

# Addressing Psychosocial Factors in Teens with Chronic Pain



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## Learning Objectives



- ❧ Understand how aspects of *everyone's* psychological makeup and environment lead to stress and avoidance
- ❧ Explain impact of multimodal care on these key psychosocial targets



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# Part I

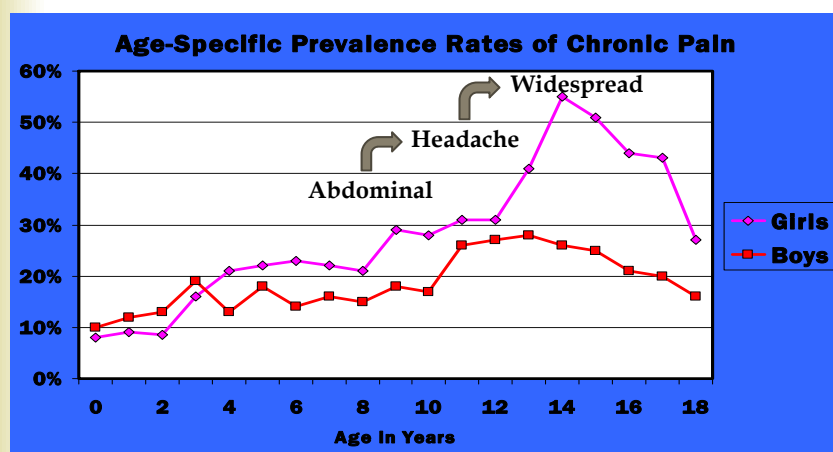


1. Chronic pain in childhood
2. A framework for psychosocial contributors to pain and disability



## Childhood pain is *COMMON*

"Benign" chronic pain occurs in about 1 in 4 teens



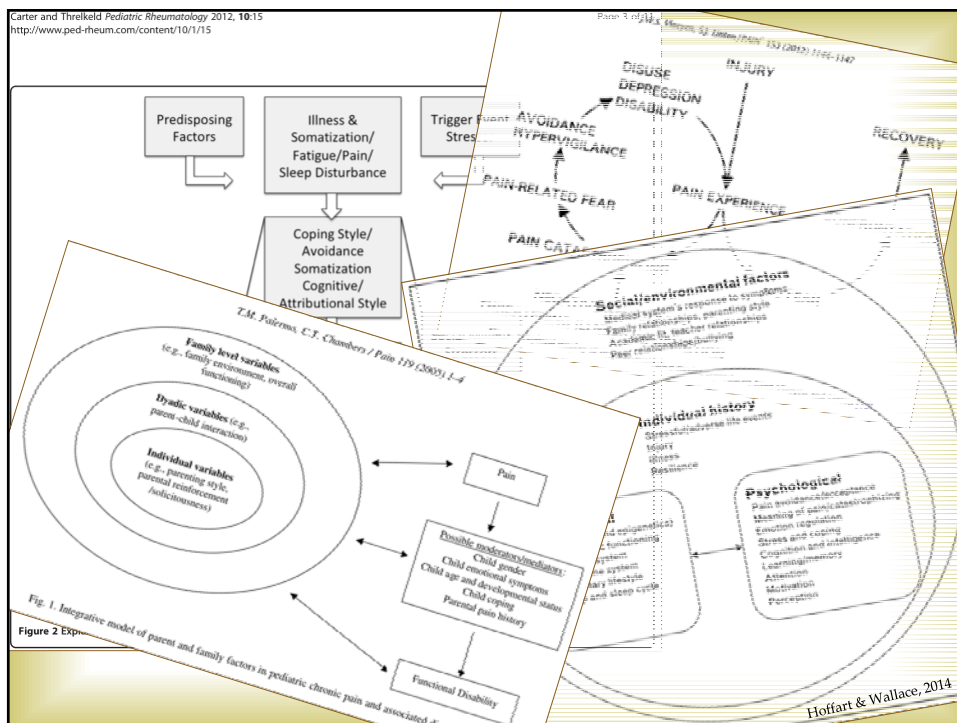
King et al., 2011;  
Perquin, et al., 2000



# Pain gets in the way



- ☞ Only a minority of teens with pain are disabled by it...
- ☞ *Not* primarily driven by characteristics of the pain
  - ☞ E.g. severity, frequency, area affected
- ☞ Need to consider the patient *and* their environment...



# The Psychology of pain



Caretaker  
 Catastrophizing  
 Parent solicitousness  
 Sleep problems  
 Meaning of pain  
 Fear of movement  
 Learning problems  
 High pressure sports  
 Depression  
 Anxiety  
 Poor coping  
 Fear of future  
 Bullying  
 Pleasing others  
 Defined by pain  
 Others' doubt  
 Perfectionism  
 Rigidity  
 Self doubt  
 Poor acceptance  
 Parent protectiveness

# The Psychology of pain



**Stress/autonomic dysregulation**  
 Caretaker  
 Catastrophizing  
 Parent solicitousness  
 Sleep problems  
 Meaning of pain  
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**Attention to pain**

# The Psychology of pain



## Stress/autonomic dysregulation

Perfectionism  
 Sleep problems  
 Depression Pleasing others  
 Anxiety Caretaker  
 Poor coping  
 Bullying Catastrophizing  
 Learning problems  
 High pressure sports  
 Rigidity

## Attention to pain

Meaning of pain  
 Parent solicitousness  
 Others' and self doubt  
 Fear of movement  
 Poor acceptance  
 Defined by pain  
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## Part II



1. Autonomic dysregulation
2. Attention to pain



# Autonomic dysregulation



- ✧ Well established issue in teens with chronic pain
  - ✧ Teens with pain have faster arousal response to stress, and slower resolution
- ✧ Many teens with chronic pain are:
  - ✧ Intelligent but perfectionistic
  - ✧ Like structure, organization, struggle with unexpected
  - ✧ Work hard to please others; the listener and fixer
  - ✧ Internalize their own emotions
- ✧ These strengths lead to *chronic stress*!



e.g. Huss et al., 2009; Hoffart & Wallace, 2014



# Autonomic dysregulation



- ✧ Research on stress and psychophysiological disorders shows link btw chronic autonomic arousal and pain
- ✧ Chicken or egg...?
- ✧ Studies in adults have found:
  - ✧ Life stress (incl ACE's) as well as depression and anxiety predict later or concurrent onset of pain
  - ✧ Baseline autonomic dysregulation does not



Generaal et al., 2015, Ann Rheum Dis;  
Gerrits et al., 2015, J Psychosomatic Res)



# Autonomic dysregulation



- ✧ Nevertheless, treatment regulating the ANS is key to successful pain management
- ✧ In some cases, it is sufficient (e.g. infrequent migraine)
- ✧ Usually, though, part of a multimodal plan



# Attention to pain



- ✧ Hard to ignore pain...
  - ✧ *Wired to avoid danger*
    - ✧ *of which pain is a reliable signal – e.g. hot stove*
- ✧ Attentional biases to pain and own body
  - ✧ *New car?*
- ✧ Social pressure to be identified by pain (*sick role*)
  - ✧ *“Why aren’t you better yet?”*



Boyer et al., 2006; van der Veek et al., 2014





## Attention to pain



- ☞ Decisions based on pain strengthen pain
  - ☞ If it's important, your brain will track it
  - ☞ By tracking, your brain is practicing...
- ☞ Attention strengthens pain, through:
  - ☞ Central sensitization
  - ☞ Chemical communication from brain to increase peripheral signaling



e.g. Woolf, 2011, *Pain*



## (review) Psychology of pain



### Stress/autonomic dysregulation

Perfectionism  
 Sleep problems  
 Depression    Pleasing others  
 Anxiety        Caretaker  
 Poor coping  
 Bullying        Catastrophizing  
 Learning problems  
 High pressure sports  
 Rigidity

### Attention to pain

Meaning of pain  
 Parent solicitousness  
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## Part III



1. Self-regulation and mindfulness
2. Creative and expressive coping
3. Counseling and acceptance



## Self-regulation



☞ Directly targeting the ANS (parasympathetic) through:

- |                                 |               |
|---------------------------------|---------------|
| ☞ Relaxed breathing             | ☞ Biofeedback |
| ☞ Progressive muscle relaxation | ☞ Meditation  |
| ☞ Guided imagery                | ☞ Yoga        |
| ☞ Self-hypnosis                 | ☞ Mindfulness |

☞ *There's an app for that...*

☞ E.g. Calm, Aware, Headspace, Breathe2Relax, Relax Melodies, Sleep Pillow, etc...



# Coping



- ❧ Indirectly targeting ANS arousal.
- ❧ Creative and expressive is key!



Courtesy of  
Melissa Pielech



# Coping



- ❧ Indirectly targeting ANS arousal.
- ❧ Creative and expressive is key!
  - ❧ Art (being expressive)
  - ❧ Music (making it)
  - ❧ Dance (doing it)
- ❧ Not just distraction (e.g. doodling, music, tv)



# Coping



- ❧ Indirectly targeting ANS arousal.
- ❧ Creative and expressive is key!
- ❧ Exercise!
- ❧ Being with others
- ❧ Sleep
  - ❧ Yes, you can do it even with pain
  - ❧ Remember, it's a *drive* and a *habit*
    - ❧ <https://sleepfoundation.org/sleep-disorders-problems/pain-and-sleep>
    - ❧ <https://sleep.org/articles/sleep-hygiene/>



# Reduce attention to pain



- ❧ Can't do this directly
  - ❧ We respond to pain like danger (*fear*)
  - ❧ Learn through our own behavior, not teaching
- ❧ Reduce impact of pain on decisions
  - ❧ Going to school, traveling, doing things with friends...
- ❧ Reduce conversation about pain
  - ❧ At home (neutral responses)
  - ❧ At school (script)



# Counseling



☞ Counseling to:

- ☞ Manage things that cause stress (anxiety, perfectionism)
- ☞ Move life toward important goals rather than away from pain



## The *process* of referral to mental health is critical to acceptance



- ☞ Families more likely to accept if it is presented *early* and as a routine procedure (rather than last resort) in all cases of persistent pain associated with disability
- ☞ Emphasize that patient is being approached as a whole person and not just a hurt body part
- ☞ Reassure that medical monitoring will continue and set a visit schedule accordingly



Palermo, 2000  
Larsson, 1991



## Tips for mental health referral



- ❧ Seek a provider that has considerable experience with adolescents (not an adult provider who sees a few kids)
- ❧ Also seek a provider who uses cognitive-behavioral therapy (CBT) given its empirical evidence for efficacy
- ❧ Provider does not need to know anything about pain! They are not treating the pain, but rather helping with stress (and its contributors) and attention to pain.



Palermo et al., 2010



## Summary



- ❧ Chronic pain is common in teens, but the pain itself does not primarily determine disability
- ❧ Myriad psychosocial variables can be understood as increasing stress and increasing attention to pain
- ❧ Self-regulation, creative coping, and counseling are important components to treating amplified pain
- ❧ Recommendation for counseling should come early and be presented as routine parts of treatment



# Questions?

