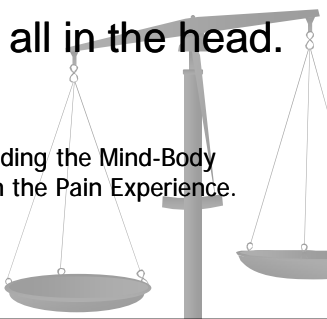


It really is all in the head.

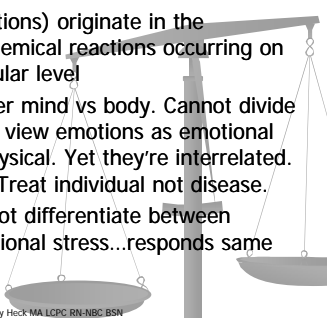
Understanding the Mind-Body Influence on the Pain Experience.



Interrelated Self

- All pain (and emotions) originate in the brain...they are chemical reactions occurring on an organ and cellular level
- Debate is no longer mind vs body. Cannot divide the body. Tend to view emotions as emotional and disease as physical. Yet they're interrelated. Hippocratic oath. Treat individual not disease.
- Stress: body cannot differentiate between physical and emotional stress...responds same


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Other disciplines get it

- Asthma...panic leads to SOA
- Breast CA...wkly support groups lived 18mo longer
- CAD...cardiac events do not randomly occur 17-30% events are behaviorally predicted.

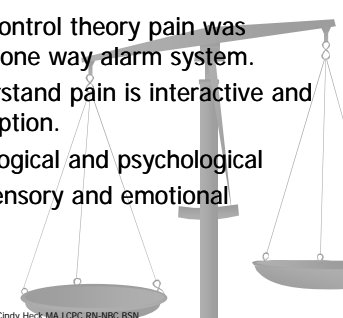
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Biomedical Model to Biopsychosocial Model

- Prior to gate control theory pain was thought to be one way alarm system.
- Now we understand pain is interactive and involves perception.
- Pain is physiological and psychological
- "unpleasant sensory and emotional experience"

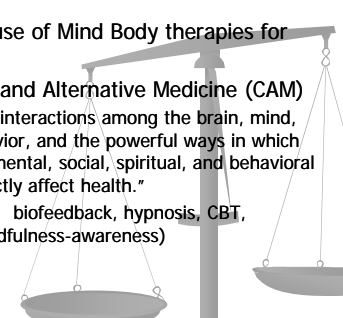
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1996 NIH

- Recommended use of Mind Body therapies for chronic pain.
- Complementary and Alternative Medicine (CAM)
 - "focuses on the interactions among the brain, mind, body, and behavior, and the powerful ways in which the emotional, mental, social, spiritual, and behavioral factors can directly affect health."
 - Guided imagery, biofeedback, hypnosis, CBT, meditation (mindfulness-awareness)

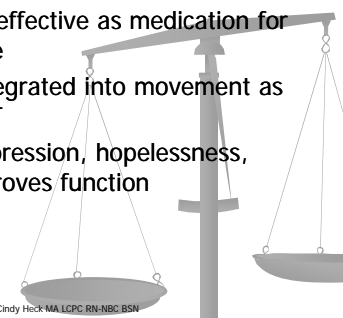
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Much research supports effectiveness

- Relaxation as effective as medication for tx for migraine
- Relaxation integrated into movement as effective as PT
- Decreases depression, hopelessness, disability, improves function

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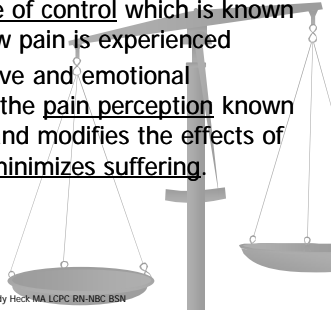


Why effective

- Increases sense of control which is known to influence how pain is experienced
- Modifies cognitive and emotional components of the pain perception known as unpleasant and modifies the effects of the pain. This minimizes suffering.

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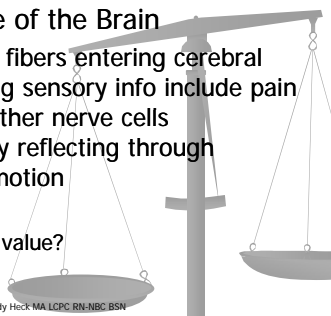
Why is it in the Head

Structure of the Brain

- 1/10th of 1% of fibers entering cerebral cortex conveying sensory info include pain messages. All other nerve cells communicate by reflecting through memory and emotion
 - Am I afraid?
 - Does this have value?

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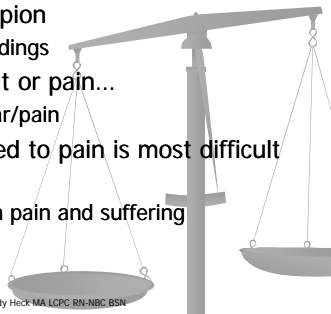


Same sensation different meaning

- Feather vs Scorpion
 - Same nerve endings
- Feather.. delight or pain...
 - anticipatory fear/pain
- Meaning ascribed to pain is most difficult to treat.....
 - difference btwn pain and suffering

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Anzio Affect

- Wounded soldiers in WWII
 - "There is no simple direct relationship btwn the wound per se and the pain experienced. The pain is in very large part determined by other factors and of great importance here is the significance of the wound. In the wounded soldier the response o the injury was relief, thankfulness at his escape alive from the battlefield, even euphoria. To the civilian, his major sx was a depressing, calamitous event."
 - MEANING directed pain response.

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8 Meanings of Pain

Mysterious	"What is causing this"
Punitive	"I deserve this."
Entitled	"I didn't hurt before, I shouldn't hurt now."
Fatalistic	"Nothing will help"
Progressive	"It will only get worse."
Curative	"There has to be a cure and I will find it."
Stoic/Heroic	"Good people don't c/o pain."
Functional	"Would I be accepted/loved w/o my pain."
Accepting	Refuse to be disabled despite pain

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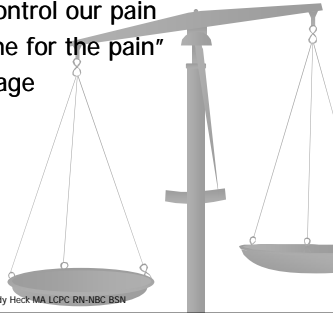
Culture and Meaning

- US culture teaches pain is bad
- Lavish sympathy when children suffer discomfort. Children become adults and pursue all attempts to flee pain, fear pain.
- We live in greater comfort than other nations, less equipped to handle suffering and are more traumatized by it.
- Pain relief is a \$63 billion yr industry in US

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Entitled to be pain free

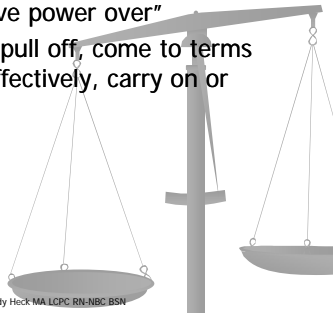
- We expect to control our pain
- "haven't got time for the pain"
- Control vs manage



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Control vs Manage

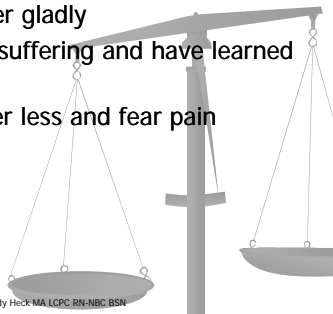
- Control... "to have power over"
- Manage "cope, pull off, come to terms with, handle effectively, carry on or function"



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Other cultures

- Londoners suffer gladly
- Indians expect suffering and have learned not to fear it
- Americans suffer less and fear pain

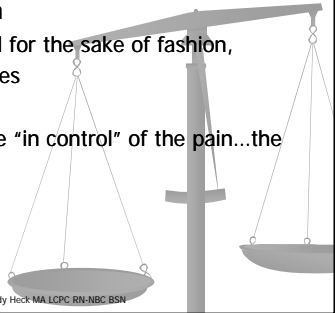


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The role of control

- We choose pain
 - shoes too small for the sake of fashion,
 - elective surgeries
 - Sports

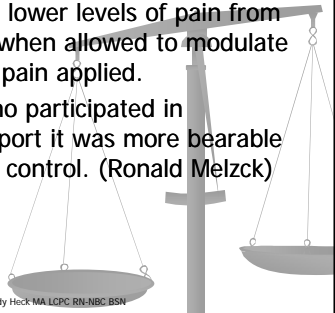
As long as we are "in control" of the pain...the pain is fine



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Perceived Pain Control Is Improved Pain

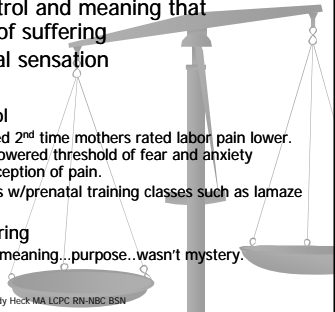
- Students report lower levels of pain from same pressure when allowed to modulate the intensity of pain applied.
- Burn victims who participated in debridement report it was more bearable b/c felt more in control. (Ronald Melzck)



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Pain and Suffering

- Perception of control and meaning that modulates sense of suffering
- Same physiological sensation
- Childbirth....
 - 1. Sense of control
 - Melzack discovered 2nd time mothers rated labor pain lower. Prior experience lowered threshold of fear and anxiety subsequently perception of pain.
 - First time mothers w/prenatal training classes such as lamaze rated lower pain.
 - 2. Sense of suffering
 - Pain had positive meaning...purpose..wasn't mystery.



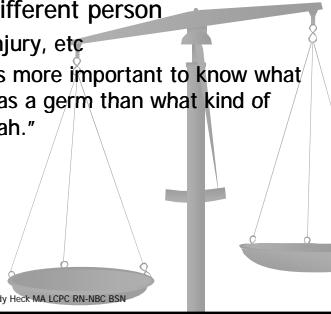
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Pain and Suffering

- Same disease different person
 - Cancer, work injury, etc
 - "sometimes it is more important to know what kind of fellow has a germ than what kind of germ has a fellow."

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Existential Pain

- Need to clarify what is hurting
- One Boston Psychiatrist said, "half the people who go to clinics with physical complaints are really saying "My life hurts" Pain is really an existential expression."

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Intensifiers and Interactions

Fear, Depression, Anxiety, Guilt,
Anger

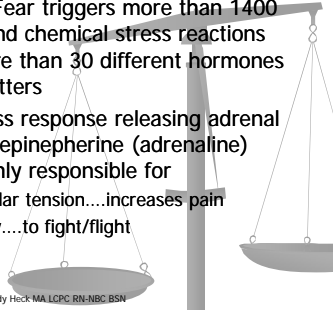


Fear as intensifier

- Dr. Don Colbert..Fear triggers more than 1400 known physical and chemical stress reactions and activates more than 30 different hormones and neurotransmitters
- Fear triggers stress response releasing adrenal glands to release epinephrine (adrenaline) Adrenaline is mainly responsible for
 - Increasing muscular tension....increases pain
 - Increasing energy....to fight/flight

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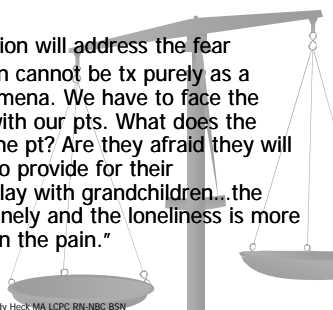


Tx the fear and the pain.

- No pill or injection will address the fear
- Dr. Brand. "pain cannot be tx purely as a physical phenomena. We have to face the fear together with our pts. What does the pain mean to the pt? Are they afraid they will never be able to provide for their family....can't play with grandchildren...the single will be lonely and the loneliness is more unbearable than the pain."

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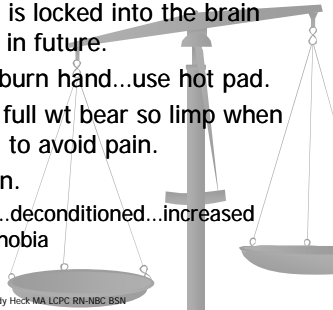


Fear and Pain

- Memory of pain is locked into the brain and protects us in future.
- Touch hot pot..burn hand...use hot pad.
- Foot hurts with full wt bear so limp when stand next time to avoid pain.
- Anticipatory pain.
 - Kinseophobia...deconditioned...increased pain...kinseophobia

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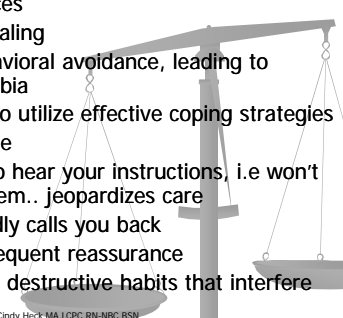
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Anxiety

- Activates stress response—With physical consequences delaying healing
- Leads to behavioral avoidance, leading to kinesiophobia
- Less likely to utilize effective coping strategies
- Can paralyze
 - Unable to hear your instructions, i.e won't follow them.. jeopardizes care
 - Repeatedly calls you back
 - Needs frequent reassurance
- May lead to destructive habits that interfere with health

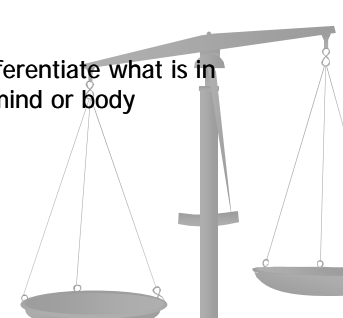
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Anxiety and Pain


- Inability to differentiate what is in distress...the mind or body

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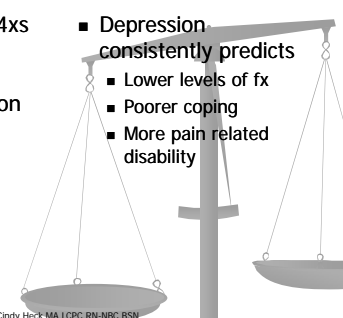
Depression

And Pain



Prevalence

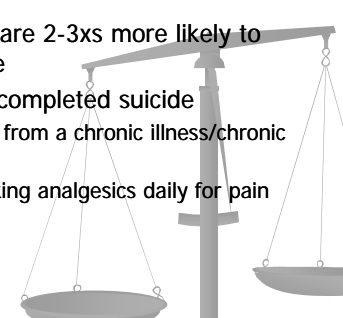
- Depression is 3-4xs greater in pain population than general population
- Depression consistently predicts
 - Lower levels of fx
 - Poorer coping
 - More pain related disability



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Pain and Suicide

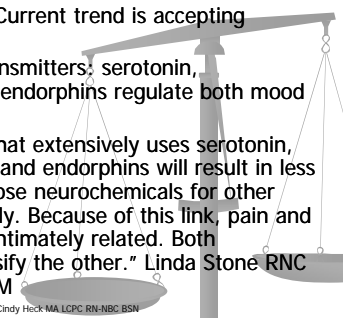
- Pain sufferers are 2-3xs more likely to commit suicide
- Of those who completed suicide
 - 52% suffered from a chronic illness/chronic pain
 - 21% were taking analgesics daily for pain



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Chicken or Egg Debate

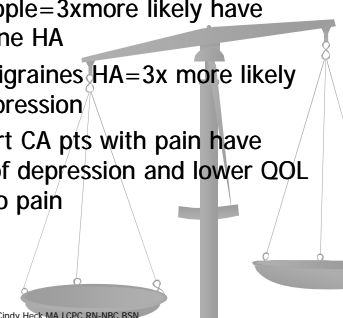
- Debate is over. Current trend is accepting interrelatedness.
- Shared neurotransmitters: serotonin, norepinephrine, endorphins regulate both mood and pain.
- "Any condition that extensively uses serotonin, norepinephrine, and endorphins will result in less availability of those neurochemicals for other needs in the body. Because of this link, pain and depression are intimately related. Both conditions intensify the other." Linda Stone RNC APNP PhD FAAPM



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Interrelatedness

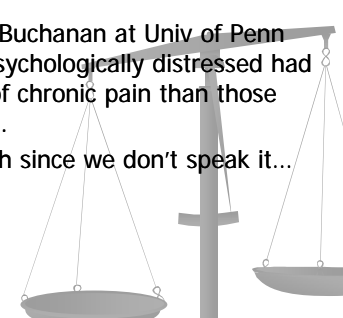
- Depressed people=3xmore likely have chronic migraine HA
- People with migraines HA=3x more likely to develop depression
- Studies support CA pts with pain have higher levels of depression and lower QOL than those w/o pain



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Interrelatedness

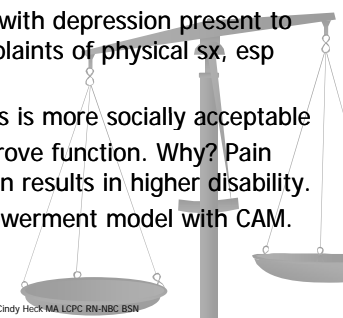
- Seligman and Buchanan at Univ of Penn found those psychologically distressed had higher levels of chronic pain than those less distressed.
- Body says ouch since we don't speak it...



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Depression presents as pain

- 75% of those with depression present to PCP with complaints of physical sx, esp pain.
- Sometimes this is more socially acceptable
- Tx goal is improve function. Why? Pain with depression results in higher disability.
- Value of empowerment model with CAM.



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Suffering, depression and pain

- "Treating a disease and treating a person are very different concerns, because recovery depends in large part on the mind and spirit of the patient.

Suffering, a state of mind, involves the entire person." Dr. Paul Brand

A pill alone won't fix this
Catch the interrelatedness

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Losses

- Many losses accompany chronic pain
- No pill can process these losses
- Each loss is experienced on an emotional level
- Emotions activate the physiological stress response which affects the body increasing pain
- Pain causes stress: stress affects pain

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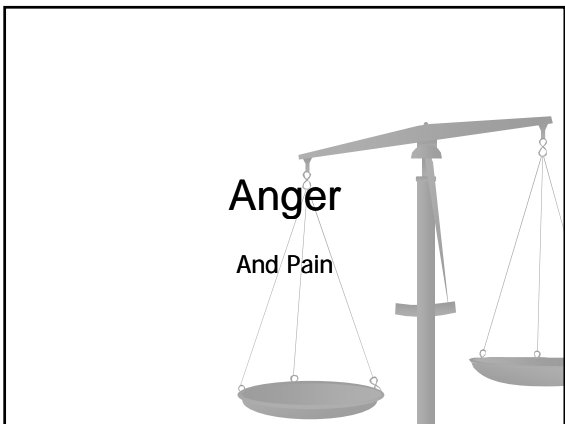
Stress and Pain

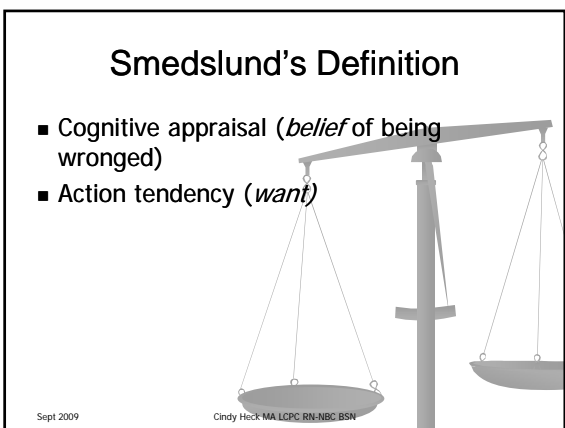
Pain causes stress: stress affects pain

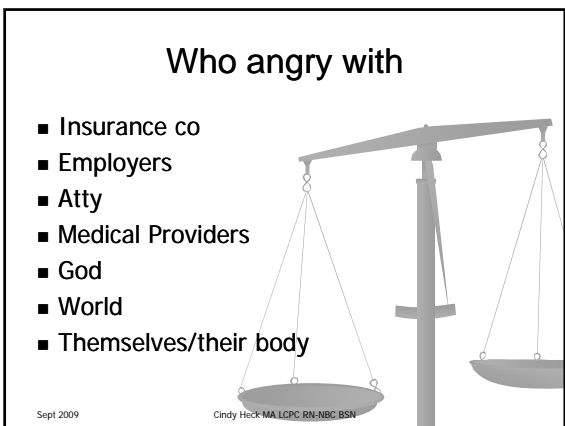
- Medical Model
 - Tx symptoms only with interventions
- Pain causes unique stressors
 - Emotions
 - Time-waiting
 - \$
 - Loss
 - Change
- These stressors activate the stress response causing physiological changes affecting one's pain
- Requires stress management to minimize the affects on pain

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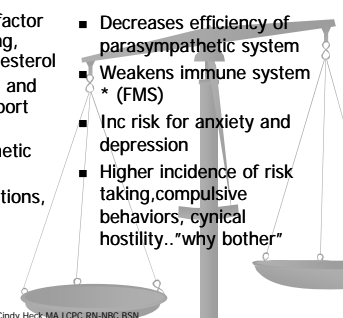




Anger and the body

- Anger greater risk factor for HD than smoking, HTN, and high cholesterol
- Less likely to utilize and receive from a support network
- Increases sympathetic system
- Asthma, dermatitis eruptions, HTN, CAD.
- Decreases efficiency of parasympathetic system
- Weakens immune system * (FMS)
- Inc risk for anxiety and depression
- Higher incidence of risk taking, compulsive behaviors, cynical hostility.. "why bother"

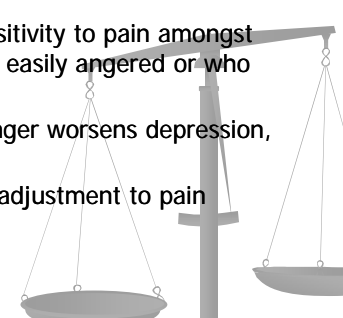
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Anger

- Increased sensitivity to pain amongst those who are easily angered or who bottle anger
- Suppressed anger worsens depression, worsens pain
- Compromises adjustment to pain

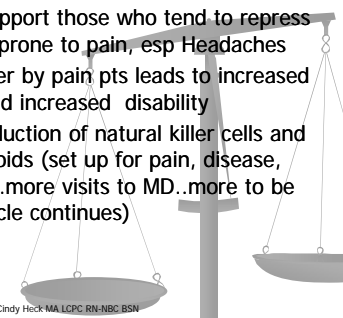
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Correlation anger-pain

- Some studies support those who tend to repress anger are more prone to pain, esp Headaches
- Suppressed anger by pain pts leads to increased pain intensity and increased disability
- Deactivates production of natural killer cells and endogenous opioids (set up for pain, disease, and depression...more visits to MD..more to be angry about...cycle continues)

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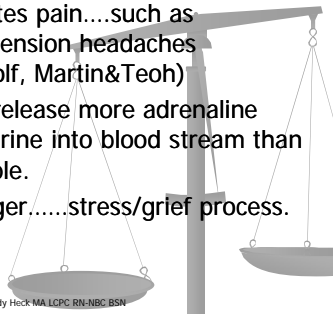


Anger and Pain

- Anger precipitates pain....such as migraines and tension headaches (Marcussen & Wolf, Martin & Teoh)
- Hostile people release more adrenaline and norepinephrine into blood stream than nonhostile people.
- Pain causes anger.....stress/grief process.

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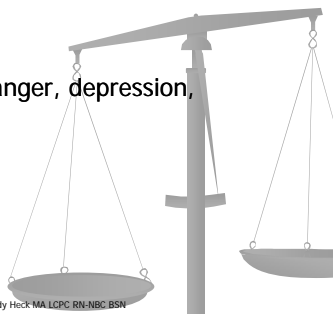


Anger/Grief/Loss

- Grief cycle
- Shock, denial, anger, depression, acceptance

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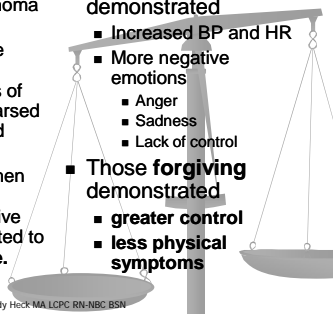


Bitterness/Forgiveness

- Study of families involved in the Oklahoma City Bombing
- 1. Studied immediate emotional and psychological effects of 71 people who rehearsed hurtful memories and unforgiveness.
- 2. Compared with when they cultivated empathetic perspective and forgiveness related to the **stress response**.
- Those **unforgiving** demonstrated
 - Increased BP and HR
 - More negative emotions
 - Anger
 - Sadness
 - Lack of control
- Those **forgiving** demonstrated
 - greater control
 - less physical symptoms

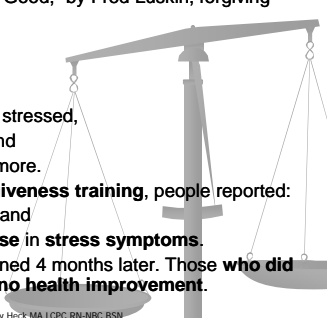
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More Physiological Evidence


- Acc. to "Forgive for Good," by Fred Luskin, forgiving people become
 - less angry
 - more hopeful
 - less depressed,
 - less anxious, less stressed,
 - more confident, and
 - liked themselves more.
- Further, **after forgiveness training**, people reported:
 - **improved health** and
 - significant **decrease in stress symptoms.**
- Results were maintained 4 months later. Those **who did not forgive** showed **no health improvement.**



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More Forgiveness Studies


- Study of University of Wisconsin, Madison showed:
 - the **amount of forgiveness people felt was positively correlated** to their reporting a variety of **disease conditions.**
- **Arthritis Today, September-October 2002**
- Non forgivers are more likely to report:
 - illnesses and symptoms-colds, infection, fatigue, headaches and
 - **took 25% more medications than forgivers did.**



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Guilt

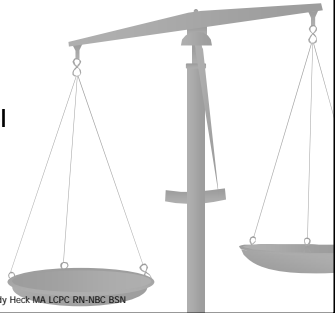
- Immobilizes



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Need for Behavioral Approach

- Belief
- Suffering
- Fear
- Sense of control
- Meaning
- Behavior
- Coping

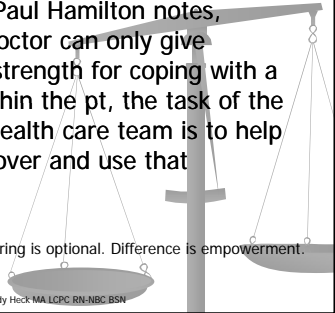


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Medical model alone not enough: need CAM

- Oncologist Dr. Paul Hamilton notes, "materially, a doctor can only give medicine. The strength for coping with a disease rest within the pt, the task of the physician and health care team is to help him or her discover and use that strength."

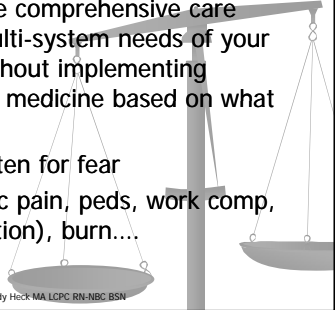
Pain is unavoidable...suffering is optional. Difference is empowerment.



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Pick your discipline

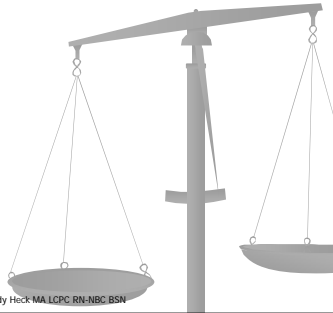
- Can you provide comprehensive care meeting the multi-system needs of your pain patient without implementing complementary medicine based on what you know now?
- Acute pain....listen for fear
- Hospice, chronic pain, peds, work comp, post op (relaxation), burn....



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Nurses Role

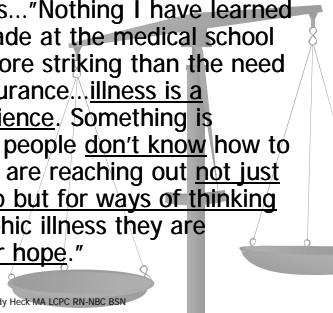
- EMPOWER
- EDUCATE
- LISTEN
- REFER
- CARE



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Nurses Role Cure to Care

- Norman Cousins... "Nothing I have learned in the past decade at the medical school seems to me more striking than the need of pts for reassurance... illness is a terrifying experience. Something is happening that people don't know how to deal with. They are reaching out not just for medical help but for ways of thinking about catastrophic illness they are reaching out for hope."



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Cindy Heck MA LCPC RN-ABC BSN

Contact Info

Cindy R Heck MA LCPC RN-BC BSN
www.raysofhopeonline.com
raysofhope_painmgt@yahoo.com
Cindy@lifecounsel.org
www.lifecounsel.org
410-200-4916

I am pleased to be a resource for you.



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