

Understanding the Pain-Stress Cycle

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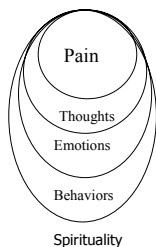
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Pain: Definition

- By definition is "an unpleasant sensory and emotional experience"
- But why?

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Psychological Effects of Pain: Ripple Effect



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Chronic Pain as Epidemic

- 10-30% Americans have chronic pain
- \$150 billion spent on healthcare
 - 1/2 million lost work days
- APS estimates 1:4 receive proper care

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Physiologic and Behavioral Responses to Acute and Chronic Pain

	<u>Physiologic Resp.</u>	<u>Behavioral Response</u>
Acute Pain	Inc. BP, R, P, Dilated Pupils Perspiration	Restlessness Poor Concentration Apprehension Distress
Chronic Pain	Normal BP, P, R Normal Pupils Dry skin	Immobility, Physical inactivity, Anticipatory fear, Withdrawal Suffering

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Differentiating Acute and Chronic Pain

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Acute <ul style="list-style-type: none"> ■ New ■ Different ■ Diagnose ■ Treat ■ Goes Away | <ul style="list-style-type: none"> ■ Chronic <ul style="list-style-type: none"> ■ Old ■ Same ■ Assess/Monitor ■ Manage ■ Does not go away |
|--|---|

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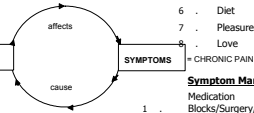
Stress and Pain

Physical Stress Response

- 1 . Elevated Heart Rate
- 2 . Elevated Blood Pressure
- 3 . Elevated Respiratory Rate
- 4 . Elevated Adrenalin
- 5 . Elevated Blood Sugar
- 6 . Elevated Cholesterol
- 7 . Change in Blood Flow

Stressors

- 1 . All Emotion (+ and -)
- 2 . Change
- 3 . Loss
- 4 . Time
- 5 . Money



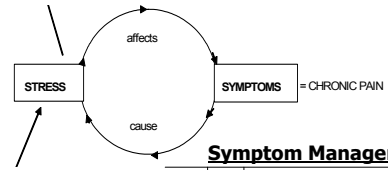
Stress Management Tools

- 1 . Knowledge & Awareness
- 2 . Relaxation
- 3 . Communication Skills
- 4 . Pacing
- 5 . Humor
- 6 . Diet
- 7 . Pleasure
- 8 . Love

Symptom Management

- 1 . Medication
- 2 . Blocks/Surgery/Injections/SCS/Pumps
- 3 . Diet/Nutrition
- 4 . Exercise Program
- 5 . Physical Therapy
- 6 . Occupational Therapy

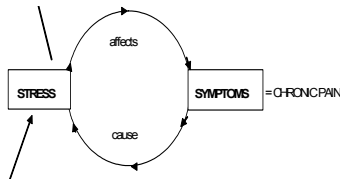
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Symptom Management

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Stressors

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Common 4 Sad, Mad, Fear, Guilt

- Depression:
 - **Amplifies pain experience**
 - **Shared neurotransmitters:** serotonin, norepinephrine, Substance P, **Higher pain intensity pos. correlation to disability and depression**, assoc with lower self-efficacy
 - **3-4Xs the general pop;** 2-3 xs more likely to attempt or complete suicide
 - 30% pts with persistent pain report depression
 - 40-60% pts at pain clinics report depression
 - **Report less pain when depression improves**

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Chicken and Egg

- Growing evidence supports conclusion **pain precedes** rather than follows development of **depression**
- Intensity, frequency, number painful areas, frequency severe pain experienced are **all predictors to** development of **depression** in chronic pain sufferers.

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Anger

- Increases sympathetic nervous system and **deficient parasympathetic** (calming) nervous system
- Anger **increases muscle tension** increasing pain
- **Increased sensitivity to acute pain** amongst subjects who claim to become easily angered, stuff anger, explode
- **Activates stress response**
 - inc. Cortisol
 - **Increased cortisol disturbs REM sleep**

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Fear...Anxiety

- Anxiety levels have been shown to **predict pain severity and pain behavior** in acute and chronic pain patients
- The anxious body is in a **constant state of over arousal** and preparedness for a fight or flight response and never relaxes.
- Many fears....finances, future, progressive nature, unknown, rejection, misunderstood

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Anticipatory Pain/Fear

- Nerves/muscles have memory
- Poor pacing
- Lack of utilization of support system
- Anxiety

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JAMA's Newborn Study

- 21 full term newborns born to diabetic mothers
- 21 full term newborns born to nondiabetic mothers
- Repeated heel lances in first 24-36 hrs
- 21 newborns in control group received IM Vit K injection
- Newborns exposed to repeated heel lances learned to anticipate pain evidenced by intense pain responses during venipuncture compared to normal infants
- Observed grimacing, crying

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Guilt

- Role Changes
- Expectations (self, others, others of self)
- Often ties heavily to belief systems that may be harmful "A strong person never asks for help" "A man should never be in need or show weakness"

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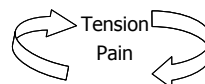
Pain and Loss

- Many Losses
 - Function
 - Dreams/Goals
 - Changing family roles
 - Employment changes
 - Financial changes
 - Pride
- Recreation
 - Social activities
 - Sexual behavior
 - Self-care
 - sleep disturbance
 - low self-esteem

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Unique Sources of Stress for Chronic Pain

- Pain experience itself
 - Pain creates tension-physical and emotional
 - Tension manifests in muscle tension
- Targets areas where pain seems to originate
- Intensifies pain
- Decreases pain tolerance



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Unique Stressors for Chronic Pain

- Negative Consequences from Chronic Pain
 - Employment
 - Financial Security
 - Family Activities
 - Social Life
 - Hobbies
 - Recreational Activities
 - Quality Life
 - Dealing w/ Medical Community
 - Work Comp/Ins./Disability
 - Emotional consequences
 - Fear
 - Depression
 - Hopelessness
 - Anxiety
 - Anger

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Unique to Pain

- New Issues
 - Independence
 - Dependence
 - Acceptance
 - Medical Community
 - Maintaining Hope
 - work issues
 - Legal issues
 - fear of progression

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Unique Stressors for Chronic Pain

- Every Day Stress
 - Life is Chronic
 - Daily stresses more related to illness than major life events
 - Added on pain related stressors just too much for many
 - Stress will intensify pain

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What is Stress

- **Perceived** inability to cope with an unpleasant or painful life situation
- Non specific response to demands placed on the body
- Produces physical, emotional, and behavioral responses
- Internal/external force causing a person to be tense, upset, or anxious

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Physiologic Response Fight-Flight

- Fight-Flight activated
 - whether stress is physical or emotional
 - Whether stressor is perceived or actual

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Fight-Flight Process

- Realized stressor activates the hypothalamus
- Hypothalamus stimulates corticotrophin releasing factor, pituitary gland which release ACTH. Adrenal cortex releases corticoid
- Hypothalamus stimulates nervous system and release epinephrine

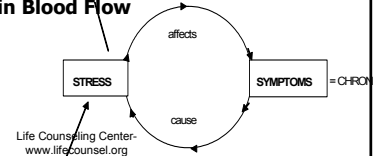
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Physical Effects of Stress

Anatomy	Effect	Result
Ears		Increase Hearing Sensitivity
Lungs	Hyperventilate. Increases oxygen in blood stream to flee	Dizziness, pain in diaphragm, aggravates asthma and respiratory conditions.
Eyes	Adrenaline rush: dilates eyes	Improves vision but can trigger eye ticks b/c eye muscle fatigues
Mouth		Difficulty Swallowing, clench jaw, dry mouth, grind teeth
Hair	Burns nutrients like Selenium	Leads to dull hair, premature graying; autoimmune system can attack hair follicles causing hair loss
Heart	Increased production of cortisol and epinephrine	Increased blood pressure, heart palpitations, problems with blood clotting
Immune system	Lowers white blood count	More susceptible to disease
Muscular skeletal system	Increased muscle tension	Pain, lower bone density
Skin		Acne, rashes, blush, pale, hives
Digestive system	Shifts blood flow toward heart to prepare to fight or flight	Slows digestion, indigestion, heartburn, constipation, incontinence, colon spasms, increased acid production—leading to or aggravating ulcers.

Physical Stress Response

- 1 . **Elevated HR**
- 2 . **Elevated BP**
- 3 . **Elevated RR**
- 4 . **Elevated Adrenalin**
- 5 . **Elevated Blood Sugar**
- 6 . **Elevated Cholesterol**—Inc. fatty acids and glucose—liver produces more LDL/also interferes with lipid clearance
- 7 . **Change in Blood Flow**



People w/ chronic stress

- respond less to many vaccines
- more likely to develop colds
- experience memory loss
- increased incidence of heart attacks/strokes
- problems with immune system
- problems with digestive system
- headaches
- ulcers d/t inc secretion of acid and enzymes

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Impact of Stress on Pain

- Affects pain: Does NOT CAUSE
- Increases intensity of Pain
- Contributes to depression and anxiety which decreases ability to tolerate pain
- Less likely to mobilize effective coping strategies

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Psychosocial Signs of Stress

- resentment
- anger, loss of temper
- feeling of helplessness
- out of control
- resistance to treatments or tests
- Overuse/misuse of drugs (Rx and OTC)
- withdrawal
- overuse of alcohol
- excessive excitement
- confusion and forgetfulness
- nervousness
- irritability
- complaints of anxiety
- Depression
- Failure to advance in medical treatments

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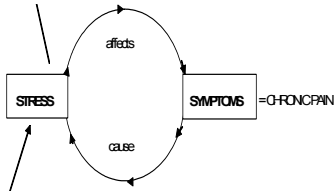
Maladaptive Coping

- Denial
- Imploding/Exploding
- Filling time with business to avoid dealing with source of stress
- Avoidance: withdrawal, isolation, procrastination
- Poor nutrition
- Inactivity
- Abuse, Misuse, Drugs (street, Rx, OTC)—Use Data Model
- Withdrawal from spiritual and social support
- Stinkin thinkin:.....Victim Mentality
- Emotionally stuck

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Relaxation

- Purposeful time away to physiologically and emotionally slow self down
- Visual Imagery
- Progressive Muscle
- CD
- 2 Deep Breaths
- Lowers anxiety and inc. ability to tolerate pain.
- "My pain hasn't changed but I don't panic anymore so it is a lot better. I can handle it now"

Relaxing is a verb!

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Communication

- Internal
 - Recognize false belief systems
 - Learn to TAP: Test/Apply/Practice
 - Every emotionally charged thought affects our biochemistry
 - Expression begins with identification



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- Thoughts direct behavior
 - "As a man thinks in his heart, so is he" (Proverbs 23:7-Bible)
 - People see the world not as it is, but as they are (Al Lee)

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"The greatest discovery of my generation is that people can alter their lives by altering their attitudes of mind."

(William James-Psychologist/Philosopher)

"Thinking is easy, acting is difficult and to put one's thoughts into action is the most difficult thing in the world."

(Johann Wolfgang von Goethe-German Poet)

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External Communication

- Use Clean I Statements
- Eliminate Questions
- Eliminate You Statements
- Learn to Fight Fair
- Complain don't criticize
- Use active/passive/no listening appropriately

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“Still needs to improve on pacing”

- **Balancing rest and activity according to body's signals**
- Poor Pacing: Inc Pain, Anticipatory Fear
- **At risk for poor pacing when:**
 - Tired/Fatigued
 - Insecure
 - Rushed
 - Can't say “No”
 - Don't recognize/challenge false beliefs

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Laughter

- Lost Art:
- Multi-system benefits
 - GI
 - Immune
 - Respiratory
 - Muscular
 - Cardio
 - Releases opioids and endorphins
- Laughter Bag

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Diet/Nutrition

- Non “CRAP” diet
 - Caffeine
 - Refined Carbs
 - Alcohol
 - Processed Foods Anti-Inflammatory Diet
- Anti-inflammatory Diet
- Include Nutritional Assessment

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Proper Exercise Must Include Stretching

- Chronic Pain requires more of a passive PT approach
- Stretching, light strengthening, advancing to cardio as tolerated
- Needs to be part of lifestyle
- Value in Group Component
 - Adds support, companionship, accountability

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Connecting with Others and Life

- Express yourself
- What brings you pleasure?
- What brings meaning to your life?
- What makes you smile from your toes?
- Develop an emotional language
- Broaden emotional field

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Nurses Role-Sharing the Tools

- Knowledge/Awareness:
 - Increase professional knowledge
 - Eliminate Judgments
 - Counter misconceptions

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Nurses Role: Awareness

- **Proper assessment (comprehensive)**
 - **Coping**-observe and inquire
 - Desire to change/improve
- **Belief systems**
 - Engage person in articulating stressors
 - For physical and psychosocial signs of anger/depression/anxiety, fear, guilt
- Aim to empower
- Develop plan together
- **Aware of behavioral Health professionals in your community**

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Nurses Role: Communication

- **Listening**
 - Active vs passive
 - Solution vs resolution
 - Cautiously use questions (puts one on the defense)
 - Listen with a view to understand
 - Listen with empathy
 - Listen to hear their need

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Data Model

Increasing Awareness of Pain/Stress/Fatigue/Emotions

Green Zone (0-5)

Go Ahead/CHECK LATER/Use tools

Yellow Zone (6-8)

SLOW DOWN/Proceed with Caution/Use Tools

Red Zone (9-10)

STOP! Take care of it NOW/Use your tools

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Contact Info:

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