

ACCIDENTS HAPPEN MANY DIFFERENT WAYS



REMOVING THE MASK OF PAIN



WHO AM I?

- Chuck Renner, OTR, CHT
- Owner/Director
- Advantage Therapy
- Springfield, MO
- Ozark, MO
- Monett, MO



BACKGROUND

- Practicing 32 years
- Certified Hand Therapist
- Manual Lymphatic Drainage
- Primal Reflex Release Technique
- Active Release Technique
- ASTYM & SASTM
- Muscle Energy Technique
- Touch for Health
- Pain Neutralization Technique
- Visceral Manipulation
- Craniosacral
- Nerve Mobilization
- Acupressure
- Emotional Freedom Technique
- Total Motion Technique
- Craniosacral Technique
- Nerve Mobilization
- Myokinetic Therapy
- Neurokinetic Therapy
- Postural Restoration

WHO ARE YOU?



LEARNING OBJECTIVES

- 1. How many people are in chronic pain in the US?
- 2. How many people choose to work with a chronic condition?
- 3. Name 2 of 4 health risk behaviors?
- 4. What are 3 ways I can help reduce workers compensation costs?
- 5. Is Complex Regional Pain Syndrome and Centralized Pain the same thing?



WHY PAIN? WHY NOW?

IN GENERAL AND IN THE WORKPLACE

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

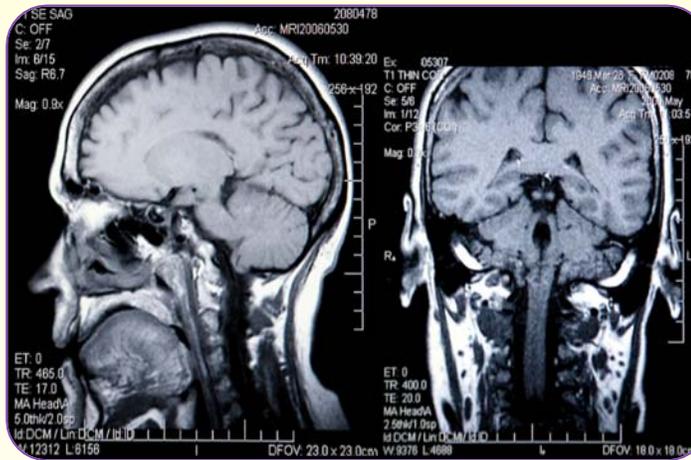
- A 2013 study looked at the following and how often they were prescribed/ordered between 1999 and 2010...

Narcotic Pain Medication



51%

CT and MRI Scans



57%

**Referrals to Surgeons,
Neurologists, Specialists**



100+%

JAMA CONCLUSION

“Overall, we’ve seen no reduction in either pain or disability.”

AMERICAN COLLEGE OF PHYSICIANS (ACP)



- February 2017
- New guidelines for treating back pain
- The first line of defense should be non-drug measures.

FIGHTING BACK



In 2016, the CDC issued stricter guidelines for prescribing opioids.

- Surgeon General Vivek H. Murthy sent a letter to healthcare providers urging the 2.3 million professionals to commit to “turn the tide on the opioid crisis”.
- Food and Drug Administration required stronger warning labels on all opioid medications
- Department of Health and Human Services issued a new “National Pain Strategy”.

PAIN IN AMERICA

DIAGNOSIS	NUMBERS (MILLIONS)	SOURCE
Chronic Pain	100	Institute of Medicine
Diabetes	25.8	American Diabetes Association
Coronary Artery Disease	16.3	American Heart Association
Cancer	11.9	American Cancer Society, AAPM

INSTITUTE OF MEDICINE PAIN IN ECONOMIC TERMS

\$635 Billion (Treatment & loss of productivity)

36 Million Americans missed work due to pain

83 Million indicated that pain affected their participation in various activities

Annual value of lost productivity associated with pain in 2010 was between 297.4 and 335.5 billion dollars

PAIN AS A CHRONIC CONDITION

Annual cost as high as \$635 BILLION

- More than cancer, heart disease, and diabetes combined



PAIN IN AMERICA

- 1/2 have **daily** pain
- Up to 1/3 have mild pain
- 1/3 or more have moderate pain
- Less than 1/3 have severe pain

Pain in America

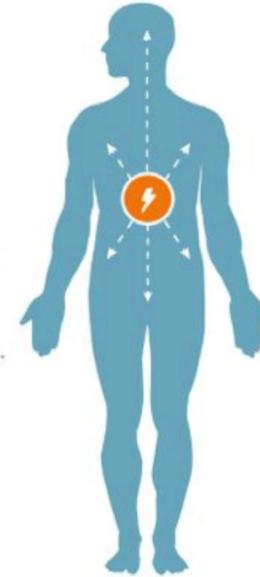
NIH National Institutes of Health

**Most people experience pain
at some point in their lives**

WHAT IS CHRONIC PAIN?

CHRONIC PAIN

is considered a disease itself. It can be influenced by environmental and psychological factors and is resistant to most medical treatments.



ACUTE PAIN

often results from disease, inflammation, or injury to tissues. It generally comes on suddenly.

100 million adults

suffer from chronic pain in the U.S.

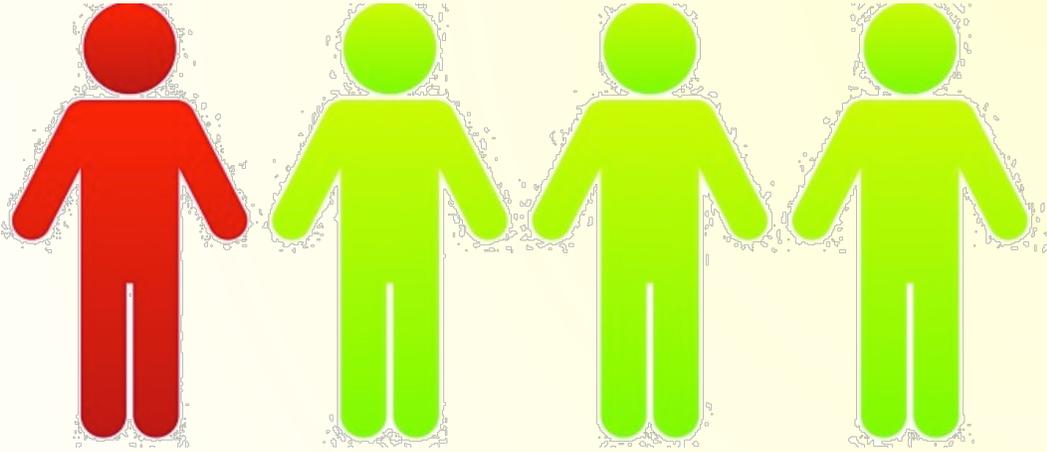
About 1/2 have
DAILY PAIN

Up to 1/3 have
MILD PAIN

1/3 or more have
MODERATE PAIN

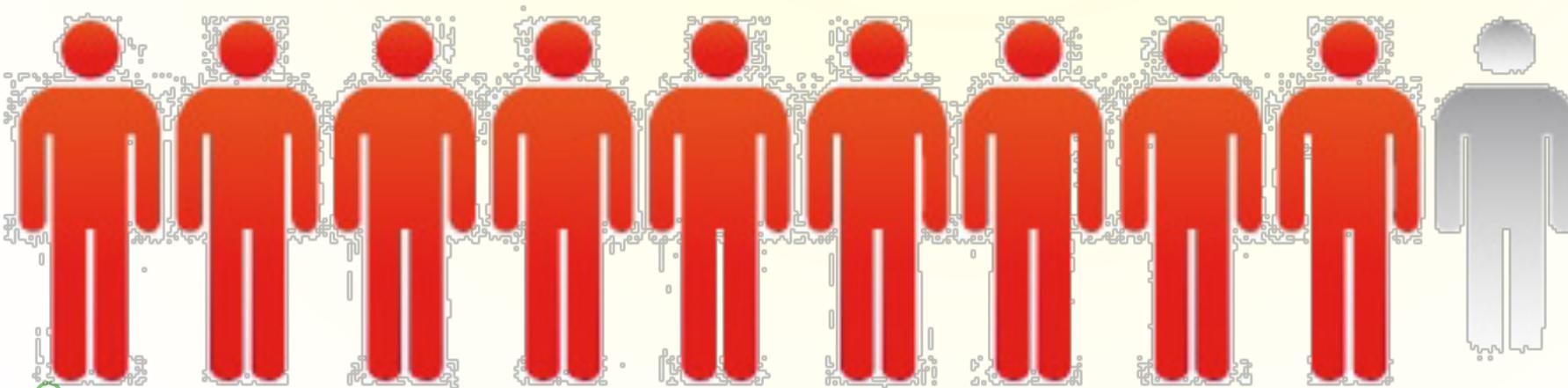
Less than 1/3 have
SEVERE PAIN

CHRONIC PAIN IN THE WORK FORCE



- 1 in 4 people have chronic pain

- Of those, 9 of 10 people choose to remain in the workplace



MEDICAL ECONOMICS

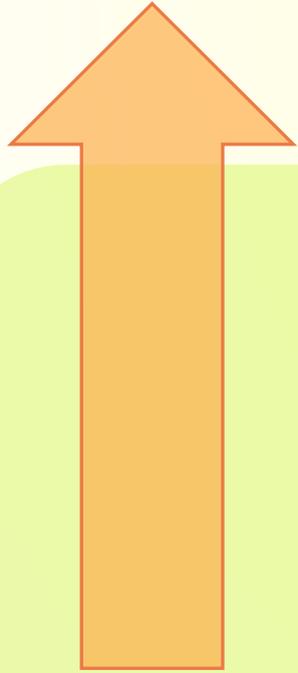
133 million Americans live with a chronic condition

By 2020, this is expected to go up to 157 million Americans

75% of Americans see their doctor due to a chronic condition

By 2020, 81 million Americans are projected to have multiple chronic conditions

COST OF CHRONIC DISEASES



U.S. employers & employees are paying for the high costs of chronic disease.

- Higher costs for healthcare
- Greater demand for healthcare

Premiums for employer-sponsored family coverage have increased 87% since 2000.

COST OF CHRONIC DISEASES

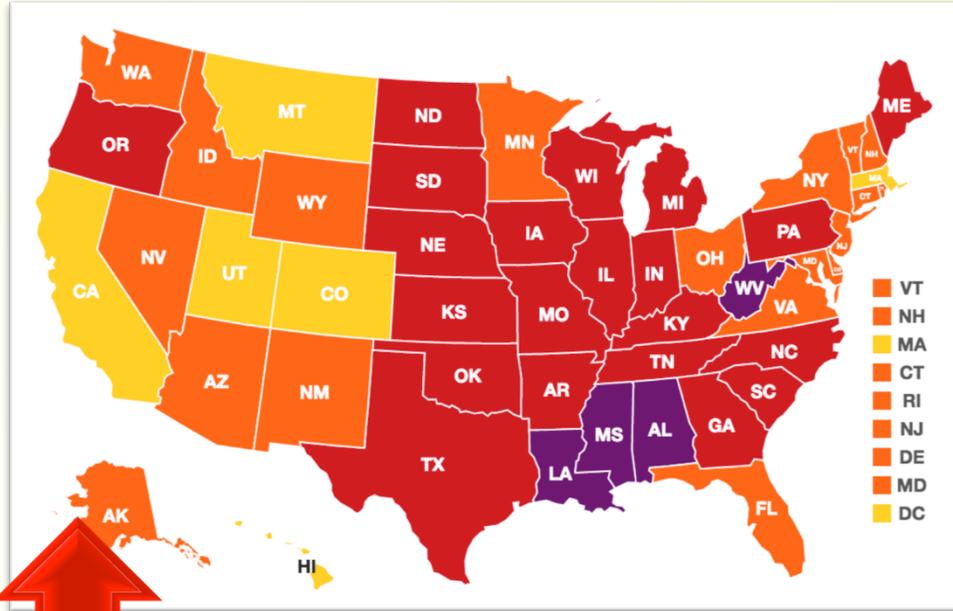
\$6,032

Annual healthcare costs for people with a chronic condition.
Five times higher than for those without such a condition.

\$13 billion... annual total cost of obesity to U.S. companies.
This includes the “extra” cost of health insurance (\$8 billion), sick leave (\$2.4 billion), life insurance (\$1.8 billion), and disability insurance (\$1 billion) associated with obesity.



BRINGING THIS TO THE WORKPLACE



**Chronic Disease
Increasing**



**Aging Workforce
Increasing**

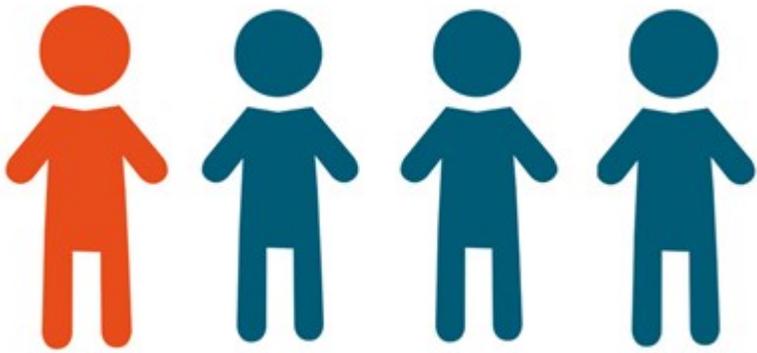
AGING WORKFORCE

- Age Wave
- Silver Tsunami
- Boomers
- Seniors

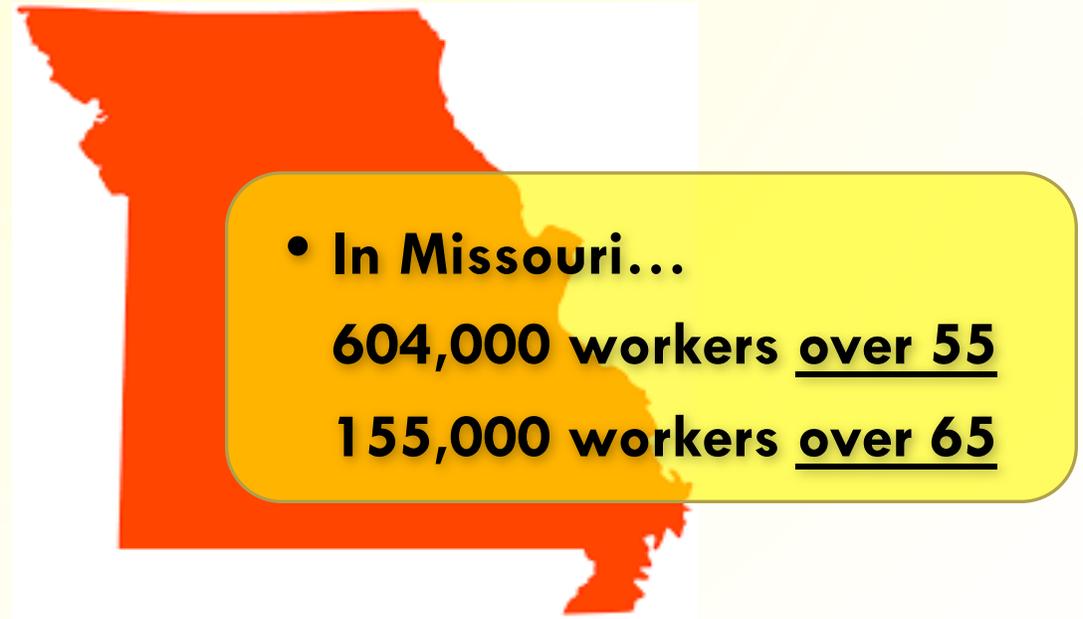


AGING WORKFORCE

- In 2016, one-third of the labor force is in the 50+ age category, compared with 27% in 2007 (U.S. Bureau of Labor Statistics).



In 2020, 1 in 4 Americans will be over 55.



SOME ADVANTAGES TO AN OLDER WORKFORCE

More work experience (i.e., more knowledge and/or skills)



More mature/professional



Stronger Work Ethic



Able to mentor younger workers



More reliable

ADVANTAGES

- Strongest Applied Skills Held by Older Workers Compared to Other Workers

Professionalism/Work Ethic



Critical thinking/Problem-solving

Lifelong learning/Self-direction

Leadership

Ethics/Social Responsibility

- Society for Human Resource Management 2014

INJURIES IN THE OLDER WORKFORCE



Older workers average more days away from work to recover from injuries.

- More fatal falls and more injuries to the trunk, back, shoulder, and knee.



For older workers, recovery from injuries can be prolonged, and average of 13 days longer.



Chronic and pre-existing conditions can make treatment more complex.

TAKING A CLOSER LOOK AT PAIN



TREATING PAIN

Biomedical

- Physical processes that affect health
- Biochemistry
- Physiology
- Pathology

Biopsychosocial

- Interaction between biological, psychological and social factors affect health
- Social context
- Impact on illness on individual from a societal perspective

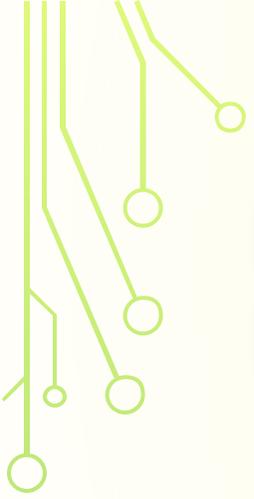
BIOPSYCHOSOCIAL MODEL

People react differently to pain based on...

- Emotional state, stress, social support available.
- Pain can leave a person cut off from friends, co-workers, sometimes family members that leave them feeling isolated exacerbating their pain.

Targeting the biopsychosocial aspects can significantly reduce pain and dramatically improving their quality of life.

- **Stephani Sutherland**



NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH (NCCIH)

“We now understand that pain is not just a sensation but a brain state. And mind-body interventions may be particularly helpful.”

- David Shurtleff, Deputy Director



OUTSIDE INFLUENCES ON PAIN

weather

activity

**S
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Fatigue

EXHAUSTION

STRESS



STRESS

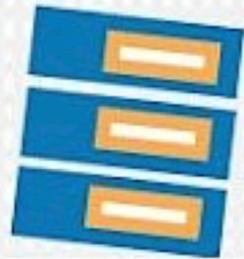
A physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation.

Merriam-Webster

STRESS

Causes of Stress

Workload
40%



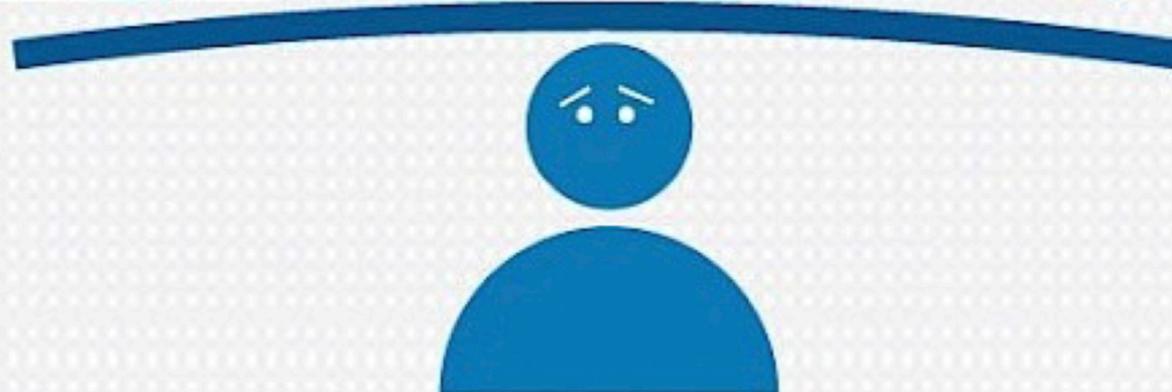
People
Issues
28%



Juggling Work
& Personal
20%



Financial
Insecurity
6%



HANS SELYE

GENERAL ADAPTATION SYNDROME

Alarm

- Fight/Flight/
Freeze
- Activates HPA
Axis

Resistance

- If stressful
situation
persists, body
will maintain an
arousal state

Exhaustion

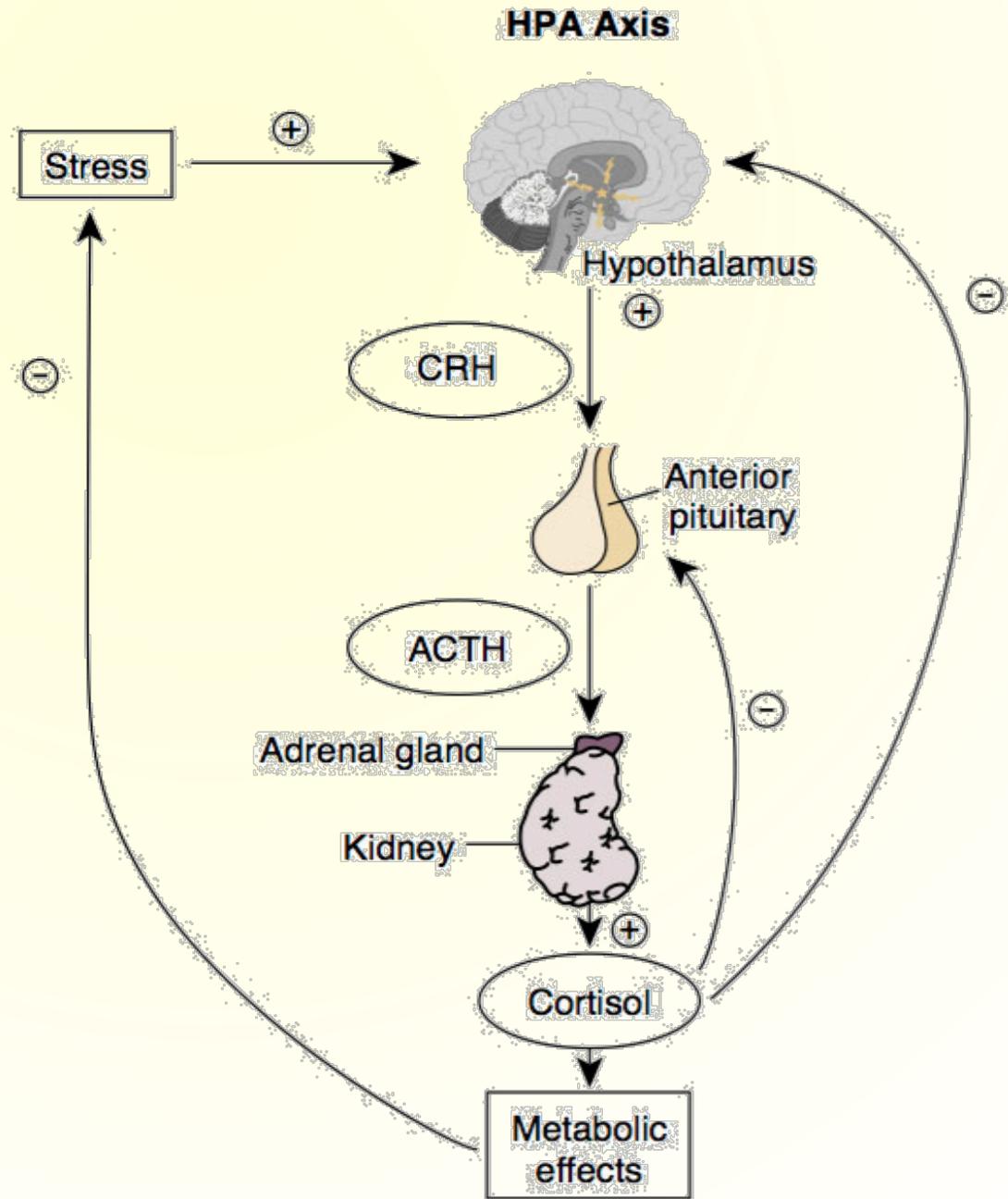
- Overload,
burnout, fatigue
- Body does not
recover
- Dangerous
stage

ACTIVATION OF THE HPA AXIS

- Hypothalamus
- Pituitary
- Adrenal



INCREASED CORTISOL PRODUCTION



CENTRAL SENSITIZATION

“Central sensitization is a condition of the nervous system that is associated with the development and maintenance of chronic pain. When central sensitization occurs, the nervous system goes through a process called “wind-up” and gets regulated in a persistent state of high reactivity. This persistent, or regulated, state of reactivity subsequently comes to maintain pain even after the initial injury might have healed.”

- Institute for Chronic Pain

CENTRALIZED PAIN

Increased pain

- Activation of the Hypothalamus-Pituitary-Adrenal Axis

Leads to increased cortisol production

- Hypertrophy of the adrenals
- Decrease in immune system can increase chance of infections/sickness
- Imbalances of sympathetic nervous system
- Insulin resistance, high blood sugar, increased triglyceride storage
- **Inflammation in the tissues**

The Central Nervous System response

- Increased neuro-transmission to the cell bodies of the gamma motor neurons in the anterior horn cell of spinal cord

CENTRALIZED PAIN

Muscles resort to increased anaerobic respiration for energy production.

Anaerobic respiration produces lactic acid in the tissues.

Lactic acid is an inflammatory irritant and cannot be fully re-absorbed due to decreased circulation.



This increased irritation/ inflammation stimulates the muscle to further increase its resting tone.

CENTRALIZED PAIN

Ischemic pain results along with irritation of the arterial walls

Painful neurotransmitters overflow in the spinal segments spreading to other spinal levels

This domino effect of neuro-modulation known as central sensitization takes over your Central Nervous System.



CENTRALIZED PAIN

Under strain of increased muscle tone, bony segments are pulled out of normal position

The spinal column twists and rotates out from under the increased strain

Somatic asymmetry results, causing even more pain

This increased pain and asymmetry require increased energy for normal daily activity.



CENTRALIZED PAIN

Chronic fatigue can follow

Central sensitization and neural up-regulation occur as pain becomes chronic

Nervous system becomes more vigilant and hypersensitive to pain due to primal fear response

...Further limiting normal movement patterns and activity

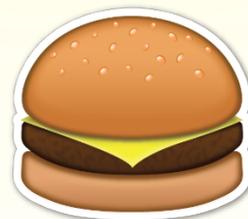


CENTRALIZED PAIN

- Chronic pain and fatigue trigger feelings of fear, anger, anxiety, depression.



- Reach for comfort food or other addictive behaviors to self-medicate.

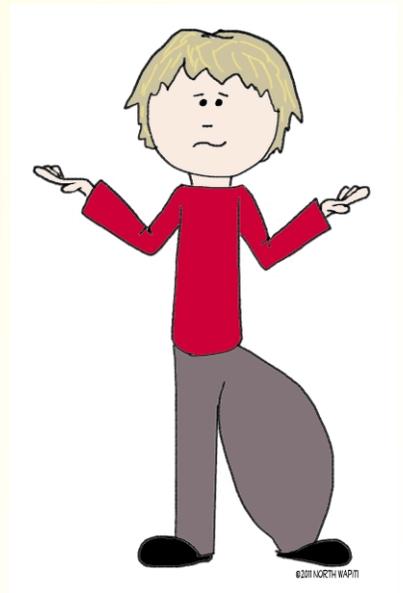


Thomas K. Ockler, PT

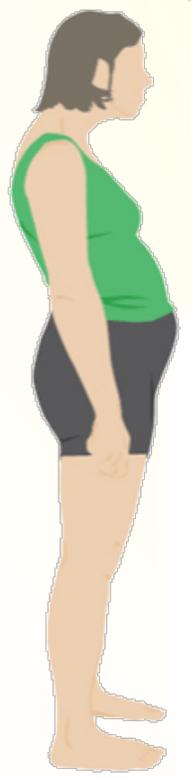


- **Poor breathing patterns lead to slumped posture, decreased core control.**

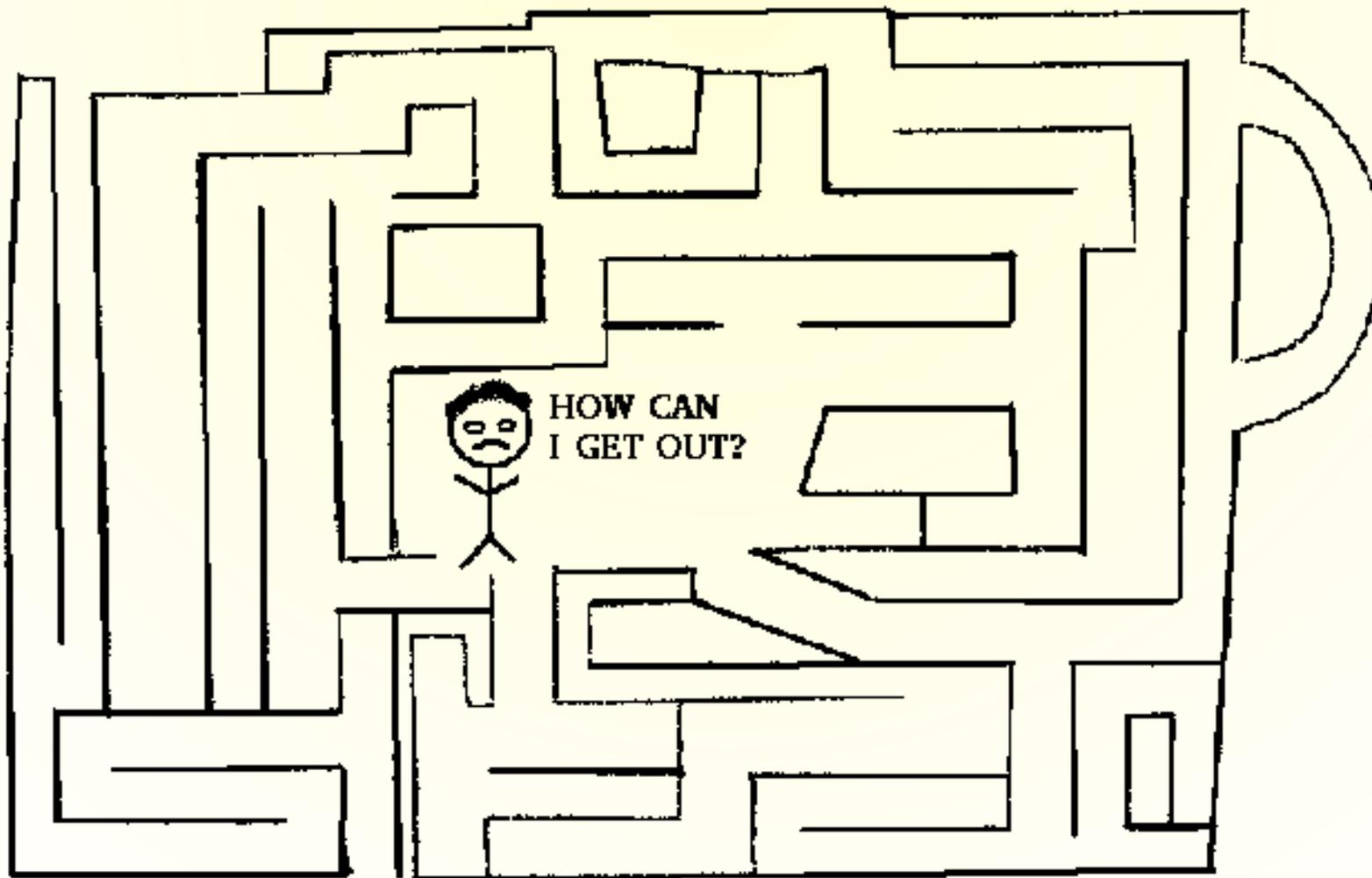
- **Decrease in intra-thoracic pressure gradients create poor lymphatic dynamics.**



Thomas K. Ockler, PT



IS THERE A WAY OUT?



4 WAYS TO FIND THE WAY OUT



PREVENTION



Many chronic diseases could be prevented, delayed, or alleviated through simple lifestyle changes.

The U.S. Centers for Disease Control and Prevention (CDC) estimates that eliminating 3 risk factors – **poor diet, inactivity, and smoking** would prevent:

- 80% of heart disease and stroke
- 80% of type 2 diabetes
- 40% of cancer.

HEALTH RISK BEHAVIORS



Tobacco Use



Lack of Exercise



Alcohol Abuse



Poor Nutrition

CONSERVATIVE CARE SOLUTIONS

Prevention

Wellness Programs

Regular Breaks

Post-Offer Testing

Functional Capacity Evaluations

Fit for Duty Testing

Appropriate Therapeutic Intervention

Ergonomics

Case Management

CONSERVATIVE CARE SOLUTIONS



POST-OFFER TESTING

- For every \$1 spent in testing, \$6-8 saved in direct cost
- 10-30% decrease in insurance premiums
- 30% decrease in work comp injuries



FCE

- Established safety and management systems can reduce injuries/illness costs by 20-40%



THERAPY PT/OT

- Significant cost savings by
- Improving function
- Increased return to work rates
- Reduced disability claims
- Decreased dependence on prescription medications.

POST OFFER TESTING

- Employers ask yourself...

Does my new hire have the physical strength and fitness required to do the job?

Does my new employee have a pre-existing injury?

Is my employee ready to return to their job after recovering from an injury? (Fit for Duty)

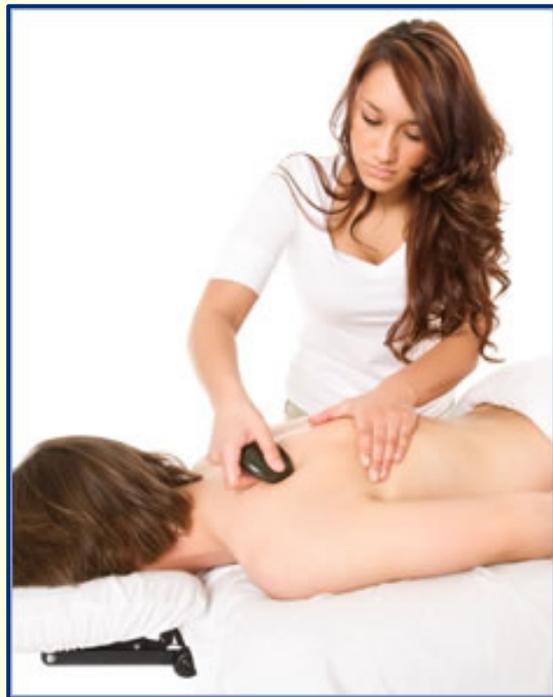


FUNCTIONAL CAPACITY EVALUATION



- To determine what type of work an employee can safely perform
- Is the employee giving a valid effort?
- Testing supported by multiple validation criteria
- Scientific evidence
- Who is doing the testing... PT, OT
- Not treating provider

THERAPY



APPROPRIATE THERAPEUTIC INTERVENTION

- Early referral to therapy
- Facility/Therapist understands return-to-work goals
- Therapist balances manual therapy with medical exercise based approach
- Therapist makes sure patient has a home program and is compliant
- Communication, Communication, Communication



REHABILITATION TEAM



What to look for in a provider?

- Post Offer Testing
- Fit for Duty Testing
- Functional Capacity Evaluations
- On-site Ergonomic Evaluations
- Hands-on functionally based therapy

HEARTMATH



 HeartMath®

- Evidence based relaxation system since 1991
- Works in calming down the Autonomic Nervous System
- Uses HeartRate Variability as a measure of Coherence
- Can use equipment or teach individual approach
- Gives patient control

QUICK COHERENCE TECHNIQUE

- **Heart Focus:** Focus your attention in the area of your heart, in the center of your chest
- **Heart Breathing:** As you focus on the area of your heart, imagine your breath flowing in and out through this area.
- **Heart Feeling:** As you continue to breathe through the area of your heart, recall a positive feeling a time when you felt good inside, and try to re-experience it. It could be feeling appreciation for the good things in your life, or the love and care you feel for someone.

TAKEAWAYS

Chronic Pain is a huge issue in our society right now.

9 out of 10 people remain on the job with chronic conditions.

We have an aging workforce.

Cost effective measures include:

- Post-offer Testing
- Functional Capacity Evaluations
- Appropriate Therapeutic Intervention.

LEARNING OBJECTIVES

How many people in the US are in Chronic Pain?

- 100 million

How many people with a chronic condition choose to work?

- 9 out of 10

Name 2 of 4 health risk behaviors?

- Smoking, poor diet, lack of exercise, and drinking

What are 3 ways I can help reduce workers compensation costs?

- Post-Offer Testing, Functional Capacity Evaluations, Appropriate use of Therapy

Is CRPS and Centralized Pain the same thing?

- No, although CRPS will have Centralized Pain as a component you can have chronic pain and not have CRPS.

THANK YOU



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