

Essentials of Cognitive Behavioral Therapy for Chronic Pain Management

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Who is on the call today?

- Psychologists
- Nurses
- Social Workers
- Physicians
- Physical Therapists
- Students
- Other

Presentation Overview

A Historical look at Pain Management

The Problem of Chronic Pain

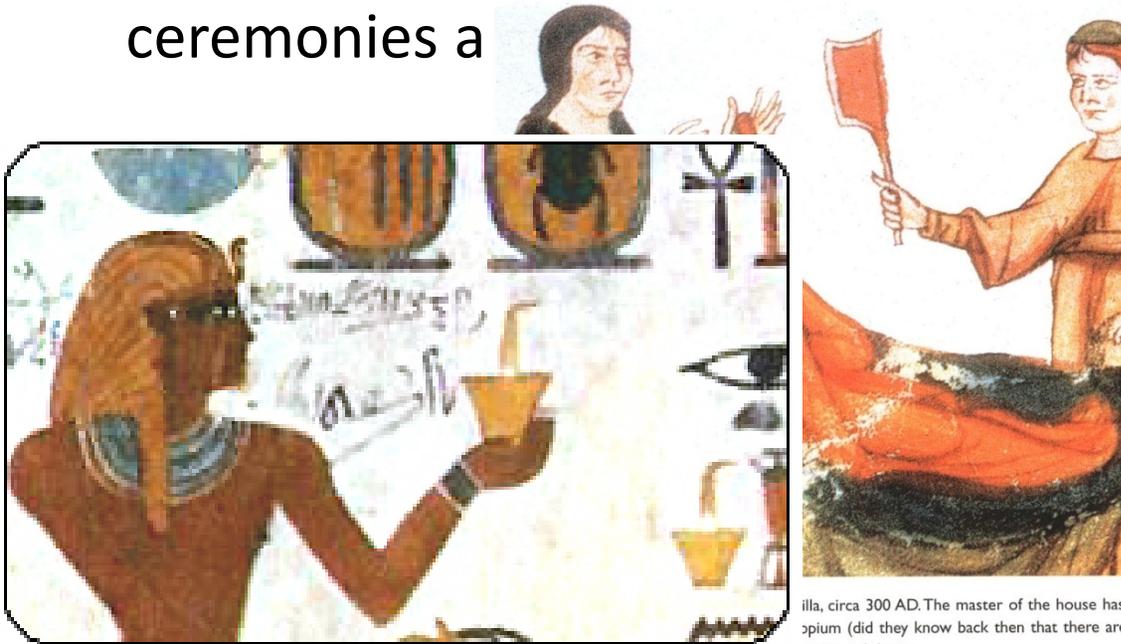
Cognitive Behavioral Therapy for Chronic Pain

Key Elements of Treatment and Examples

Research:

- An Integrated treatment for Pain and PTSD

Early humans related pain to evil, magic, and demons. Relief of pain was the responsibility of sorcerers, shamans, priests, and priestesses, who used herbs, rites, and ceremonies a



peripheral nerves; and another is tanning the master's brow

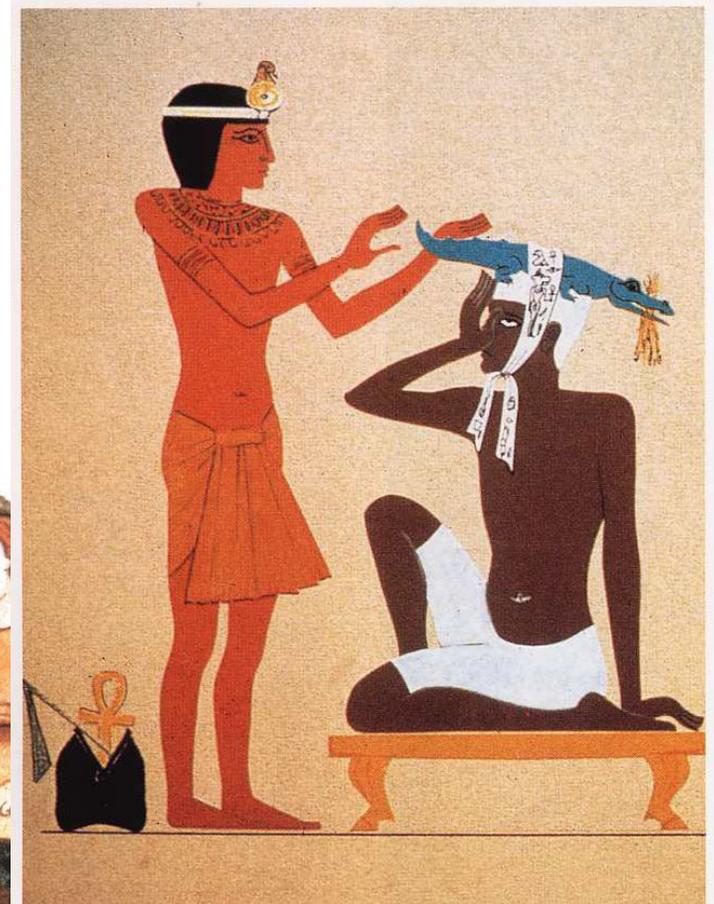


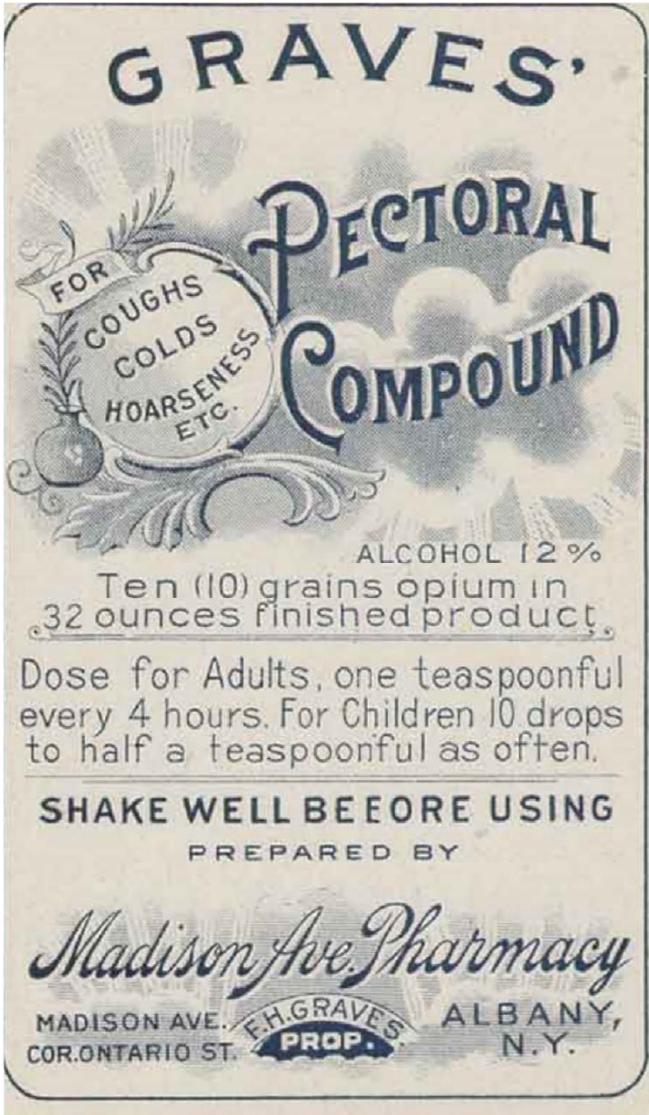
Figure 1.4 Cartoon, translating above papyrus: 'The physician shall take a crocodile made of clay, with sacred grain in its mouth, and an eye of faience. He shall bind it to the head of the patient with a strip of fine linen upon which is written the names of the Gods. And the physician shall pray'

Early 19th Century Pain Relief

- Most pain relievers were made from plants and could be deadly when taken in overdose. One of the most commonly used substances was opium derived from the poppy flower. Other substances used included alcohol or wine, mandrake, belladonna, and marijuana.



Potions that included these substances were commonly available around the turn of the century and promised to cure a variety of afflictions.



GRAVES'

**PECTORAL
COMPOUND**

FOR
COUGHS
COLDS
HOARSENESS
ETC.

ALCOHOL 12 %
Ten (10) grains opium in
32 ounces finished product.

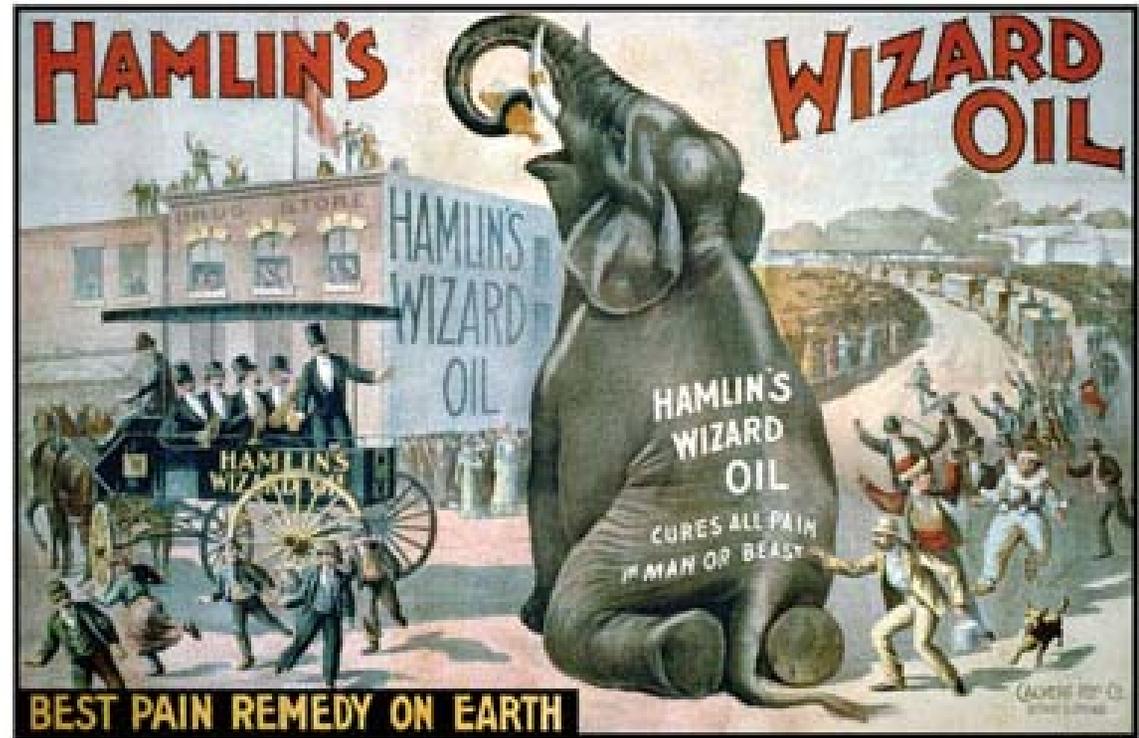
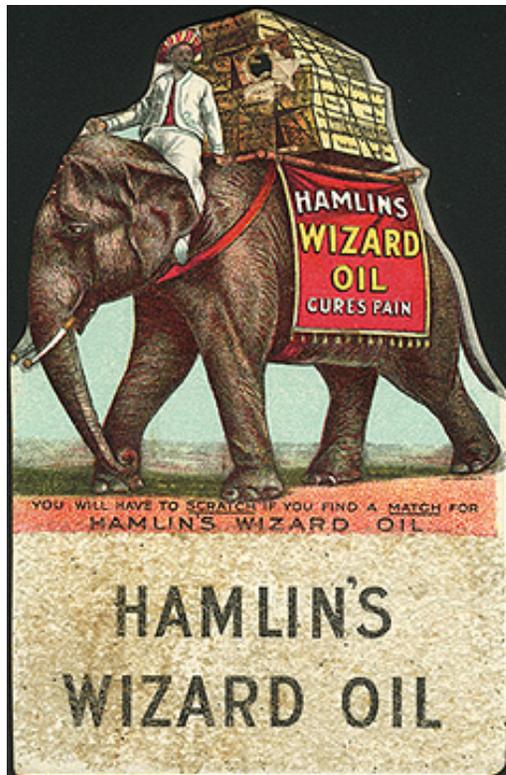
Dose for Adults, one teaspoonful
every 4 hours. For Children 10 drops
to half a teaspoonful as often.

SHAKE WELL BEFORE USING
PREPARED BY

Madison Ave. Pharmacy

MADISON AVE. F.H. GRAVES' ALBANY,
COR. ONTARIO ST. PROP. N.Y.

- Touted as a cure for Rheumatism, Sprains, Bruises, Lame Back, Frost Bites, Diarrhea, Burns and Scalds.
- Contents = 50%-70% alcohol, camphor, ammonia, chloroform, sassafras, cloves, and turpentine.
- Wizard Oil could also be used on horses and cattle.

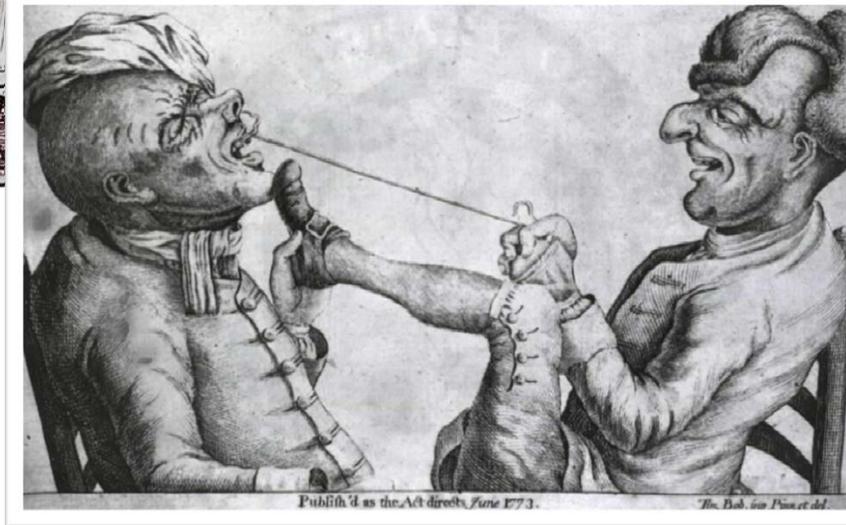


Coca-Cola was originally sold as a medicine. It contained stimulating extracts from coca leaves and kola nuts. It was available in carbonated form at the pharmacy and as a concentrated syrup. From 1886 until 1903 the formula for Coca-Cola included approximately 9 milligrams of cocaine per serving.



Mrs. Winslow's Soothing Syrup was an indispensable aid to mothers and child-care workers. Containing one grain (65 mg) of morphine per fluid ounce, it effectively quieted restless infants and small children.



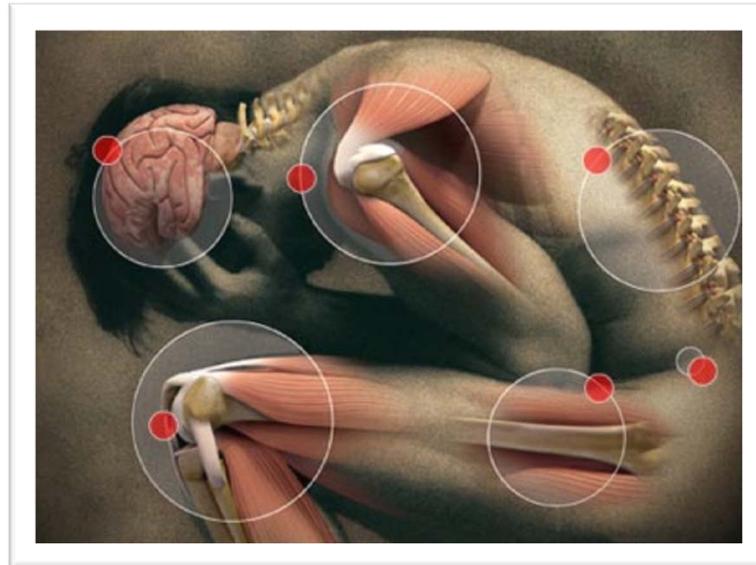


Published as the Act directs June 1773.



Detail Study of The Laocoon Group.
c.125 BC Vatican, Rome

What is the true impact of PAIN?





What is Chronic Pain?

- Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (IASP, 1994).

Chronic pain = Pain with a duration of 3 months or greater that is often associated with functional, psychological and social problems that can negatively impact a persons life.



Prevalence of Chronic Pain in Veterans

Pain is one of the most common complaints made by patients to primary care providers in the VA healthcare system (approximately 50% of patients).

Kerns, R. D., Otis, J. D., Rosenberg, R., & Reid C. (2003). Veterans' concerns about pain and their associations with ratings of health, health risk behaviors, affective distress, and use of the healthcare system. *Journal of Rehabilitation, Research and Development*, 40(5), 371-380. (PMID: 15080222)

The Problem of Pain

Pain is typically an adaptive reaction to an injury and gradually decreases over time with conservative treatment.

However, for some people pain persists past the point where it is considered adaptive and contributes to ...

Negative Mood (depression)

Disability

Increased use of healthcare system resources.

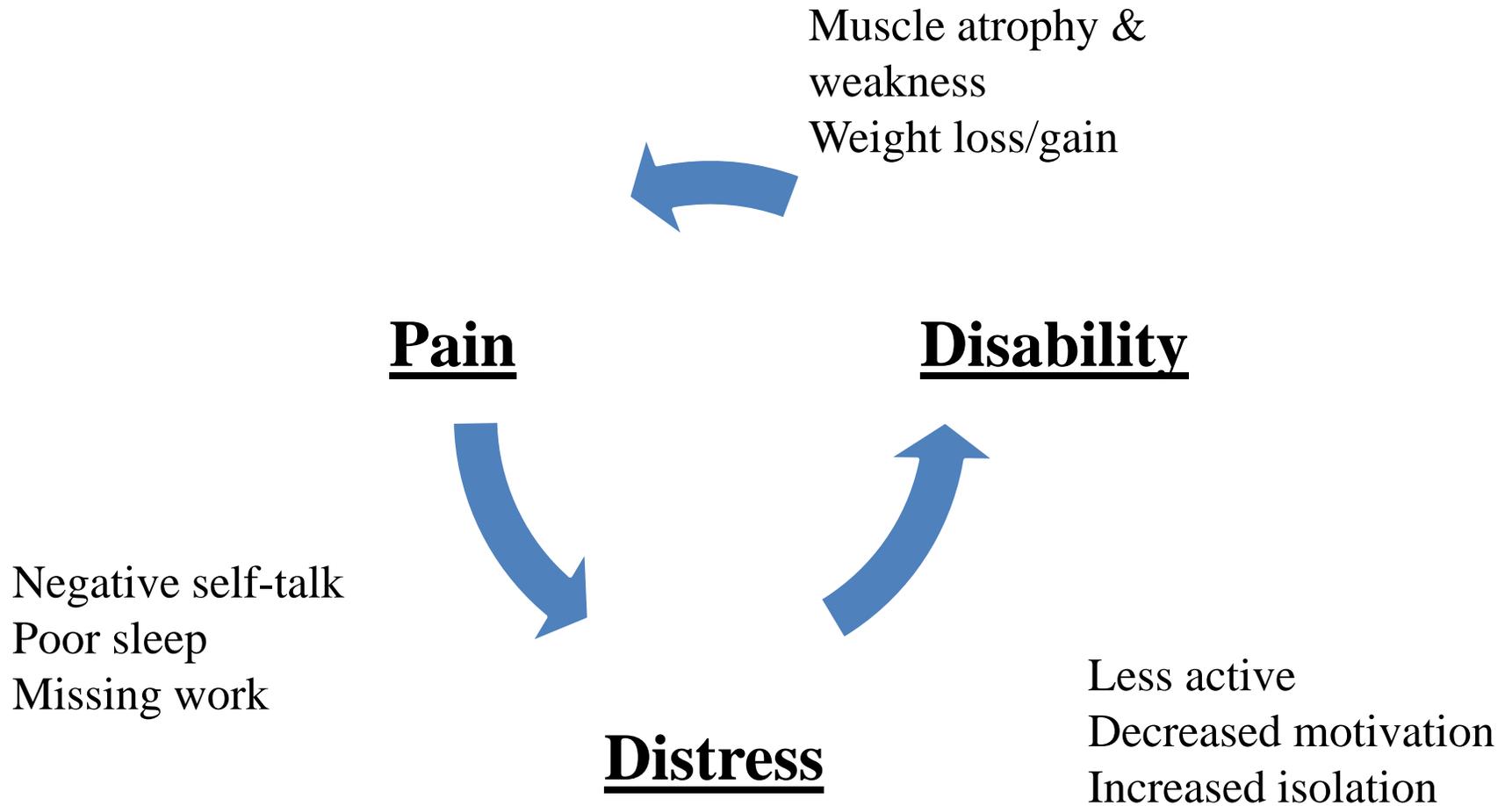
The Role of Thoughts and Emotions

Henry Knowles Beecher: WWII Soldiers & Pain

- Observed that soldiers with serious wounds complained of less pain than did his postoperative patients at Massachusetts General Hospital.

Hypothesis: => The soldier's pain was alleviated by his survival of combat and the knowledge that he could now spend weeks or months in safety and relative comfort while he recovered. The hospital patient, however, had been removed from his home environment and now faced an extended period of illness and the fear of possible complications.

The Pain Cycle



The Challenge of Pain

- ◆ Over time, negative thoughts and beliefs about pain, and behaviors related to pain can become very resistant to change.

Thoughts

- My body has failed me
- This is never going to end
- I'm worthless
- I'm disabled
- My military career is ruined
- I'm a bad parent, spouse, and provider

Behaviors

- Staying in bed all day
- Sleeping all day
- Staying away from friends
- Decreasing activities that have the potential to increase pain
- Taking more medication than prescribed

CBT for Chronic Pain

- CBT has been found to be effective for a number of chronic pain conditions, including headache, rheumatic diseases, chronic pain syndrome, chronic low-back pain, and irritable bowel syndrome.
- Significant evidence base supporting the use of CBT for chronic pain management

Hoffman, Papas, Chatkoff, & Kerns, (2007)

Otis, Sanderson, Hardway, Pincus, Tun, & Soumekh (2013)

Buhrman, Syk, Burvall, Hartig, Gordh, & Anderson (2014)

CBT for Chronic Pain

- Components of CBT for pain include:
 - Encourage increasing activity by setting goals.
 - Identify and challenge inaccurate beliefs about pain
 - Teach cognitive and behavioral coping skills (e.g., restructuring negative thoughts, activity pacing)
 - Practice and consolidation of coping skills and reinforcement of their appropriate use

CBT for Chronic Pain

- | | |
|---------------------|------------------------------|
| ◆ <u>Session 1</u> | Rationale for Treatment |
| ◆ <u>Session 2</u> | Theories of Pain, Breathing |
| ◆ <u>Session 3</u> | Relaxation Training |
| ◆ <u>Session 4</u> | Cognitive Errors |
| ◆ <u>Session 5</u> | Cognitive Restructuring |
| ◆ <u>Session 6</u> | Stress Management |
| ◆ <u>Session 7</u> | Time-Based Activity Pacing |
| ◆ <u>Session 8</u> | Pleasant Activity Scheduling |
| ◆ <u>Session 9</u> | Anger Management |
| ◆ <u>Session 10</u> | Sleep Hygiene |
| ◆ <u>Session 11</u> | Relapse prevention |

Otis, J. D., (2007). *Managing Chronic Pain: A Cognitive-Behavioral Therapy Approach*, Therapist Guide. Treatments that Work Series, Oxford University Press, NY.

Children and Pain

- Children's pain is more plastic than that of adults, such that psychosocial factors may exert an even more powerful influence (McGrath & Hillier, 2002).
- Parents' response to children's expression of pain can either further exacerbate or reduce the child's perception or expression of pain.
- ◆ The ultimate goal of cognitive-behavioral strategies is to help children have concrete tools to cope with their experience of pain so that developmentally appropriate activities can resume.

Children and Pain

Techniques:

- Distraction techniques (such as counting) during painful medical procedures, or thinking about a favorite holiday.
- Relaxation techniques are helpful for coping with painful procedures.
- Cognitive coping - Children have found it helpful to “throw away” negative thoughts and instead use positive coping thoughts such as “I can cope with anything that comes my way; I am very strong and brave.”

Older Adults and Pain

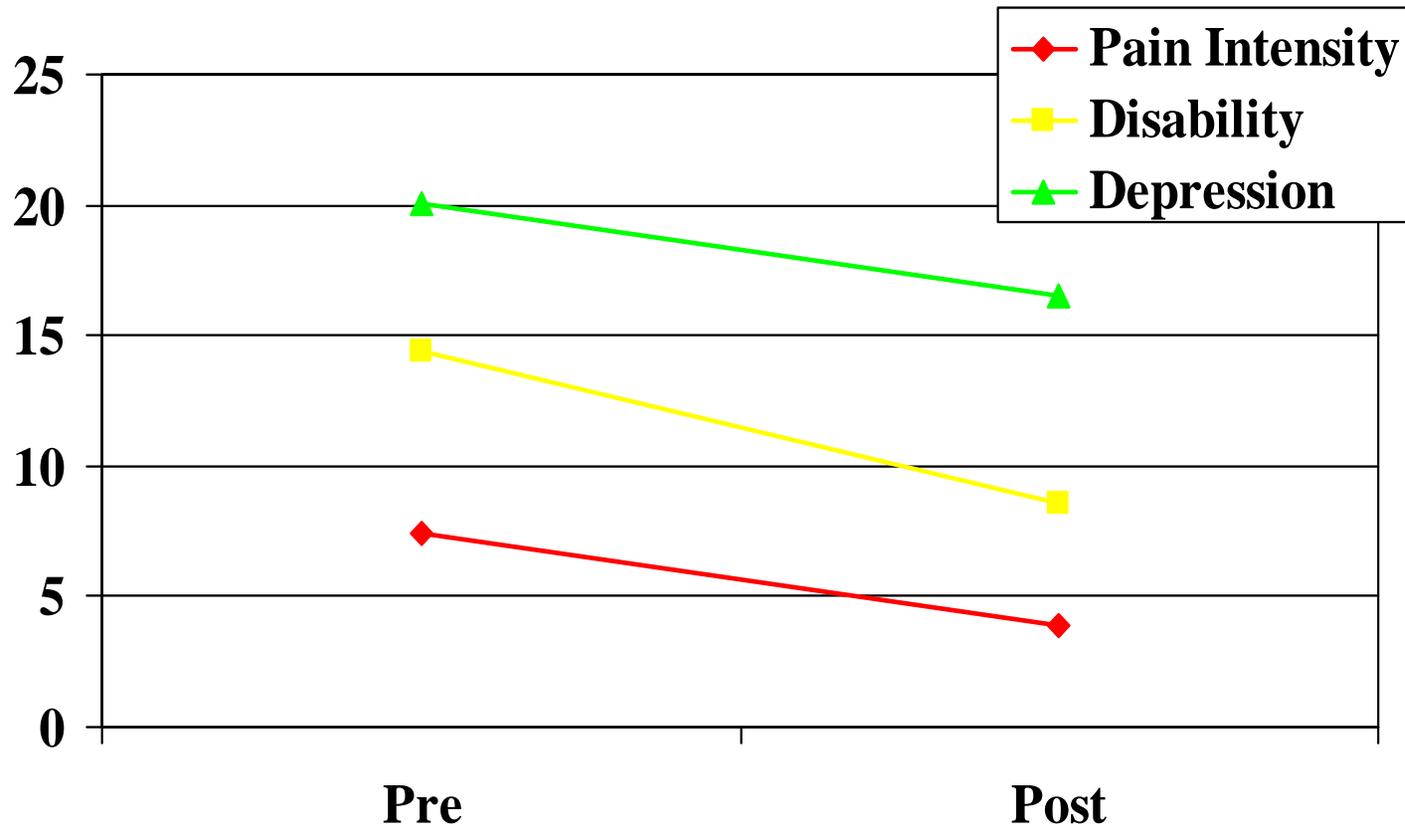
Beliefs and expectations about pain

- Pain is an expected part of growing older (e.g., losing a tooth or hair)

Previous experience with pain

- A history of successfully coping with a pain problem (e.g., older adults and knee surgery)

Older Adults and Pain



13 Residents (Ages 65-92)
Pre to Post-treatment ($p < .01$)

Assessment

(Reid, Otis, Barry, & Kerns, 2002)

One of the biggest obstacles to getting patients engaged in treatment.

What the Nazis Stole • White House Money-grubbing • How to Cut Your Taxes

U.S. News & WORLD REPORT
MARCH 17, 1997 / \$2.95

NO EXCUSE FOR PAIN

NEW SCIENCE. OLD THINKING.

Doctors have the means at hand to relieve the suffering of millions of Americans. Why aren't they doing it?



David Began, chronic pain sufferer

Critical Element of Treatment

Present a Convincing Treatment Rationale

Treatment only works if patients are engaged

- TIPS:
 1. Providers:
 - Use MI to help patient arrive at their own decision to try CBT
 2. Therapists:
 - Patients will drop out if they don't think you have something to offer them
 - Read key articles and chapters related to pain management but deliver content in your own words

Critical Element of Treatment

- **Relaxation Training**

- Learning to breathe correctly is one of the easiest methods of learning how to relax and help reduce pain.
 - Other techniques:
 - Progressive Muscle Relaxation, Visual Imagery
 - Tai Chi, Yoga, Meditation, etc.
- The Advantage: It is a concrete skill
- Early success with this skill sets the patient up for success on future goals.

Critical Element of Treatment

- **Cognitive Restructuring**

- Goals:

- Recognize cognitive errors and maladaptive thoughts, challenge those thoughts, and substitute more adaptive ones.
- Create a more balanced way of thinking in order to reduce negative emotions that contribute to the experience of pain.

- Tips:

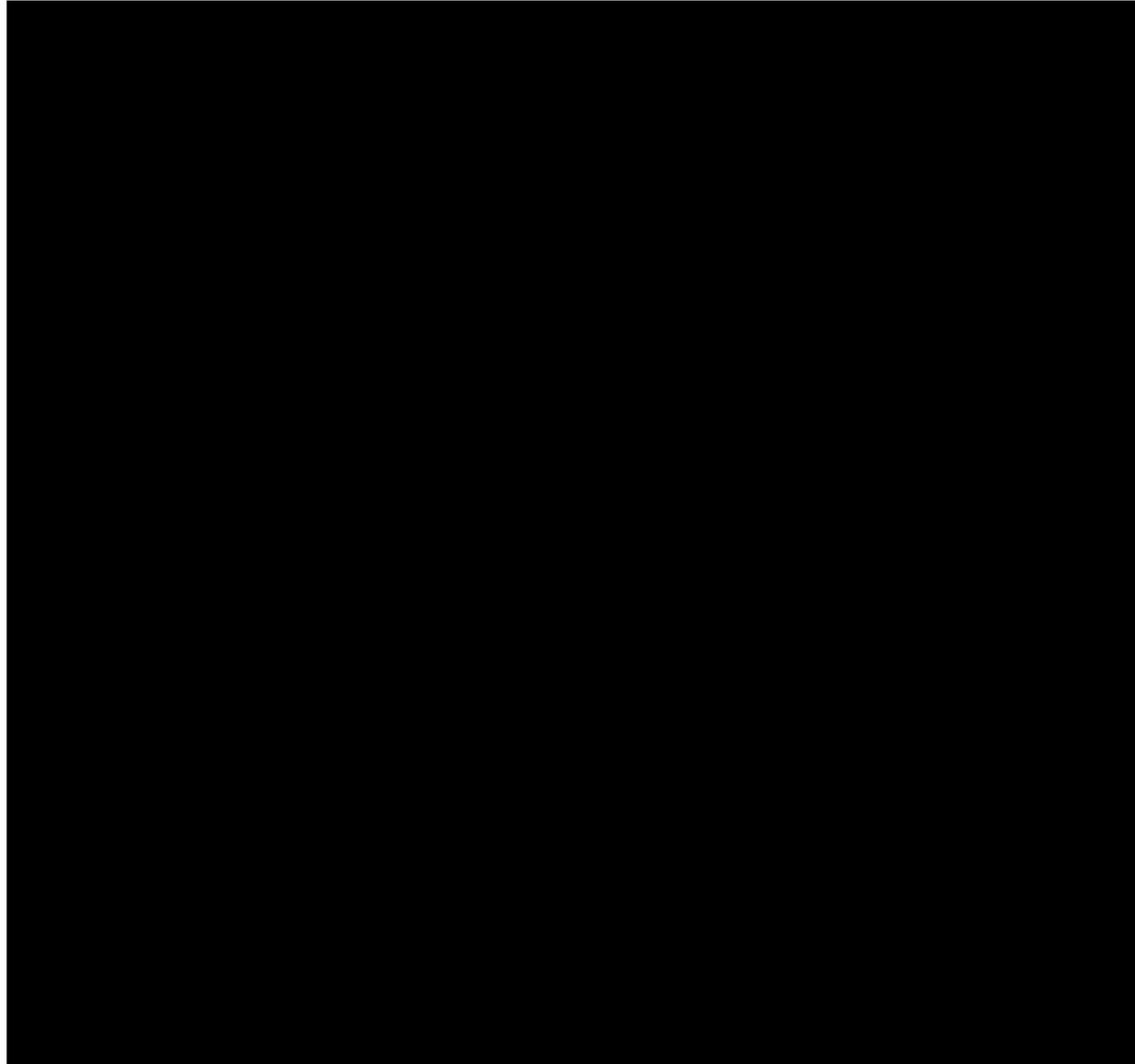
- Not all thoughts are accurate
- You can control the way you think
- Ask them to be a “detective”

Cognitive Restructuring

Situation	Emotion	Automatic Thought	Evidence for	Evidence against	Positive Coping Thought	Emotion
Describe the event that led to the unpleasant emotion.	Specify sad, angry, etc., and rate the emotion from 0% to 100%.	Write the automatic thought that preceded the emotion.	What is the evidence that this thought is true?	What is the evidence that this thought is false?	What else can I say to myself instead of the automatic thought?	Re-rate the emotion from 0% to 100%.
A pain flare-up on a busy day.	Depressed 60% Frustrated 50%	I can't cope with my pain; my life is miserable.	There is too much going on today. I feel overwhelmed and I'm not getting my work done.	I have had busy days before when I've been in pain and I was able to handle my pain and all my responsibilities well. I'm usually very productive. My life isn't all bad (I have a great family).	Not every day is this hectic and some days are good. I have made it through very hectic days before and I can do it again.	Depressed 25% Frustrated 30%

Note that while one of the thoughts is pain-specific, the patient has also brought in an automatic thought about life in general being miserable. With this cognitive error, he discounts the positive aspects of his life.

Alternate Format Cognitive Restructuring



Critical Element of Treatment

- **Time-based Activity Pacing**

- Activity breaks are based on time intervals, not on how much of the job is completed
- Ideal for the patient who tends to over-do it
 - The weekend warrior
 - “This is the way I was trained”
- The Professional Athlete example.
 - How do they perform at their best?



Critical Element of Treatment

- Sleep Hygiene**

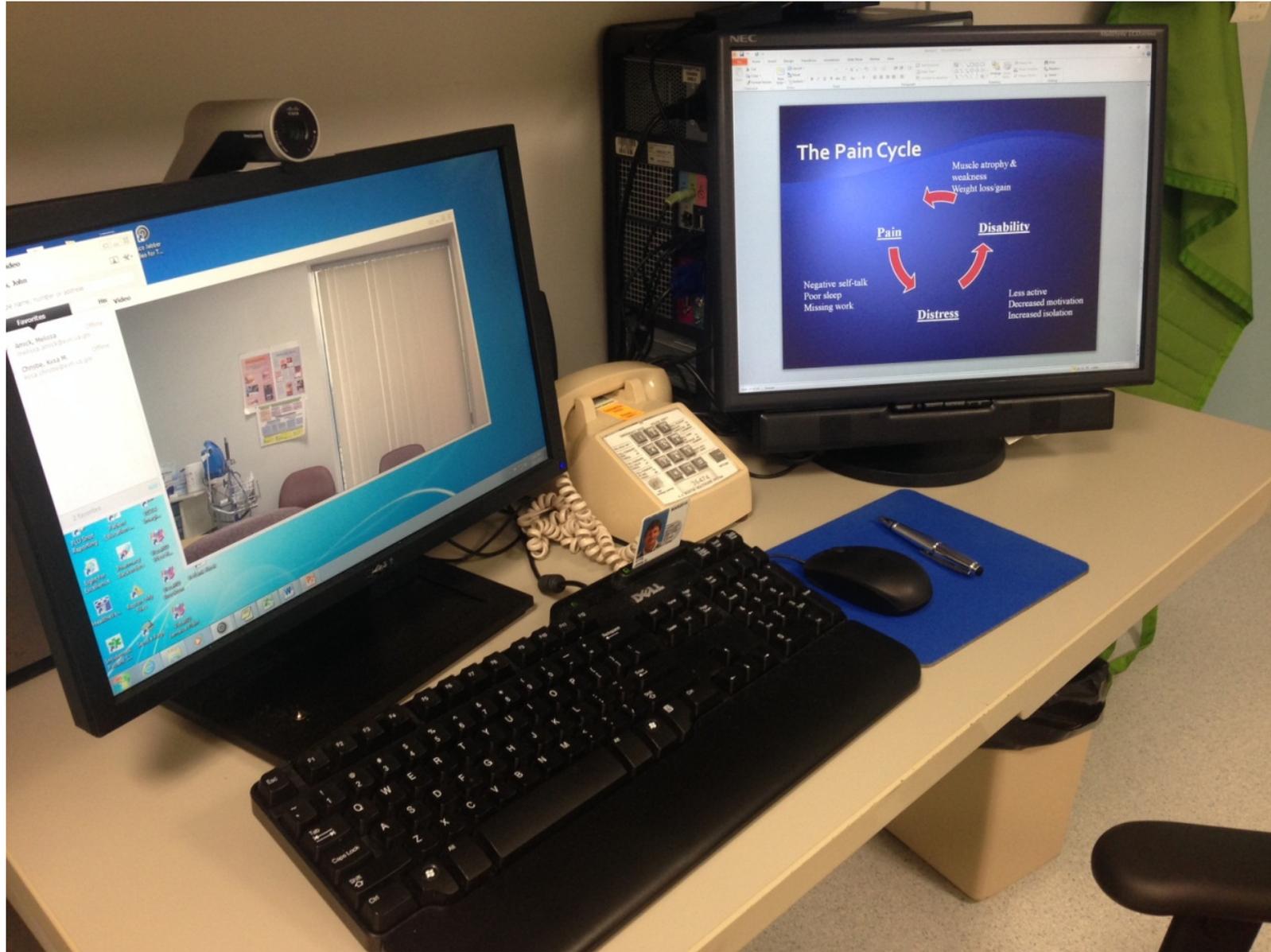
Sleep Hygiene Category	Good sleeping habits	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Timing	Set a constant bed time							
	Set a constant wake time							
	No daytime naps							
Sleep Behavior	When sleep does not occur in 15 minutes get up and get out of bed. Only use the bed for sleep							
Thermal	Take a warm bath							
Environment	Keep bedroom dark							
	Keep temperature of room constant							
Mental Control	Quiet the mind before bedtime with music, and calm reading. Avoid action TV, movies, and loud music.							
Ingestion	Avoid alcohol, caffeine, and nicotine before bed							
	Eat a light snack before bed							

Total number of habits used per night: ___ ___ ___ ___ ___ ___ ___

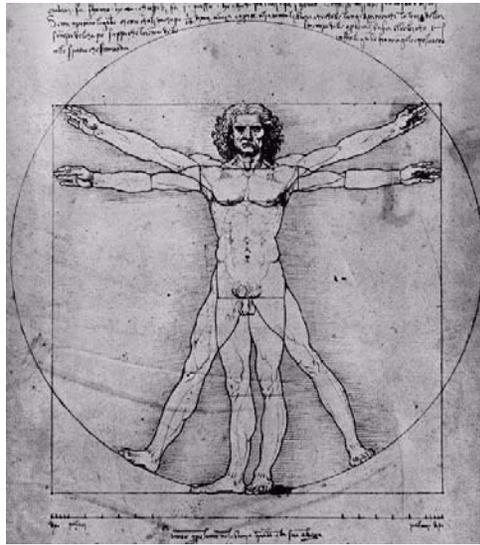
Suggestions for Therapists

- Join forces with Primary Care
- Create a pain group
 - (e.g., therapist led – peer led – multidisciplinary)
- Set treatment goals:
 - Goals should be measurable/behavioral
 - Work towards goals each week
 - When available, incorporate rehab medicine goals
- Don't focus on “pain”, ... **get them moving.**
- Monitor homework completion
- Tailor the treatment to your patient

Otis, J.D., & Hughes, D. (2010). Psychiatry and Pain: Integration and Coordination with Primary Care. *Psychiatric Times*. <http://www.psychiatristimes.com/display/article/10168/1759170>



Research



Pain and Trauma

- Pain can result from a number of sources including occupational injuries, motor vehicle accidents, or injury related to military combat.
- This has led to a growing interest in the interaction between pain and PTSD, as research and clinical practice indicate that they frequently co-occur and can interact in such a way to negatively impact the course of treatment for either disorder.

Chronic Pain, PTSD, and TBI in OEF/OIF Veterans

Medical record review of 340 OEF/OIF Veterans referred to the VA Polytrauma Network Site (PNS) at VA Boston following a positive TBI screen.

Data were based on the second level TBI clinical evaluation by the Psychiatrist of the PNS.

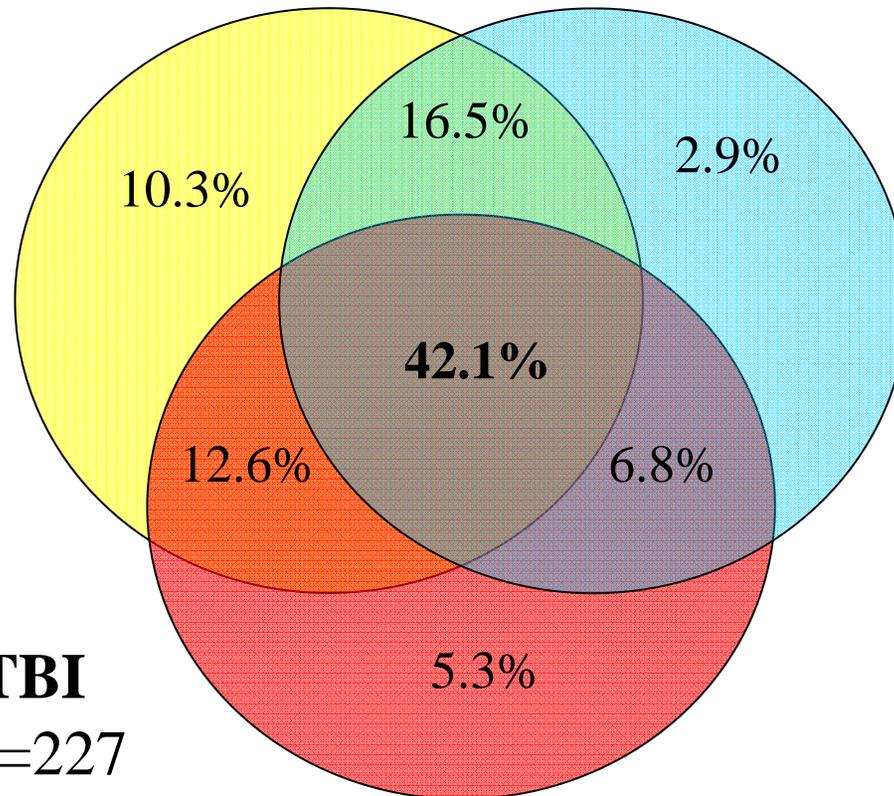


Prevalence of Chronic Pain, PTSD and TBI in a Sample of 340 OEF/OIF Veterans

Chronic Pain
N=277
81.5%

PTSD
N=232
68.2%

TBI
N=227
66.8%



Lew, H., Otis, J. D., Tun, C., Kerns, R. D., Clark, M. E., & Cifu, D. X. (2009). Prevalence of Chronic Pain, Posttraumatic Stress Disorder and Persistent Post-concussive Symptoms in OEF/OIF Veterans: The Polytrauma Clinical Triad. *Journal of Rehabilitation, Research and Development*. 46(6)

Pain and PTSD Co-morbidity

Alschuler & Otis (2012) – 194 veterans participating in a VA pain management program

- Analyses indicated that 47% of the sample endorsed symptoms consistent with PTSD.
- Veterans with pain and PTSD endorsed significantly higher levels of maladaptive coping strategies and beliefs about pain (i.e., greater catastrophizing and emotional impact on pain; less control over pain) when compared to veterans with chronic pain alone.

Alschuler, K., & Otis, J.D. (2012). Coping Strategies and Beliefs about Pain in Veterans with Comorbid Chronic Pain and Significant Levels of Posttraumatic Stress Disorder Symptoms. *European Journal of Pain*

Clinical Presentation

- “When ever I'm laying in bed at night and my shoulder starts hurting, I start having thoughts of when I was shot.”
- “When I think about the day our humvee was hit I can feel the pain in my back flare up right where I was hurt.”
- “Pain is like a barnacle on my hull – it keeps reminding me of what I went through.”
- “I tried my PT exercises but the pain started increasing and I started thinking about what I saw and heard in Iraq so I just said the heck with it and called it quits for the day.”

Clinical Presentation

- For one veteran, pain was the “price” or a “penance” he paid for surviving while some friends did not.
- Another veteran reported he was experiencing pain for a reason, so that he would never “forget.”
- Other veterans reported using pain and PTSD symptoms as a *distraction*. For example, one veteran reported that he would intentionally bring on pain by physically over-exerting himself in order to take his mind away from his PTSD.
- Another veteran reported that he would intentionally expose himself to trauma-related cues that would elicit anger in order to feel “alive” and forget his pain.

Treatment Components

CBT for Pain

- Education re: pain
- Relaxation training
- Cognitive restructuring
- Stress management
- Activity pacing
- Pleasant activity scheduling
- Anger management
- Sleep hygiene
- Relapse prevention

CBT for PTSD

- Education re: PTSD
- Cognitive restructuring
- Teach coping skills
- Social support
- Anger management & sleep
- Exposure therapy
- Reprocessing the meaning of the event

Conclusions

- High rates of comorbidity between pain and PTSD
- Pain and PTSD seem to interact with one another
- Cognitive-behavioral treatments for both have similar components
- Question: Is there a more efficient and effective way of providing treatment?

Efficacy of An Integrated CBT Approach to Treating Chronic Pain and PTSD

John D. Otis, Ph.D. and Terence M. Keane Ph.D.

A VA Merit Review funded by the VA Rehabilitation,
Research & Development Service

- Purpose: Evaluate the efficacy of an integrated CBT approach to the treatment of co-morbid Chronic Pain and PTSD
- A 12-session integrated treatment that contains elements of evidence-based treatments for chronic pain and PTSD.

Treatment Development

- **GOALS:**

- Create a treatment that amounted to more than the sum of its parts.
- Create a treatment that was effective and transportable so that it would be considered clinically practical to use by therapists.
- It had to be easy to understand for therapist and patient and not too time intensive.

Study Observations

- Study drop out rate was above 20%
- Challenge to engage patients in treatment
- Problems gaining therapeutic momentum
- Veterans did not want to be in the VA for 12 weeks or longer - they want to get on with their lives.

Pilot Study: Intensive Treatment of Pain and PTSD for OEF/OIF Veterans

John D. Otis, Ph.D. and Terence M. Keane Ph.D.
funded by VA RR&D

- Purpose: Develop and Pilot an Intensive (3-week 6-session) integrated Pain and PTSD treatment program specifically for OEF/OIF Veterans
- Advantages of this approach:
 - More time efficient = more acceptable to veterans
 - Less costly to administer
 - Quicker re-establishment of adaptive functioning (military or civilian)

Intensive Treatment

- **Participants:**
 - 8 veterans with comorbid chronic pain and PTSD were recruited for participation in this pilot study.
- **Assessment:**
 - Participants were assessed by an independent evaluator at pre and post treatment. (e.g., Pain, PTSD, Distress).

Treatment Development

- Session content and sequence
 - Therapist feedback
 - Patient feedback
- Deciding on the number of sessions
- The timing of sessions
 - Building momentum
 - Behavioral goals
- Pilot testing

Intensive Treatment Outline

- Session 1 Making The Connection Between Pain and PTSD
- Session 2 Cognitive Restructuring
- Session 3 Focused Cognitive Restructuring
 - Anger Management
 - Power/Control
 - Trust/Safety
- Session 4 Sleep and Relaxation Training
- Session 5 Activity Pacing and Pleasant Activities
- Session 6 Social Support and Integrating Skills into Everyday Life

Additional Information

- Total Time to conduct pilot study = 3 months
- Treatment often took place after “normal” working hours
- There were no treatment dropouts
- If found to be effective, this treatment could be a “first step” to engaging OEF/OIF/OND veterans in programs to help them maintain the skills they have learned, or strengthen their skills to effectively cope with pain and PTSD.

Results

Paired Comparison t-tests on Mean Pre to Post-treatment Outcome Measure Scores

Outcome Measure	Pre-treatment	Post-treatment	Sig (2 tailed)
Pain Numerical Rating Scale	30.57	25.85	.09
Beck Depression Inventory	23.14	16.28	.06
Clinician Administered Assessment of PTSD (CAPS)	72.13	59.13	.03
Anxiety Sensitivity Index	35.50	24.80	.18
Pain Catastrophizing Scale	30.14	18.86	.05

Results: Qualitative data obtained from Perception of Treatment Questionnaire

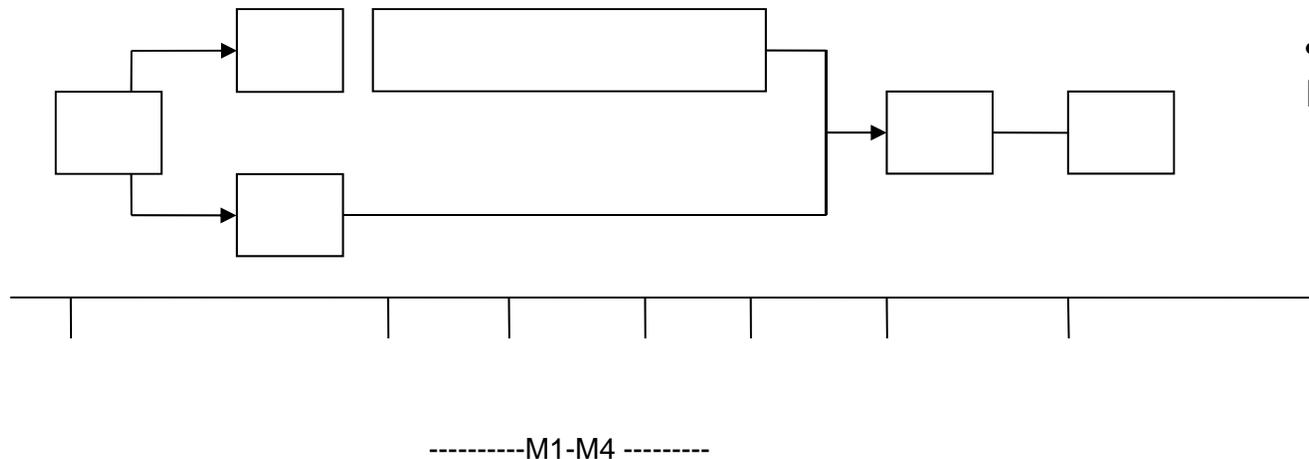
- “This has been great, you have given me some tools that I can really use”
- “I’m doing things I haven’t done in a long time, I needed this.”
- “Dr. Otis and his staff have a great project going. It helped me to sort things out and manage my pain and PTSD.”
- “It probably should be made required for ALL Vets returning from combat/overseas situations, as a ‘down-time’ adjusting period.”



Current Research



- A VA Merit Review Grant for the Intensive Treatment of Chronic Pain and PTSD for OEF/OIF Veterans was funded by VA Rehabilitation Research and Development.



- Study N = 102
- Multisite Recruitment

A1=pretreatment assessment; A2=post-treatment assessment; A3=6 month follow-up; W=study week; W1-W4=weekly assessments of mechanisms of action.

Take Home Points

- Integrative treatment approaches that address multiple problems simultaneously show promise
- There is a need to develop innovative methods for disseminating these treatments to the people who need them most
- Mobile applications delivering evidence-based treatments may be an alternative for some individuals.

Things to Keep in Mind

- Substance use/abuse:
 - Drug and alcohol use may be common among their peers
 - Pain medications and other substances may be used as a way to **avoid** and detach from the world
- Look for Red Flags:
 - Relationship problems (parents/spouse/authority)
 - Difficulty concentrating
 - Anger/Irritability – may be directed at you
- Social Support:
 - Support from others is a protective factor. Involve the spouse and family

Things to Keep in Mind

- They all have chronic pain, they have all seen specialists, and they are probably not happy with the results.
- Acknowledge frustrations with the system (military and VA) and problems with previous pain treatments.
- Make a commitment to work with them on finding a solution to their problems (Pain, PTSD, or other issues).
- Integrating mental and physical healthcare is going to be essential.

QUESTIONS & DISCUSSION

