## We are all broken: Psychologically-Informed Physical and Occupational Therapy

Tips, Tricks, and Technology to Improve Patient Outcomes

Presented By: Ryan McConnell, PT, DPT, DSc, OCS, COMT, FAAOMPT & Michael D. Oliver, Ph.D.







### By the end of this course the learner will be able to:

- 1. Identify and describe the core principles of psychometrics, adapted motivational interviewing, trauma-informed practice, coping skills, mindfulness, and patient management.
- 2. Identify clinical practice contextual factors (e.g., cultural, social, environmental, economic) that may augment or hinder the implementation of evidence-based interventions and patient outcomes.
- 3. Explain how therapeutic alliance can be increased through skillful application of communication with patients.
- 4. Apply learned communication skills to enhance therapeutic alliance and patient outcomes.

### By the end of this course the learner will be able to:

- 5. Analyze research studies and evaluate effectiveness of interventions in respective areas of practice.
- 6. Design patient-centered treatment plans and interventions that integrate pain neuroscience education and mindfulness principles, and that are tailored to a patient's specific needs (informed by psychometrics).
- 7. Evaluate the application of pain neuroscience education and mindfulness through virtual reality in patient management, analyze the evidence and propose ways to optimize delivery in each respective setting.

### Disclaimers and Disclosures

- In compliance with continuing education requirements, all presenters must disclose any financial or other associations with the manufacturers of commercial products, suppliers of commercial services or commercial supporters as well as any use of unlabeled product(s) or product(s) under investigational use.
  - Ryan McConnell, PT, DPT, DSc
    - BehaVR Inc. sponsored a clinical trial where VR-PNE software and equipment was utilized as the primary intervention by this presenter. The VR application used today is investigational.
    - There was no financial support for this activity.

### Interest in Psychologically Informed Care

(George, Lentz, & Goertz, 2021)

1. American College of Physicians Clinical Practice Guidelines

Centers for Disease Control and Prevention Guidelines for treating chronic pain

3. International Association for the Study of Pain

APTA's vision is to "transform society by optimizing movement to improve the human experience."

In order to do so, the mission is to "build community that advances the profession of physical therapy to improve the health of society."

AOTA's vision is to "... maximize health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday living."

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### What is Positive Psychology?

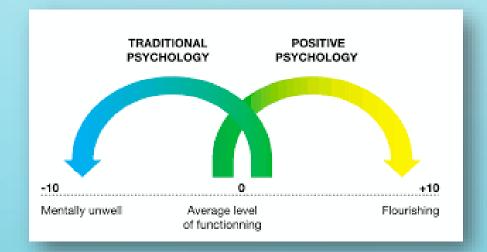
(Seligman and Csikszentmihalyi, 2000)

"The scientific study of positive human functioning and flourishing on multiple levels that include the biological, personal, relational, institutional, cultural, and global dimensions of life."

Main goal is to improve quality of life by optimizing well-being

Well-being integrates physical and mental health (and others), resulting in a more holistic approach to health promotion and disease

prevention



### **WELL-BEING WHEEL**

Well-being is a state of thriving influenced by both an individual's wellness and the communities to which they belong.



### **Spiritual**

Connecting to your inner and outer worlds to support you in living your values and purpose

**Physical** 

Knowing your body

and giving it what

it needs for

health, healing,

and energy



#### **Emotional**

Being kind to yourself as you recognize and experience a wide range of emotions



#### **Environmental**

Contributing to and engaging with spaces that are safe, accessible, and sustainable



WELLNESS is actively caring for

yourself to achieve

well-being.



#### Social

Building and engaging in trusting, respectful, and authentic relationships



### **VALUES**



### Occupational

Pursuing a career path(s) that supports your goals, professional growth, and success



#### **Financial**

The ability to meet basic needs and manage money for the short- and long-term



#### Intellectual

Allowing your brain both stimulation and rest for critical thinking, curiosity, and creativity



### Key Features of Psychologically Informed Practice

(Ballengee, Zullig, & George, 2021)

- 1. Educational (threat reduction and activation)
- 2. Behavioral (adapting behaviors in response to pain)
- 3. Cognitive-behavioral (cognition and coping skills)
- 4. Psychophysiological (stress reduction and mindfulness)
- 5. Contextual cognitive-behavioral (acceptance and commitment therapy)

	PATIENT INFORMATION	Patient Health History: Page 1			Patient Name: Recol	citront Grinch		DATE:	12/2/21
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Oifficulty sleeping	Loss of appetite	Fever / chills /			To be completed by therapist		or		
Difficulty swallowing	Weight gain5tress	Weight loss			Height: 51511	**			
Hearing problems	Vision problems	Other:			Weight 1981b5				

### Research Recommends We Should Screen Yellow Flags

(Lin et al., 2020; Doiron-Cardin et al., 2020)

What does best practice care for musculoskeletal pain look like? Eleven consistent recommendations from high-quality clinical practice guidelines: systematic review

#### Box 2 Consistent recommendations across musculoskeletal (MSK) pain conditions

- Care should be patient centred. This includes care that responds to the individual context of the patient, employs effective communication and uses shared decision-making
- 2. Screen patients to identify those with a higher likelihood of
- Assess psychosocial factors.
- 4. Radiological imaging is discouraged unless:
- Serious pathology is suspected.
- ii. There has been an unsatisfactory response to conservative care or unexplained progression of signs and
- iii. It is likely to change management.
- 5. Undertake a physical examination, which could include neurological screening tests, assessment of mobility and/or muscle strenath.
- 6. Patient progress should be evaluated including the use of
- Provide patients with education/information about their condition and management options.
- 8. Provide management addressing physical activity and/or
- 9. Apply manual therapy only as an adjunct to other evidence-
- 10. Unless specifically indicated (e.g. red flag condition), offer evidence-informed non-surgical care prior to surgery.
- 11. Facilitate continuation or resumption of work.



#### Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org Archives of Physical Medicine and Rehabilitation 2020;101:1233-42



#### SYSTEMATIC REVIEW

Shoulder Rotator Cuff Disorders: A Systematic Review On Check for updates of Clinical Practice Guidelines and Semantic Analyses of Recommendations



### Assessment of shoulder pain

Thirteen clinical evaluation activities or strategies were identified in 7 guidelines, 9,11,14,35,32,34,33 Taking a medical history, performing a physical examination, identifying red and yellow flags,

measuring shoulder range of motion and strength, and using validated questionnaires to assess patient's condition were considered essential elements or were recommended in all guidelines. Using shoulder specific clinical tests and contacting an interpreter if needed were either "recommended" or "may be recommended," whereas performing a functional capacity evaluation and use of local anesthetic injections in the subacromial space for diagnostic purposes were considered "may be recommended" when the subject was covered.

# Flag System (Nicholas et al., 2011)

Flag	Nature	Examples
Red	Signs of serious pathology	Cauda equina, fracture, tumor, sudden weight loss over 3 months, bowel and bladder
Orange	Psychiatric symptoms	Clinical depression, personality disorder
Yellow	Beliefs, appraisals and judgements	Unhelpful beliefs about pain, indication of injury as uncontrollable or likely to worsen. Expect poor outcomes, delayed return to work
	Emotional response	Distress not meeting criteria for diagnosis of mental disorder. Worry, fears, anxieties
	Pain behavior (including coping strategies)	Avoidance of activities due to expectation of pain or injury. Rely on passive treatments
Blue	Perceptions about work relationships and health	Belief that work is too onerous and likely to cause further injury. Belief that workplace supervisor and workmates are unsupportive
Black	System or contextual obstacles	Legislation restricting options for return to work. Conflict with insurance staff over claim Overly solicitous family and health providers Heavy work, with little opportunity to modify duties.

## Psychometrics



## What is meant by Psychometrics?

(Furr, 2021)

Development and implementation of psychological tests and measurement tools to evaluate and quantify psychological characteristics.

### Important for:

- Assessment and therapy diagnosis
- Treatment planning
- Tracking progress
- Outcome measurement/ prognostics
- Research
- Communication
- Ethics

### Screening Inventories

- Rehabilitation engagement
  - Hopkins Rehabilitation Engagement Rating Scale
- Positive and Negative Affect Schedule (PANAS)
- The Craig Handicap Assessment and Reporting Technique
- Optimal Screening for Prediction of Outcome Yellow Flag
- Orebro Musculoskeletal Pain Questionnaire
- Beck Depression Inventory
- Tampa Scale for Kinesiophobia
- Generalized Anxiety Disorder-7

- · General Health Questionnaire
- Coping Strategies Questionnaire
- · Pain Self Efficacy Questionnaire
- Pain Anxiety Symptoms Scale
- Sickness Impact Profile
- Full or Short Form McGill Pain Questionnaires
- Pain Catastrophizing Scale
- Patient Health Questionnaire 9
- Levine's Denial of Illness Scale

### Follow-Up Questions

1. What made you decide to use screening inventories? If you are not currently using one, why not?

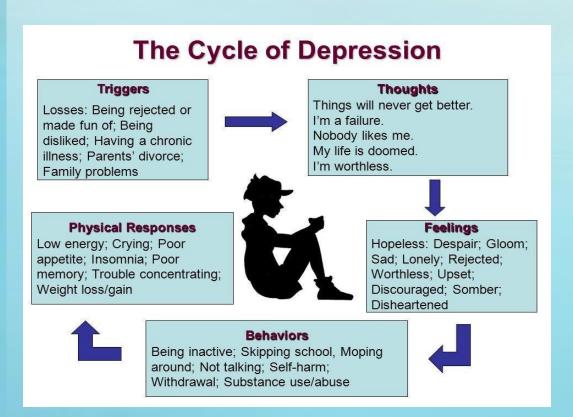
2. Which inventory/screening assessment has had the <u>highest</u> value for your understanding of the patient in relation to their treatment outcome?

3. Which inventory/screening assessment has had the <u>least</u> value for your understanding of the patient in relation to their treatment outcome?

## Major Barrier to Behavior change - Depression

(Kneebone et al., 2013; Fay et al., 2017)

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest/motivation in normal life activities.





### Key Features of Psychologically Informed Practice

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## **Educational**

(threat reduction and activation)

Pain Neuroscience Education (PNE)



### PNE + Exercise

(Siddall et al., 2022)

- PNE is a multidimensional educational strategy that has been around for decades and helps patients to understand the pain experience as a multidimensional matrix (Moseley and Butler, 2015; Moseley, Nicholas, & Hodges, 2004)
  - Reduces kinesiophobia, catastrophization, and fear avoidance behavior
  - Can be used in conjunction with motivational interviewing, and mindfulness
  - Can be implemented as an interdisciplinary team (Louw et al., 2019; Serrat et al., 2021)

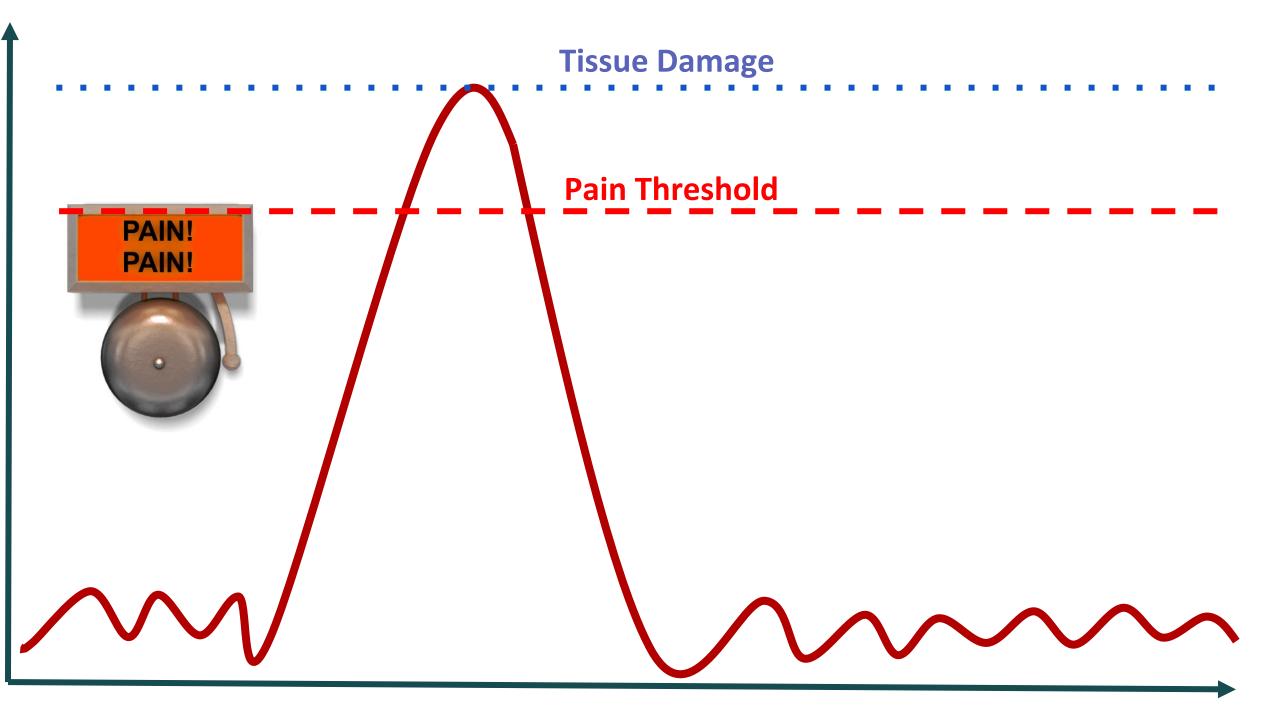
Screen Knowledge & Beliefs About Pain	Intervene	Reassess
HC-PAIRS (provider)	Educate patient	r-NPQ, OSPRO-YF
ν, ,	on one question	<b>"</b>
r-NPQ (patient)	(~10 minutes) per	
	visit and assign	
OSPRO- YF	homework. Start	
	with alarm	
	system analogy.	

# The Neurophysiology of Pain Questionnaire (Revised)

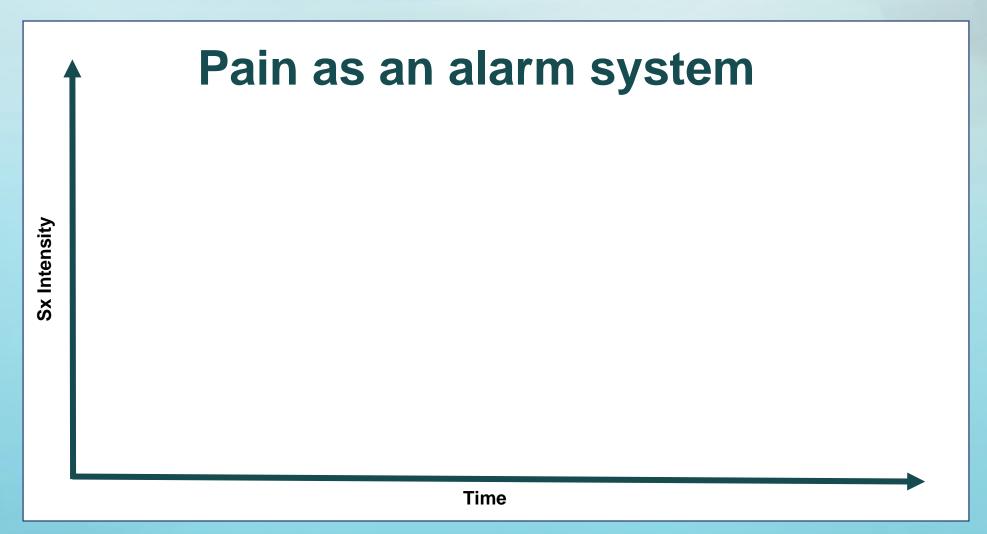
It is possible to have pain and not know about it.	
When part of your body is injured, special pain receptors convey the pain message to your brain.	
Pain only occurs when you are injured or at risk of being injured.	
When you are injured, special receptors convey the danger message to your spinal cord.	
Special nerves in your spinal cord convey 'danger' messages to your brain.	
Nerves adapt by increasing their resting level of excitement.	

# The Neurophysiology of Pain Questionnaire (Revised)

Chronic pain means that an injury hasn't healed properly.	
The body tells the brain when it is in pain.	
Nerves adapt by making ion channels stay open longer.	
Descending neurons are always inhibitory.	
Pain occurs whenever you are injured.	
When you injure yourself, the environment that you are in will not affect the amount of pain you experience, as long as the injury is exactly the same.	
The brain decides when you will experience pain.	



## **PNE** Activity



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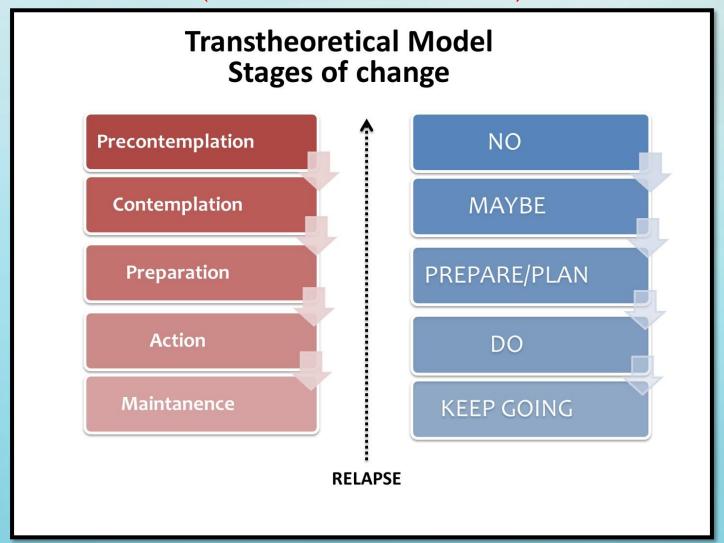
## **Behavioral**

(adapting behaviors in response to pain)

Motivational Interviewing

### Transtheoretical Model

(Jiménez-Zazo et al., 2020)



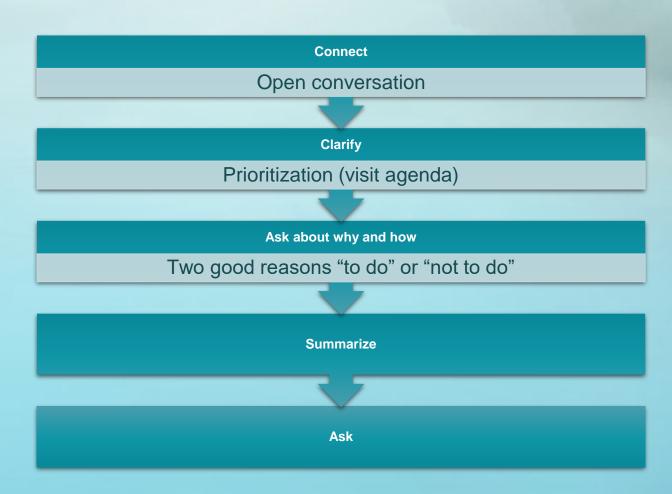
## Resisting Change: Why? (Godbole, 2017)

- Fear
- Loss of control
- Not understanding rationale
- Reality is painful
- Uncertainty of future
- More work
- Ripple effects
- Past experience
- Competence

### **Motivational Interviewing**

(Rollnick, Miller, & Butler, 2008)

- OARS
  - Open ended question
  - Affirmation
  - Reflection
  - Summary
- Thinking about POC
  - Change or sustain talk
    - I will vs. I might
    - I don't think vs. I am not willing
- Motivators
  - Desire
  - Ability
  - Reason
  - Need



### Motivational Interviewing Activity

- Think, pair, share
  - Talk to a partner about something that you have been asked to do (want or not want) and go through OARS together.

### OARS

- Open ended question
- Affirmation
- Reflection
- Summary

	Decrease Behavior	Increase Behavior
Add	Positive Punishment	Positive Reinforcement
Remove	Negative Punishment	Negative Reinforcement

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# Cognitive-behavioral (cognitions and coping skills)

Cognitive Restructuring

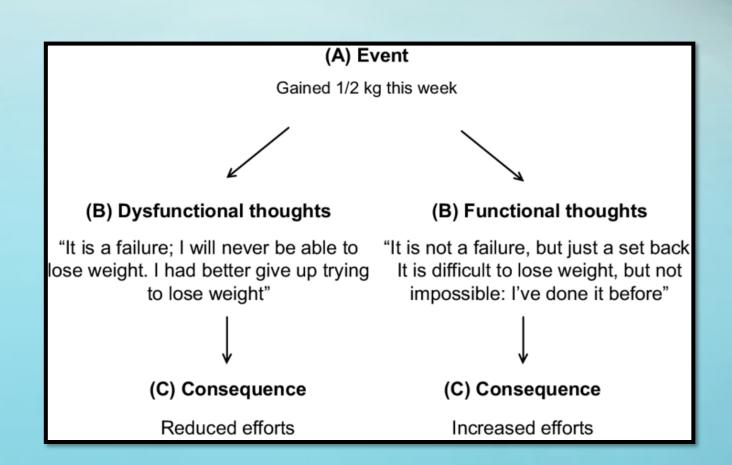
# What is meant by Cognitive Restructuring?

(Coronado et al., 2020; Choi and Kim, 2022; Serrat et al., 2022)

A technique used to help people change the way they think

#### 4 steps:

- 1. Become aware of thinking
- 2. Evaluate thinking
- 3. Rationalize thinking
- 4. Replace thinking



# **Thought Monitoring**

#### Types of cognitive distortions:

- 1) Dichotomous, all or nothing, thinking
- 2) Disqualifying the positive
- 3) Selective abstraction
- 4) Pain-based emotional reasoning
- 5) Catastrophizing



# Cognitive Restructuring Template

Balancing Thoughts		
Negative thoughts	Positive reframing	

# Cognitive Restructuring Activity

Event	Wake up with a stiff shoulder	
Thought	I know today is going to be a bad day for my shoulder symptoms	I know I will feel better when I start moving my shoulder
Feelings	Discouraged or worried	More positive and less stressed
Action	Focus on the symptom and remain inactive	More active and less stiff

# Coping Skills Training

## Adaptation to Illness and Disability

#### Illness-related tasks

- 1. Dealing with the physiological consequences
- 2. Developing and maintaining relationship with medical providers
- 3. Dealing with the treatment and various treatment environments

#### General tasks

- 1. Maintaining emotional equilibrium
- 2. Maintaining sense of self; including competency and mastery
- 3. Maintaining good relationships with family and peers
- 4. Preparing for a future

# Coping Skills Training (Bryant et al., 2014)

#### Minimizing or denying severity of impairment

- Doctor shopping
- Isolate emotions

#### Seeking relevant information

- Relieves anxiety
- Knowledge is power

#### Requesting reassurance or support

- Express feelings
- Consider emotional support animals

#### Learning specific illness procedures

Improve self efficacy

#### Setting concrete goals

- Considers meaningful change
- Progressive desensitization get them to socialize

#### Rehearsing alternative outcomes

- Family, friends
- Anticipatory mourning



# Coping Skills Training (Activity)

Movement

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# Psychophysiological (stress reduction and and mindfulness)

Mindfulness

## Mindfulness Interventions

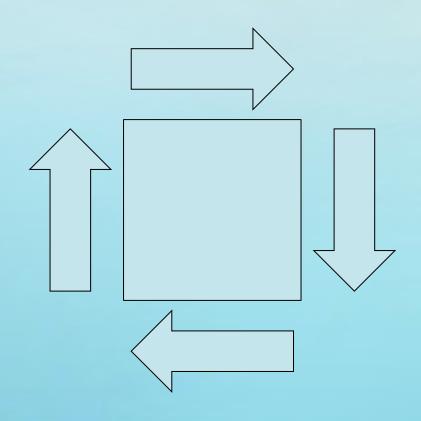
(Hardisson and Roll, 2016)

- Described as 'non-evaluative, present-focused awareness of physical and psychological experiences' (Kabat-Zinn, 2013)
- Virtual or augmented realities for pain coping skills
- Applications
  - Body scan
- Non-judgmental time
- Outcomes: self-efficacy, management, quality of life, acceptance
  - Chronic pain
  - Urinary incontinence
  - Vestibular function
  - TBI cognitive and behavioral

### Resources for Stress Reduction

- 54321 Technique (see, hear, feel with breath)
- STOPP Technique
- Box Breathing Exercise (4 seconds breath in, 4 seconds hold, 4 seconds breath out)
- "Take 5 Breath" with Hand and Fingers

# Stress Reduction Activity





# Mindfulness (Activity)

YOUTUBE VIDEO or VR



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# Contextual cognitive-behavioral

(acceptance and commitment therapy)

## **Contextual Factors**

(Testa and Rossettini, 2016)

- Patient
  - Expectation
  - Beliefs
  - Previous experience
  - Gender
  - Age
- Therapist
  - Reputation
  - Appearance
  - Beliefs
- Patient-therapist relation
  - Communication (Hall et al., 2010; Ferreira et al., 2013; Boissy et al., 2016)
- Healthcare setting
  - Interior design
  - Architecture
- Treatment
  - Clear treatment diagnosis, patient-centeredness, therapeutic touch

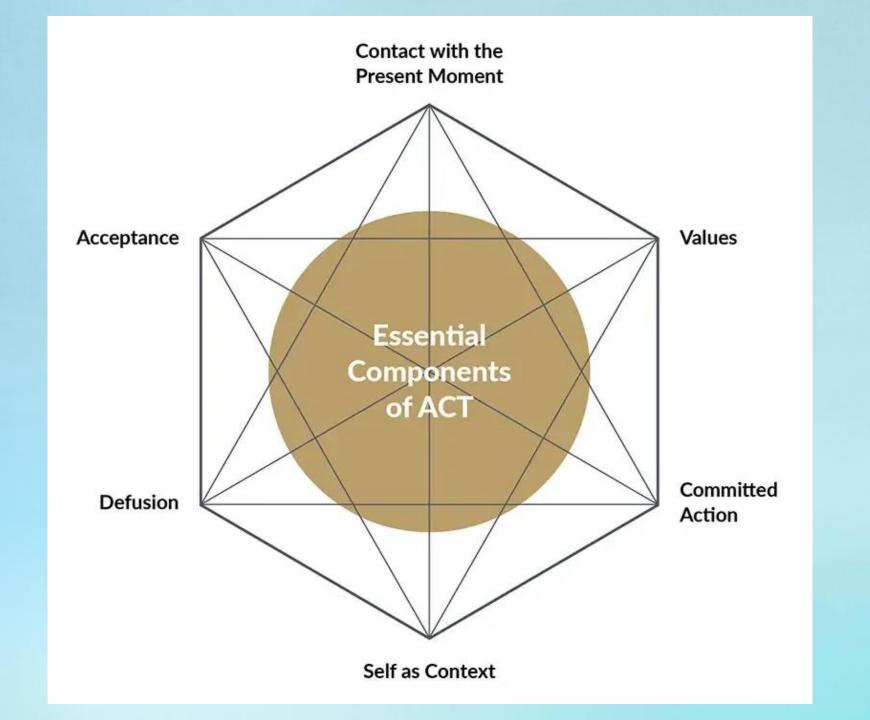




# Contextual Factor Example

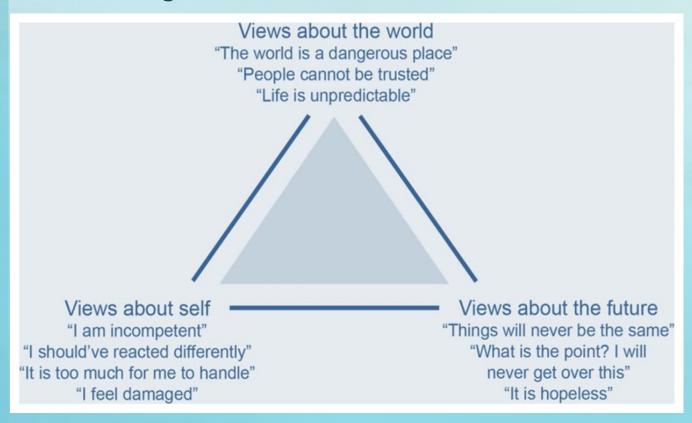
Music

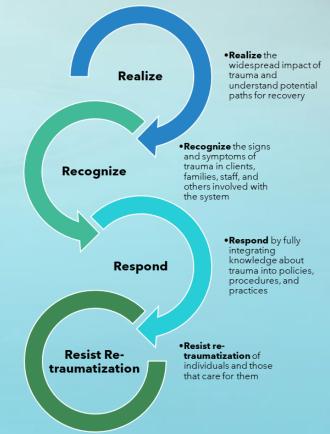
# **Acceptance and Commitment**



### Defusion

Negative self talk could be the result of trauma





This figure is adapted from: Substance Abuse and Mental Health Administration. (2014). SAMHSA's concept of trauma and guidance for a trauma-informed approach. HHS publication no. (SMA) 4-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration

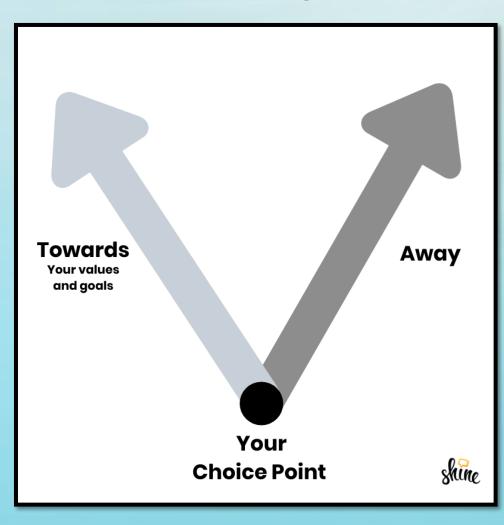
## Patient Activity Resources

- Personal Values Worksheet
- Clean and Dirty Discomfort Diary
  - Could be useful for pain catastrophizing
- Goal Setting: Commitment, Obstacles, and Strategies Worksheet

## List of Values Exercise

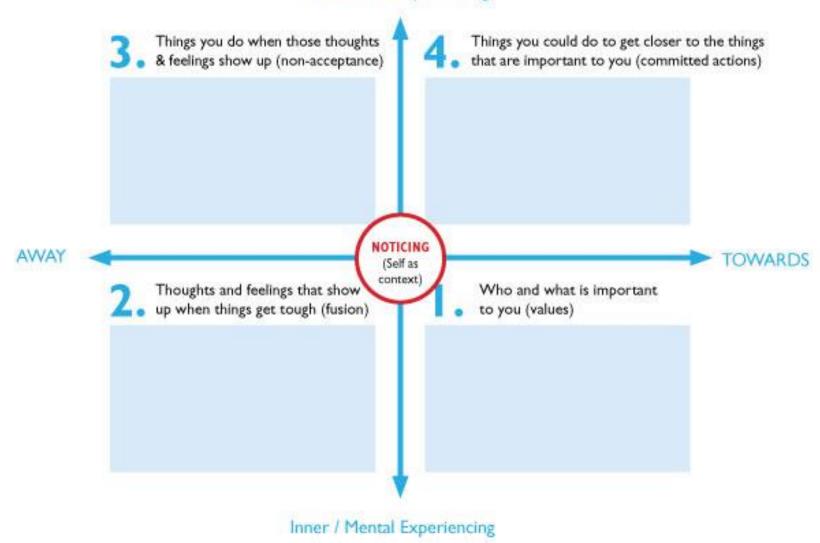
Accountability Humility Security Diversity Independence Self-actualization Accuracu Dynamism Economu Ingenuity Self-control Achievement Selflessness Adventurousness Effectiveness Inner Harmony Self-reliance Altruism Efficiencu Inquisitiveness Ambition Elegance Insightfulness Sensitivity Intelligence Assertiveness Empathy Serenity Enjoyment Balance Intellectual Status Service Belonging Enthusiasm Intuition Shrewdness Equality Jou Simplicity Boldness Calmness Excellence Justice Soundness Carefulness Leadership Speed Excitement Challenge Expertise Legacy Spontaneity Cheerfulness Exploration Love Stability Commitment Loualtu Expressiveness Strategic Making a difference Strength Community Fairness Faith Masteru Compassion Structure Fidelity Merit Competitiveness Success Fitness Obedience Consistency Support Contentment Huencu Openness Teamwork Contribution Focus Order Temperance Control Freedom Originality Thankfulness Cooperation Fun Patriotism Thoroughness Correctness Generosity Perfection Thoughtfulness Courtesy Goodness Pietu Timeliness Creativitu Grace Positivitu Tolerance Curiosity Growth Practicality Traditionalism Decisiveness Happiness Preparedness Trustworthiness Hard Work Dependability Truth-seeking Professionalism Health Prudence Understanding Determination Helping Society Devoutness Quality-orientation Uniqueness Holiness Reliability Usefulness Diligence Honesty Vision Resourcefulness Discipline Restraint Vitality Honor Discretion

# **ACT Compass**



## **ACT Matrix**





## The Willingness and Action Plan

My goal is to (be specific):

The values underlying my goal are:

The thoughts/memories, feelings, sensations, urges I'm willing to make room for (in order to achieve this goal):

- Thoughts/ memories: Feelings:
- Sensations:
- Urges:

It would be useful to remind myself that:

If necessary, I can break this goal down into smaller steps, such as:

The smallest, easiest step I can begin with is:

The time, day and date that I will take that first step, is:

# **ACT Demonstration Activity**

(Westrup and Wright, 2017)



## Take Home Messages

- Mind-body connection is an important conversation in care
- Awareness will help promote sensitivity
- Create a seamless referral system
- Simple tools for providers to integrate rapidly exist
- Develop a strategy to begin implementing



#### Resource Recommendations

#### **Podcasts:**

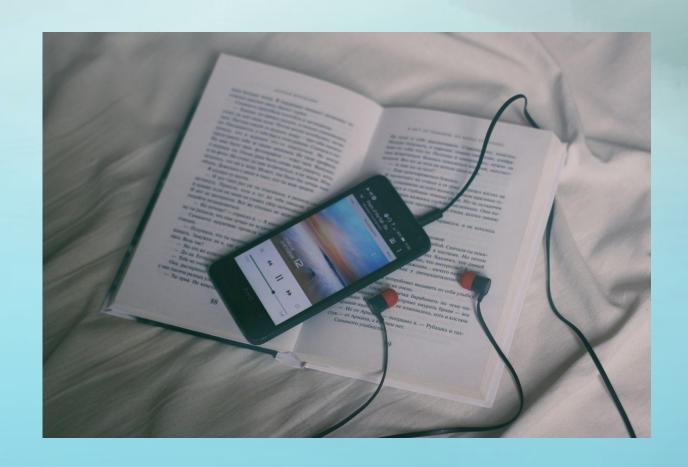
- The Psychology PodcastPain ReframedVictory Over Injury

#### Apps:

- Mindfulness
- Headspace

#### **Books:**

- Compassionomics
   Motivational Interviewing for Healthcare Providers
   Psychologically Informed Physiotherapy
   Mindset: The New Psychology of Success



# Questions



# References



## Thank You

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