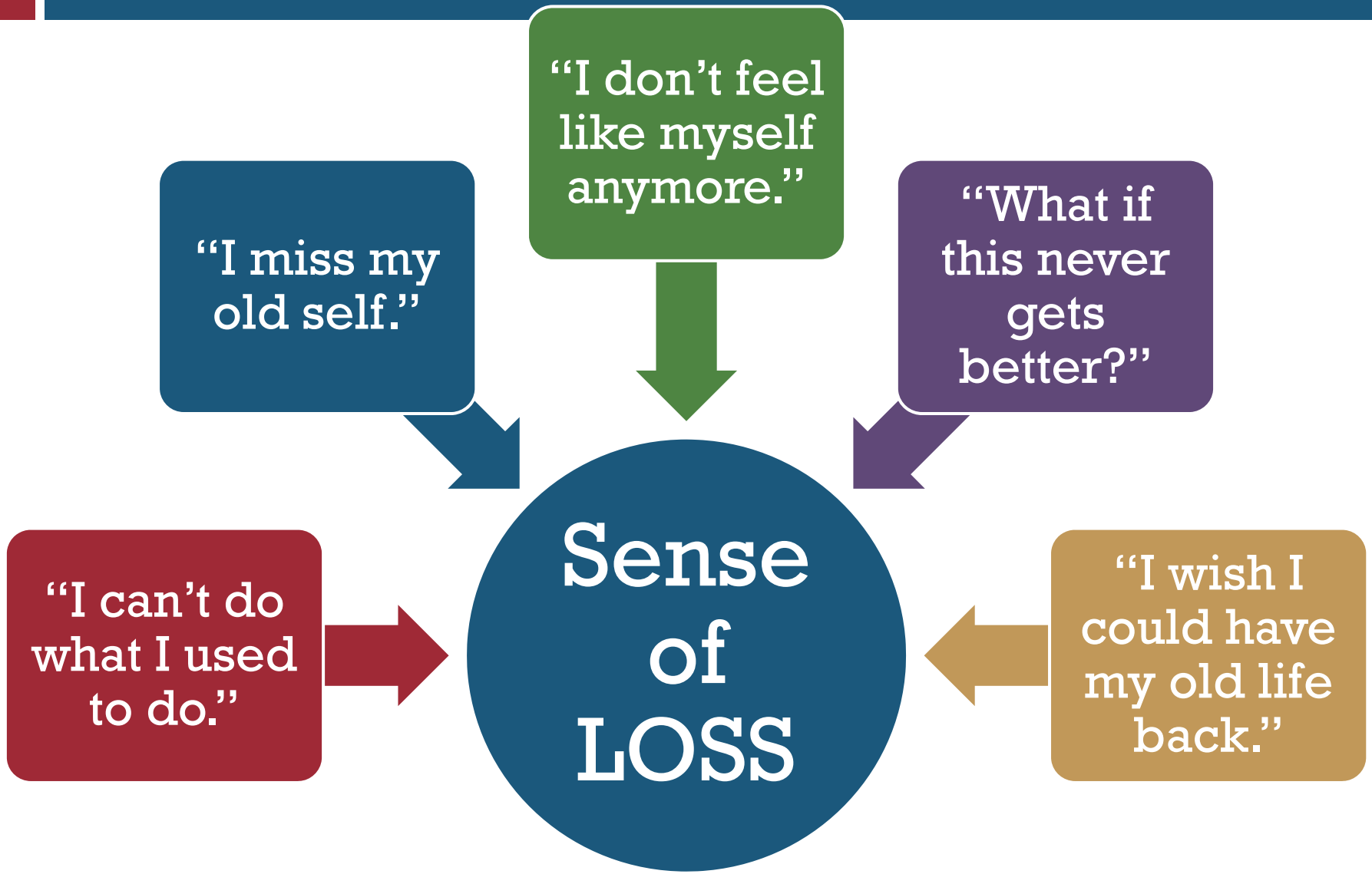
- Rate of major depression increases in a linear fashion with greater pain severity.
- Pain and depression together are associated with *greater disability* than either disorder alone.
  - The combination of CRPS pain, depression, high pain intensity and functional impairment is associated with increased risk of suicide.
- Depression (and anxiety or anger expression) may have a *greater impact on pain in patients with CRPS* than in those without, possibly due to the effects of distress on sympathetic nervous system arousal.

Assessing Depression

- **Questionnaires:**
  - Beck Depression Inventory (BDI-II)
  - Centers for Epidemiological Scale for Depression (CES-D)
  - Patient Health Questionnaire (PHQ-9 or PHQ-2)
    - *Depressed, sad, hopeless*
    - *Loss of pleasure, interest*
- **Symptoms: "SIGECAPS"**

S	Sleep
I	Interest
G	Guilt
E	Energy
C	Concentration
A	Appetite
P	Psychomotor Retardation
S	Suicidal Thoughts

Sense of Loss

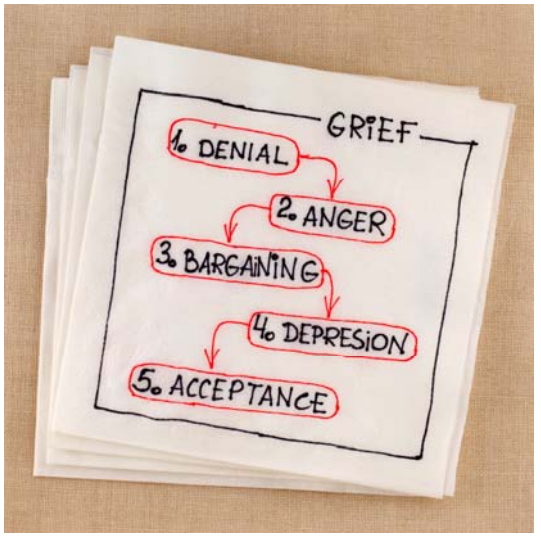


Pain-Related Losses

- Function
- Finances
- Comfort
- Stability
- Control
- Ability to plan/commit
- Productivity
- Libido/Intimacy
- Purpose/meaning
- Social Support
- Routine
- Positive/Pleasant experiences
- Vitality/Energy
- Faith (spiritual; safety of world)

Grief Response

- Change → Loss → Grief
- "Five Stages of Grief" = Five Stages of Receiving Catastrophic News (Kubler-Ross, 1969)
- Subtle but important differences between clinical depression, adjustment reactions, and grief
  - Assessment
  - Treatment



Anxiety

Anxiety: Primary or Secondary?

- Normal anxiety after pain
  - All pain patients have stressors, some more than others
  - Coping skills, genetics will determine our level of stress and stress-reactivity
  - There are some special pain-related anxiety conditions (e.g., "kinesiophobia")
  - Don't pathologize unless patient truly meets criteria

Anxiety: Primary or Secondary?

- Abnormal anxiety before pain = anxiety disorder
- Abnormal anxiety after pain = still an anxiety disorder
  - Panic Disorder
  - Generalized Anxiety Disorder
  - Specific phobias
  - Obsessive-compulsive disorder [OCD]
  - PTSD

Learned Disuse: Persistence vs. Avoidance

- Anticipatory anxiety about pain exacerbations
- Continued avoidance through immobilization of CRPS-affected limb:
  - Can increase expression of neuro-inflammatory mediators
  - Strengthens the fear (e.g., "memory nets" in adult rats)
- Treatment should be "functionally focused"
  - PT/OT
  - Exposure and relaxation to calm anxiety

"You always miss 100% of the shots you don't take"

-Wayne Gretzky

Assessing Anxiety in the Medical Office

- General Anxiety
  - State-Trait Anxiety Inventory (STAI)
  - Generalized Anxiety Disorder-7 (GAD-7)
- Pain-Related Anxiety
  - Pain Anxiety Symptoms Scale (PASS)
- Fear of Movement
  - Tampa Kinesiophobia Scale

For patients:

- Try to help your health care provider understand what is making you anxious (e.g., paying bills, moving the limb, general stress).
- Are you worrying and/or do you have physical tension symptoms?
- Try to avoid sedating benzodiazepines (think skills, not pills).

Anger

Anger

Clinical Review

The scope and significance of anger in the experience of chronic pain

(1995)

Ephrem Fernandez [a,*] and Dennis C. Turk [b]

[a] Department of Psychology, Southern Methodist University, Dallas, TX 75275-0442 (USA) and [b] Pain Evaluation and Treatment Institute, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213 (USA)

TABLE I

ATTRIBUTIONS ABOUT OBJECTS OF ANGER AND APPRAISALS ABOUT REASONS FOR ANGER AMONG CHRONIC PAIN SUFFERERS

Agent (object of anger)	Action (reason for anger)
Causal agent of injury/illness	Chronic pain
Medical health care providers	Diagnostic ambiguity; treatment failure
Mental health professionals	Implications of psychogenicity or psychopathology
Attorneys and legal system	Adversarial dispute, scrutiny and arbitration
Insurance companies; social security system	Inadequate monetary coverage or compensation
Employer	Cessation of employment; job transfer; job retraining
Significant others	Lack of interpersonal support
God	'Predetermined' injury and consequences; ill fate
Self	Disablement, disfigurement
The whole world	Alienation

ANGER IN CHRONIC PAIN: INVESTIGATIONS OF ANGER TARGETS AND INTENSITY

(1999)

AKIKO OKIFUJI,* DENNIS C. TURK* and SHELLY L. CURRAN†

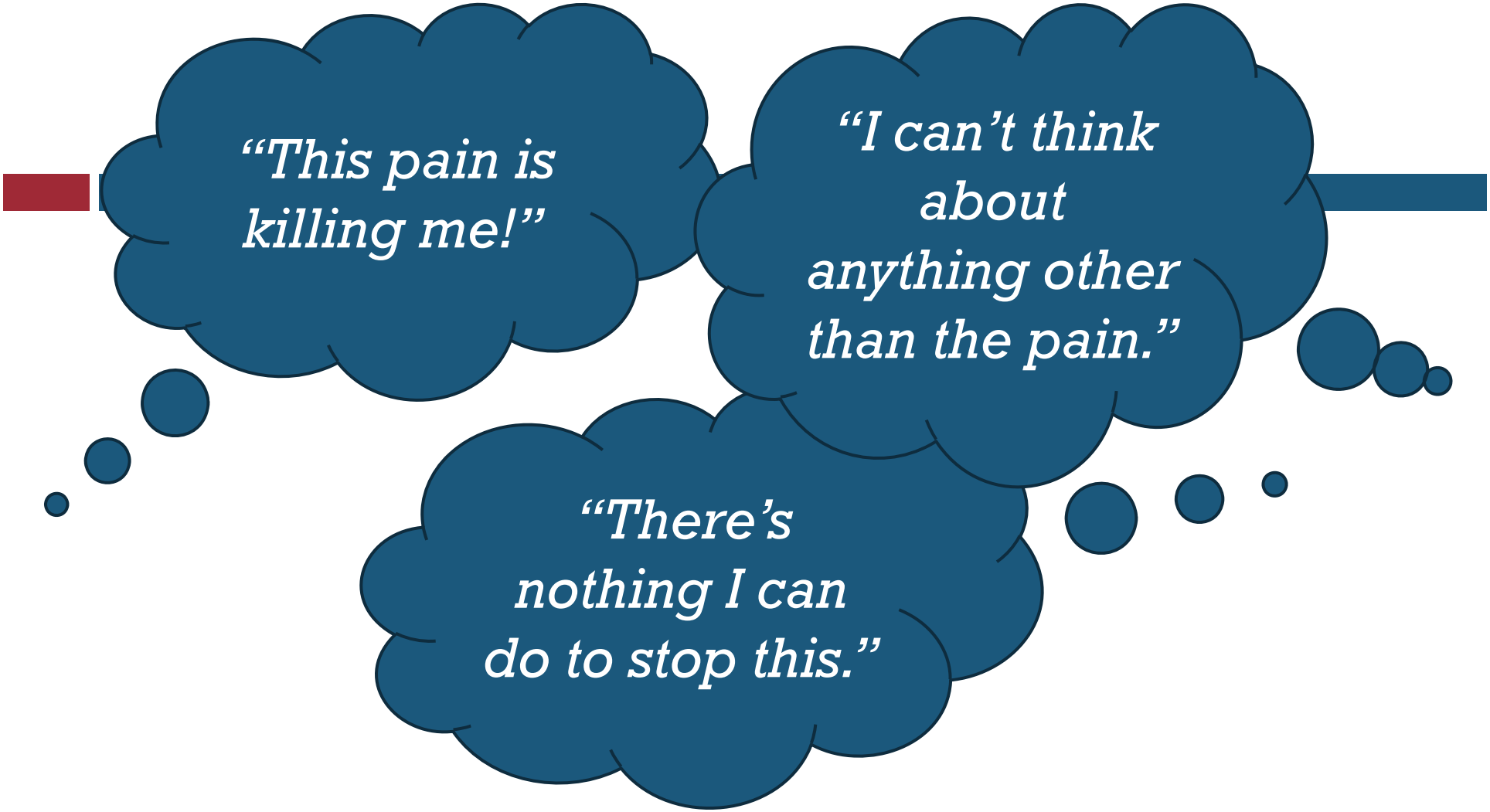
- Chronic Pain Patients at initial evaluation:
  - 70% reported angry feelings overall; Associated with perceived disability
  - 74% directed toward self; Associated with pain and depression
  - 62% directed toward health care providers

Anger

- Anger associated with pain-related disability, increase in pain intensity, poor sleep, interpersonal consequences
- It's not just about the anger, but rather the regulation/expression of the emotion:
  - Suppressive style ("Anger-In") vs. Expressive ("Anger-Out")

- Proposed mechanisms (excellent reviews by Breuhl et al., 2006 and Trost et al., 2012):
  - Goal frustration
  - Perceived injustice
  - Symptom specific muscle reactivity
  - Deficiency in endogenous opioid blockade mechanisms

Catastrophizing



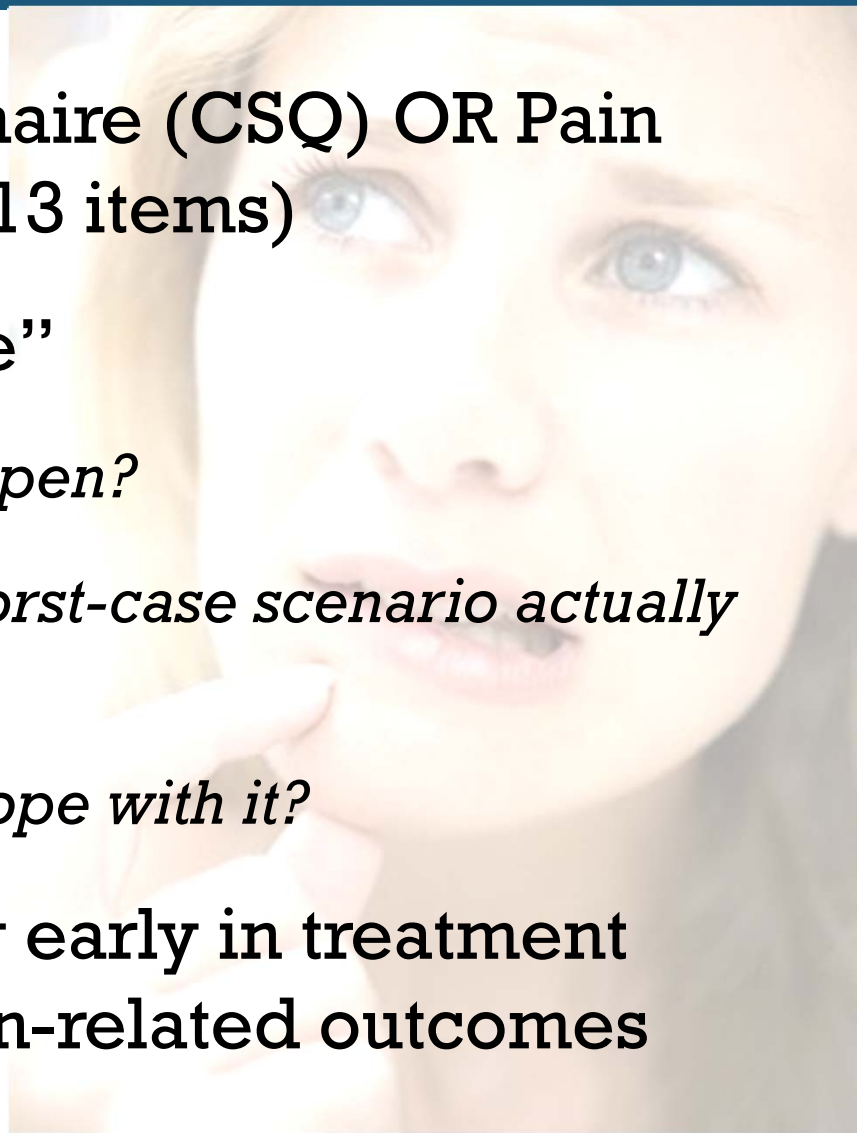
Pain Catastrophizing:

Magnification, Rumination, Helplessness

Catastrophizing

- Strong relationships between catastrophizing and:
  - Functioning: Pain intensity, disability and distress; Quality of life
  - Mood: Depression
  - Behaviors: Overt behaviors and spousal responses
  - Brain processing: amplified activity in insula and ACC, reduced activation in pain-inhibitory systems
  - Inflammatory responses: c-reactive protein, interleukin-6
- Predicts poor outcomes even when controlling for pain intensity or for level of depression

Assessment and Treatment for Catastrophizing



- Coping Strategies Questionnaire (CSQ) OR Pain Catastrophizing Scale (PCS, 13 items)
- Treatment: "De-catastrophize"
  - *What is the worst that could happen?*
  - *What is the probability of the worst-case scenario actually happening?*
  - *If the worst happened, could I cope with it?*
- Decreases in catastrophizing early in treatment predicts improvement in pain-related outcomes


Acceptance
The magazine of giving up on illusions
YOU'RE NEVER GOING TO LOSE THOSE TEN POUNDS
p.21
YOU SUCK AT YOUR JOB
p.30
YOUR SISTER IS SMARTER THAN YOU
p.45
YOU'RE OLD
p.47

Acceptance

"You'll just have to learn to live with it."

- Patients interpret this statement initially in a negative way
  - "Just give up."
  - "Your situation is hopeless."
  - "Quit being a baby."
  - "This is as good as it gets."
  - "You're not doing a good job."

  (Easier said than done!)
- Acceptance is <u>not</u> actually about giving up or giving in.
  - It is about the willingness to experience pain AND engage in valued life activities.

Limitations of Traditional Coping Framework

- Coping strategies can be adaptive *or* dysfunctional
- Takes constant effort to minimize pain, minimize distress and maintain function
- Efforts at minimizing pain and emotion may paradoxically reduce function (e.g., avoidance)

Chronic Pain Acceptance

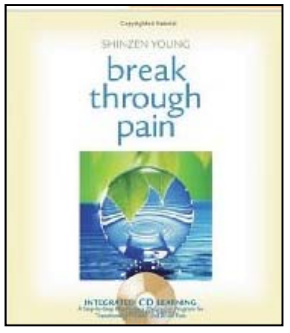
- Pain acceptance is related to:
  - Less attention to pain, more engagement with daily activities, higher motivation and better efficacy to perform daily activities
  - Less medication consumption, better work status
  - Higher levels of positive affect
  - General QOL, independence
- Acceptance repeatedly accounts for more variance in outcomes than coping variables alone

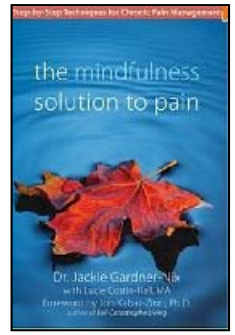
$$\text{Pain} = \frac{\text{Suffering}}{\text{Intensity}}$$

Working Toward Acceptance

- Acceptance and Commitment Therapy
  - Pain acceptance
  - Mindfulness Training
  - Values-Based Action
    - Life of purpose, priorities

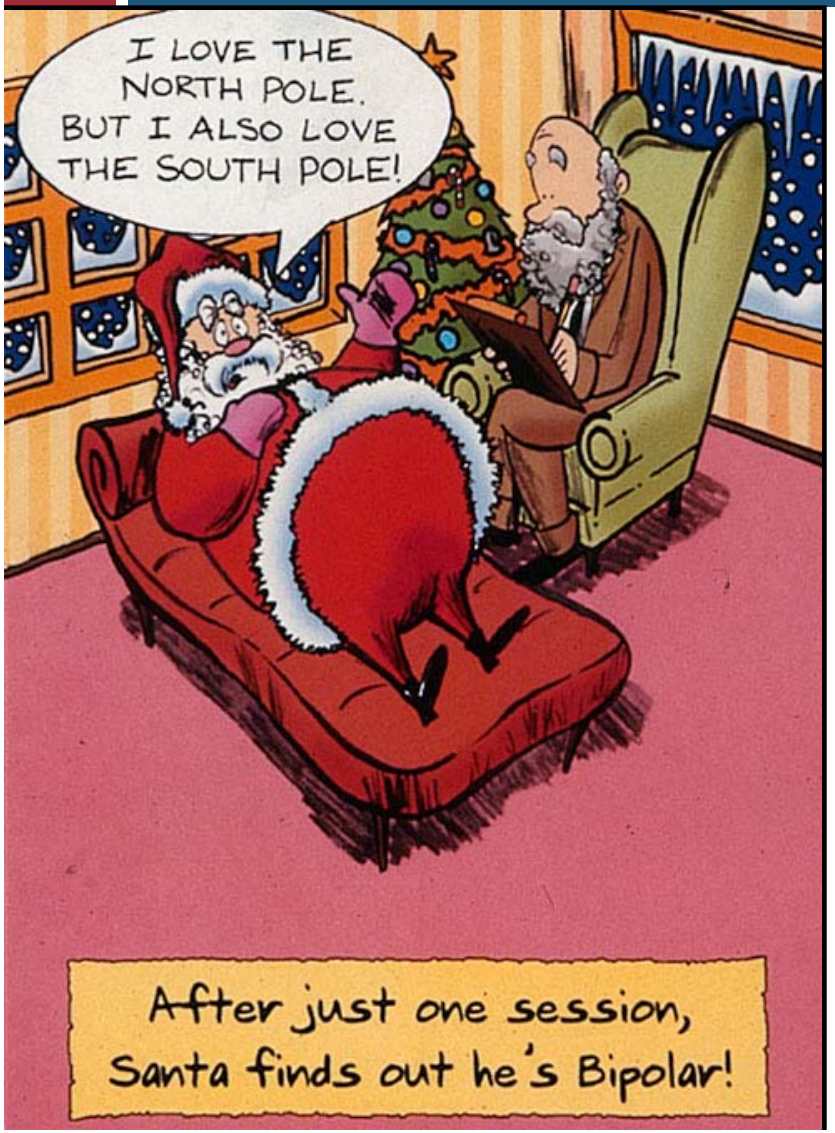
- For more information on mindfulness meditation, try:
  - Any of the Jon Kabat-Zinn books (e.g., Wherever You Go, There You Are or Full Catastrophe Living)
  - Break Through Pain by Shinzen Young





What Does a Pain Psychologist Do?

Treatment Points and Therapy Formats

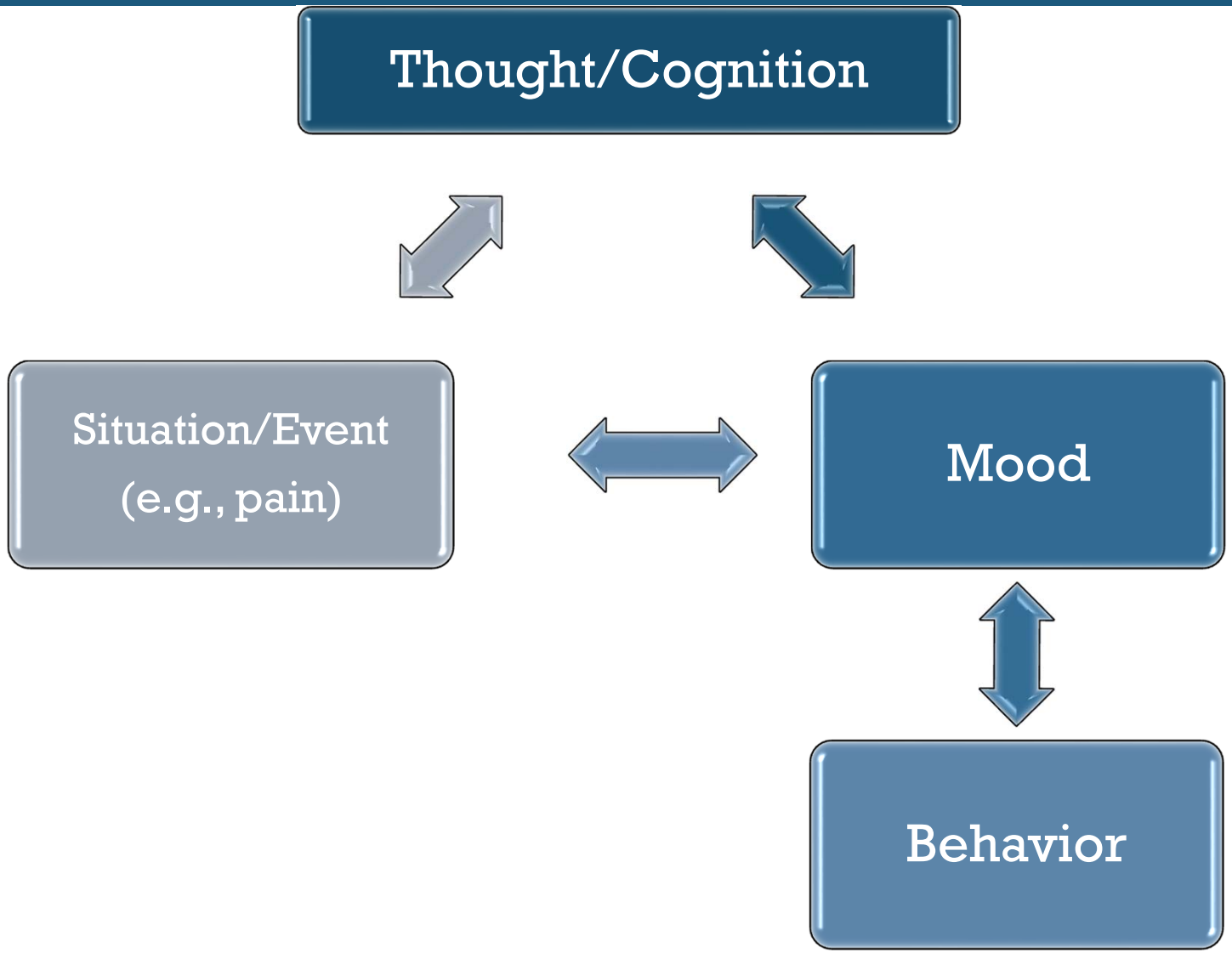


- Timepoints for Intervention
  - Initial Assessment
  - Pre-Surgical, Pre-Intervention
  - Crisis Intervention
  - Monitoring
  - (Anytime!)
- Therapy Formats:
  - Individual therapy
  - Group therapy
  - Family/ marital therapy
  - Classes (education)

Components of Cognitive-Behavioral Therapy (CBT) for Pain Management

- Education/Motivational Enhancement
- Goal Setting (Realistic Expectations)
- Relaxation/Imagery
- Hypnosis/Distraction
- Biofeedback
- Correcting Cognitive Errors
- Graded Activity Exposure (Behavioral Activation)
- Activity-Rest Cycling (Pacing)
- Time-Contingent Medication Use
- Relapse Prevention
- Couples/Family Communication Therapy
- ACT (acceptance)
- Treat Co-morbid Conditions

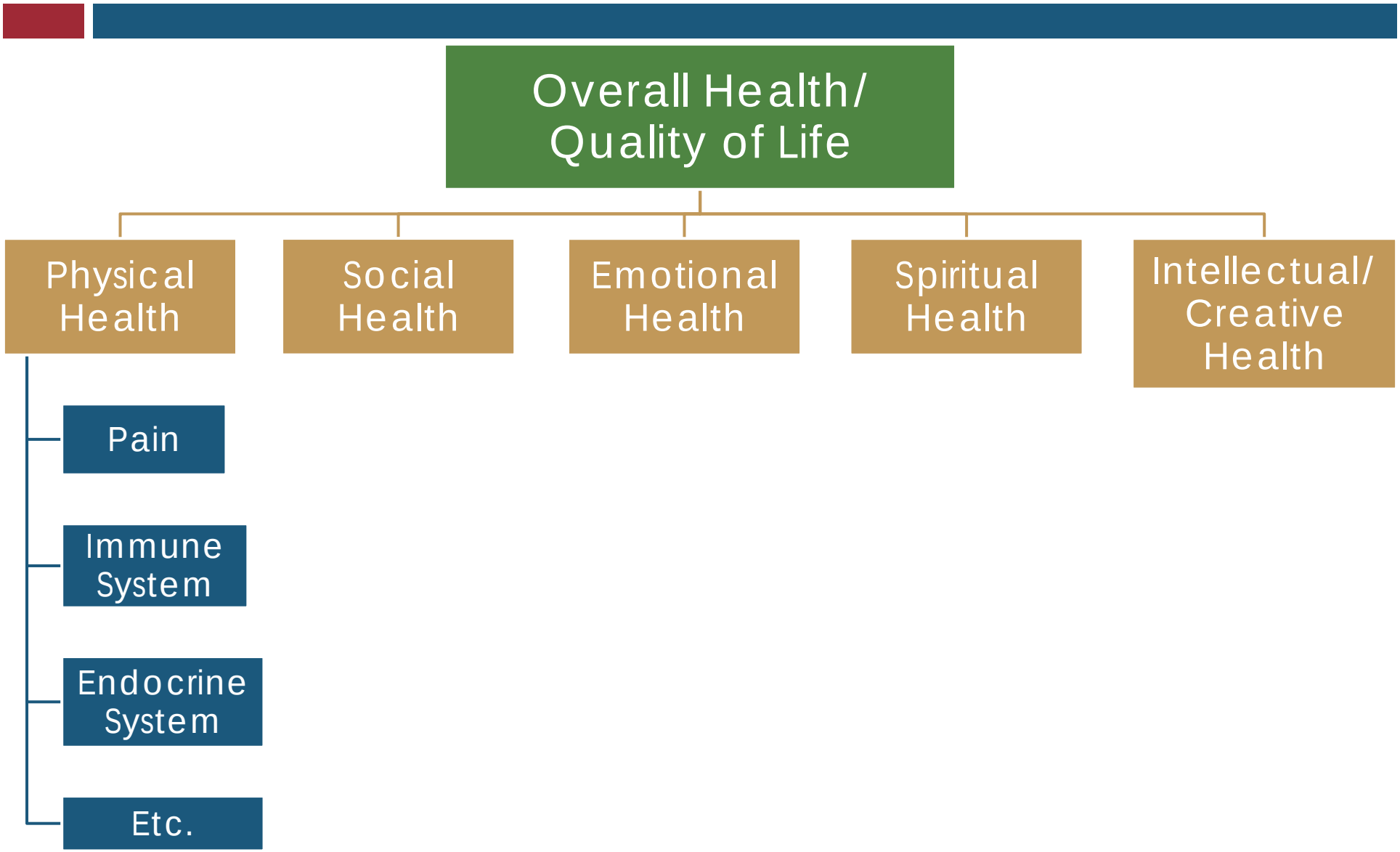
Just what is CBT?



Pain Beliefs

Associated with Negative Outcomes	Associated with Positive Outcomes
Pain is a purely physical phenomenon	Pain is multi-dimensional
Psychosocial factors play little role in pain and treatment outcome	Attitudes and behaviors can affect treatment outcomes
Chronic pain means loss of productive life	Non-chemical coping skills can be helpful (“self-efficacy”)
Pain can only be relieved if the medical cause is eliminated	I can be an active participant in the therapeutic process (“locus of control”)
Medical technology holds the solution	Proper expectations influence outcomes

Pain and QoL

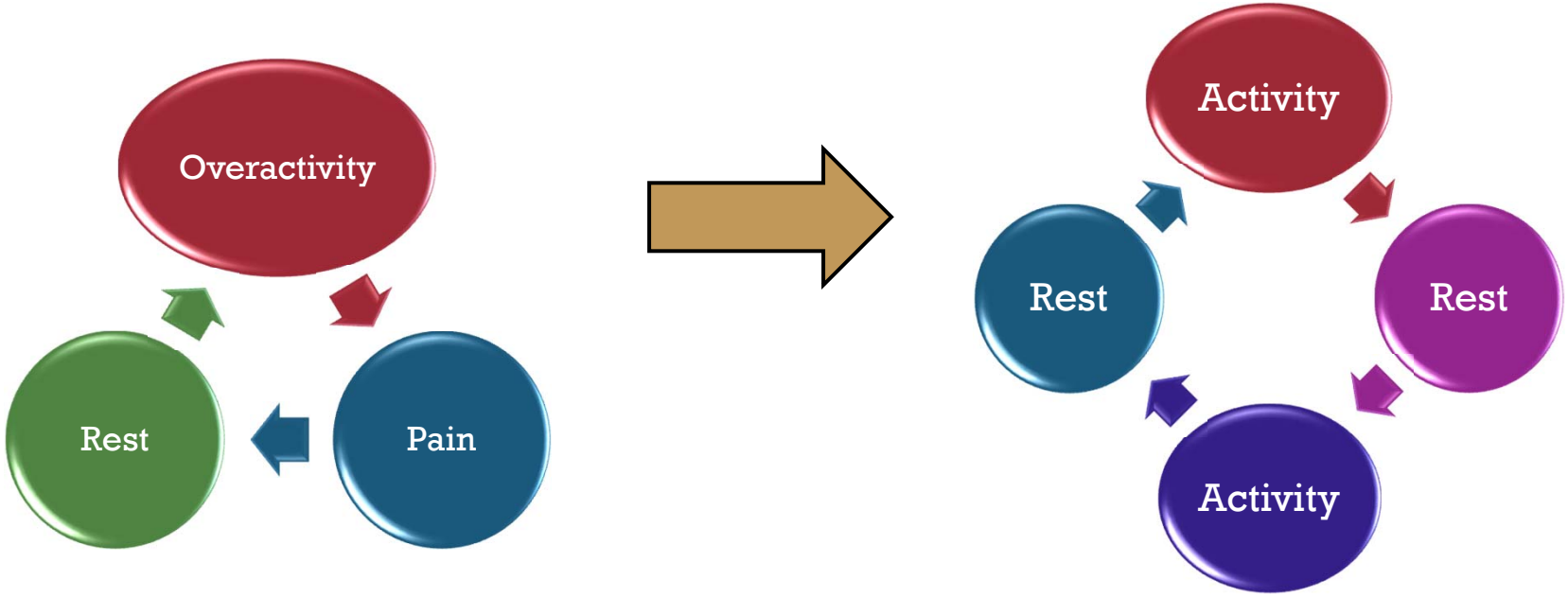

Overall Health/ Quality of Life
Physical Health
Social Health
Emotional Health
Spiritual Health
Intellectual/ Creative Health
Pain
Immune System
Endocrine System
Etc.

Behavioral Targets

- Decreasing overt "pain behaviors: guarding/bracing/wincing
- Improving relationships

Behavioral Targets (continued)

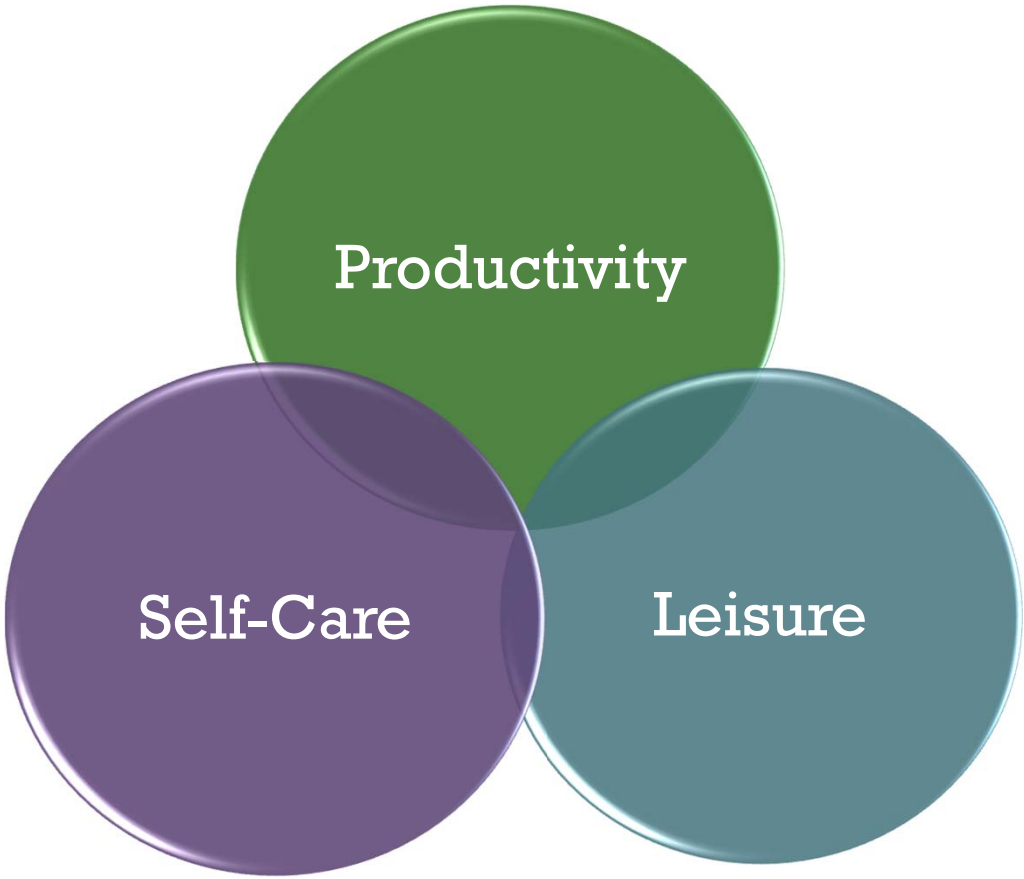
- Encouraging movement/activity
  - Activity PACING ("take a break *before* you need a break")



  - Reducing kinesiophobia and activity avoidance through graded exposure

Behavioral Targets (continued)

- Goal setting and balance

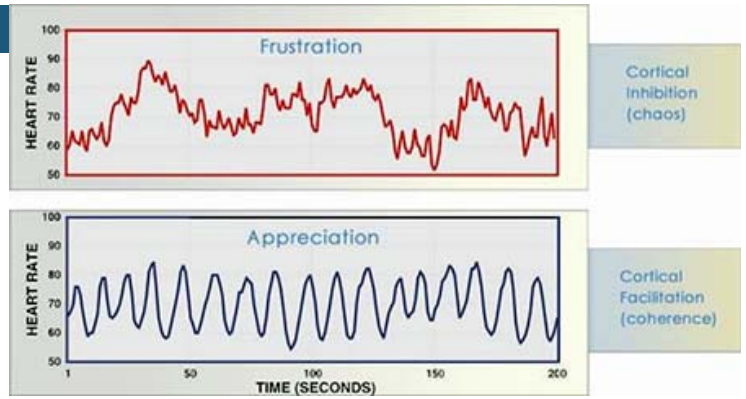


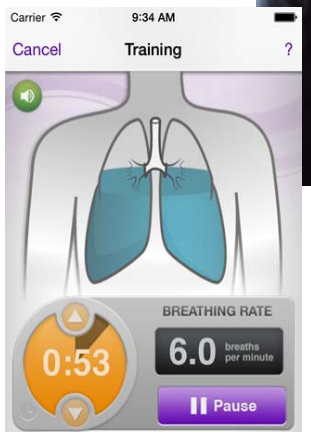
Behavioral Targets (continued)

- Promoting the relaxation response

Various Techniques:

- Diaphragmatic breathing
- Prog. muscle relaxation (PMR)
- Verbal induction
- Autogenic Training
- Guided visual imagery
- Self-hypnosis
- External focusing
- Mindfulness meditation
- Biofeedback – e.g., Heart Rate Variability (HRV)



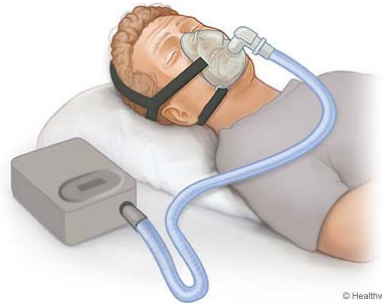


Tip: Try the "My Calm Beat" app for paced breathing practice!

Behavioral Targets (continued)

Treating "Comorbidities"

- Weight management
  - Anti-inflammatory diet
- Smoking cessation
- Sleep hygiene
  - Bidirectional Relationship
  - Stimulus Control and Sleep Restriction
  - Avoiding stimulants
    - Caffeine, screen time



Drinking coke before bed

Cognitive Targets: Negative Thoughts

- Negative thoughts are a better predictor of the following than disease severity, pain levels, age, sex, depression or anxiety:
  - lower tolerance of painful procedures
  - greater psychological distress & psychosocial dysfunction
  - higher analgesic use
  - greater pain interference, disability, inability to work

Examples of "Distorted" Negative Thinking

Distortion Label	Pain-Related Example
All-or-Nothing, Polarized Thinking	"If I can't dig in my garden like I used to, I won't get outside at all."
Mind-Reading	"Everyone thinks I'm lazy because I'm using a scooter at the grocery store."
Destructive Labeling	"I'm disabled." "I'm a loser."
Confusing Inability with Unwillingness	"I can't go to church because of my back." vs. "I'm reluctant to sit through service because I think my back pain will increase."
Imperative Thinking (Shoulds and Musts)	"I should be able to mow my lawn in an hour like I used to."
Emotional Reasoning	"My body feels useless, therefore I am useless."
Minimization/ Discounting the Positive	"He probably only held the door open for my because I look so pitiful."
Overgeneralizing	"I had to leave the baseball game early today because of the pain….I'll never be able to enjoy anything ever again!"

Cognitive "Restructuring"

- Is there any other way I could look at this?
- What are the advantages and disadvantages of thinking this way?
- Is my logic correct? Would it hold up in a "court of law"?
- What would I tell a friend in this situation?
- What would a respected role model do in this situation?

Other Cognitive Techniques

- Examining core beliefs (when ready)
  - Helplessness, unlovability
  - Pain specific: "This pain is a punishment"
- Word substitution:
  - Replace shoulds with "I'd like to"
  - Replace "I can't" with "I could if…"
- Positive self-talk:
  - I'll do my best today; I can cope with this; I have many blessings; I will have a good day.
- "Silver Lining of Pain" – What have you gained?
  - Empathy, learned who friends are, patience, insight into personal strength, stronger faith

Wait…How Does This Stuff Work?

Mechanisms of Action for Mind-Body Interventions

- Changing overt behavior & covert cognitive behavior
- "Belief becomes biology" (Cousins, 1998)
  - Releasing endogenous opioids
  - Rebalancing neurotransmitters (e.g. 5-HT, NE, CCK)
  - Physiological control (e.g. autonomic, descending modulation, musculoskeletal)
  - Neurohormonal changes (endocrine, immune system)
  - Cortical functioning

Using the Neuropsychological Model of Pain in Treatment Planning

Behavioral/Psychological Symptom	Associated Brain Area	Appropriate Psychological Intervention
Maladaptive pain-related cognitions or treatment goals	Prefrontal Cortex	Cognitive Restructuring Operant Conditioning Motivational Interviewing Acceptance-based Therapy
Elevated affective pain component ("suffering")	Anterior Cingulate Cortex (ACC)	Operant Conditioning Motivational Interviewing Acceptance-based Therapy
Perceptions of physical pathology that needs to be fixed; Feelings that the sensory experience is inconsistent with physical safety	Insula	Self-hypnosis Relaxation Training
Reports of very high pain intensity	Sensory Cortex	Self-hypnosis Relaxation Training

Jensen. *J Pain,* 2010, 11(1): 2-12.

Create a Pain Self-Management ToolKit

Helpful Texts

- Relaxation and Stress Reduction Workbook *by Martha Davis, Ph.D., Elizabeth Robbins Eshelman, M.S.W., Matthew McKay, Ph.D.*
- Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness *by Jon Kabat-Zinn, Ph.D.*
- Managing Pain Before It Manages You *by Margaret Caudill, M.D., Ph.D.*

Helpful Texts

- Autogenic Training: A Mind-Body Approach to the Treatment of Fibromyalgia and Chronic Pain Syndrome *by M. Sadigh*
- Mind Over Mood *by Dennis Greenberger, Ph.D. & Christine Padesky, Ph.D.*
- Cognitive Therapy for Chronic Pain: A Step-by-Step Guide *by Beverly Thorn, Ph.D.*
- The Pain Survival Guide: How to Reclaim Your Life by D. Turk & F. Winter

Any Questions?

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