

# What a Pain!

## Understanding and Managing Chronic Pain to Stay Active in Life

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SCHOOL OF MEDICINE

Thurston Arthritis Research Center



# Acknowledgements

- Dr. Richard Gracely
- Dr. Leigh Callahan
- Osteoarthritis Action Alliance Team
- Thurston Arthritis Research Center
  
- *No disclosures*



# Agenda

- Pain: The Gift Nobody Wants
- Pain 101: Pain is Simple
- Pain 201: Pain is Not So Simple
- Pain Management
- Resources

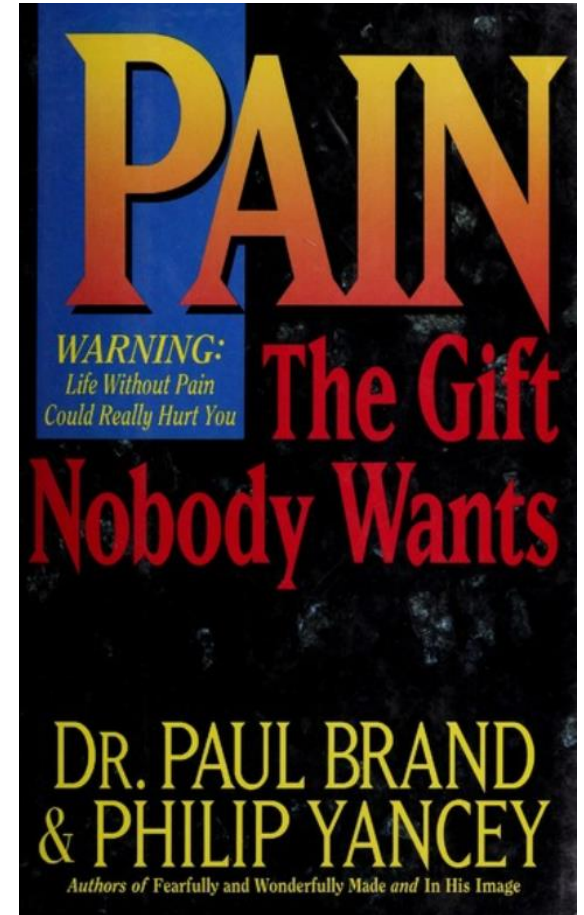


# Pain: The Gift Nobody Wants

- Pain is incredibly valuable
- Pain tells you to stop before you really hurt yourself
- Pain is an indicator that something is wrong
- Pain is a sign of healing
- Pain keeps you alive
  
- Life without pain is tragic –
  - Congenital Insensitivity to Pain



(gruesome!)



# Pain 101: Pain is Simple



- Descartes – 17<sup>th</sup> Century
- Pain is pain - a straight line from the point of contact to the brain



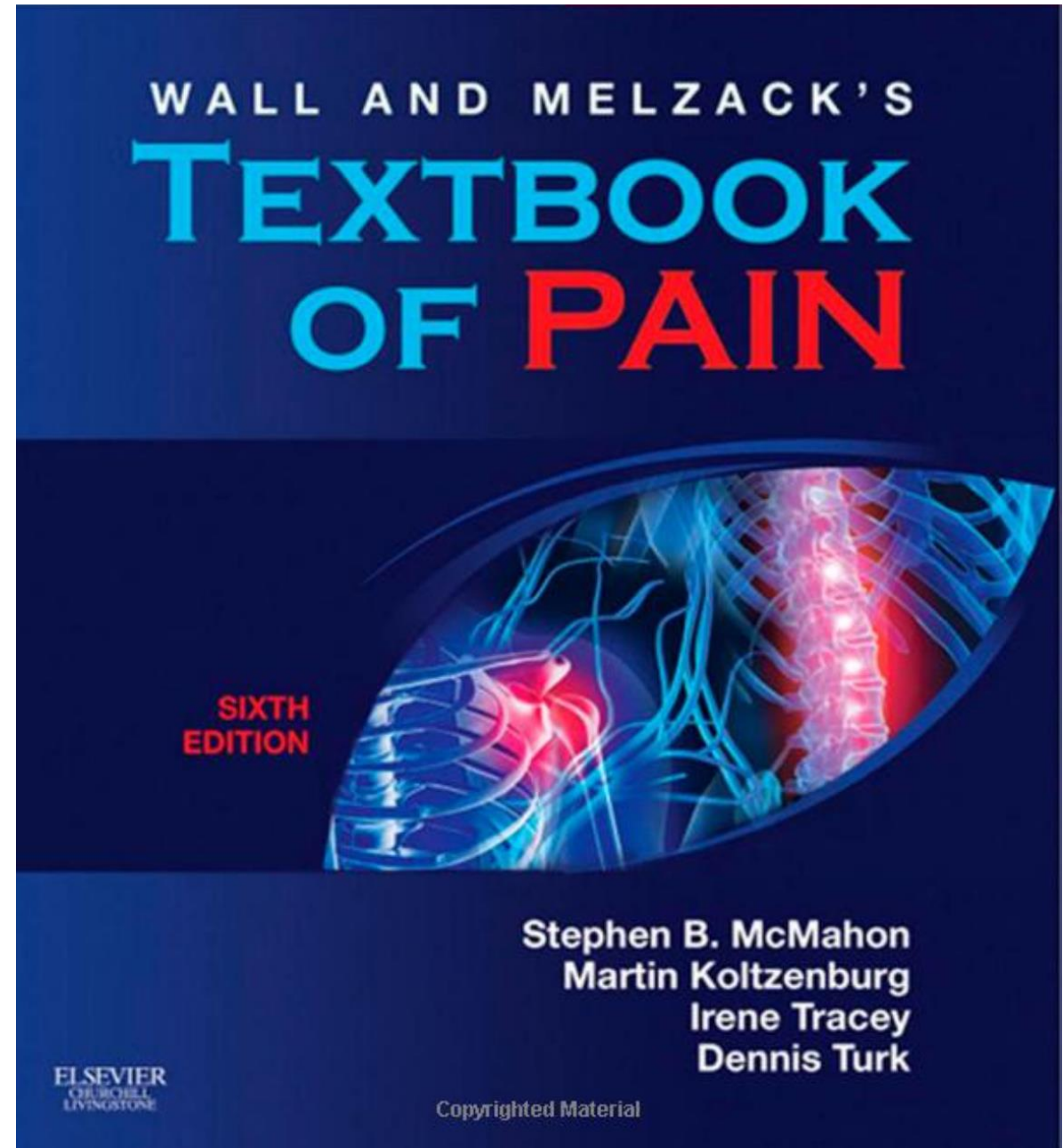
# What Causes Pain?

- Injury, accidents – burn, broken bone, cuts, bruises, torn ligaments
- Muscle pain – low back pain, charley horse, exercise
- Everyday aches and pains – headaches, toothaches, stomachache
- Diseases – cancer, diabetes, arthritis
- Emotions – depression, heartbreak, stress/distress
- ??? – unknown, you hurt but don't really know why, an old injury that just never quite healed





**350 years later...**



WALL AND MELZACK'S  
**TEXTBOOK**  
**OF PAIN**

**SIXTH  
EDITION**

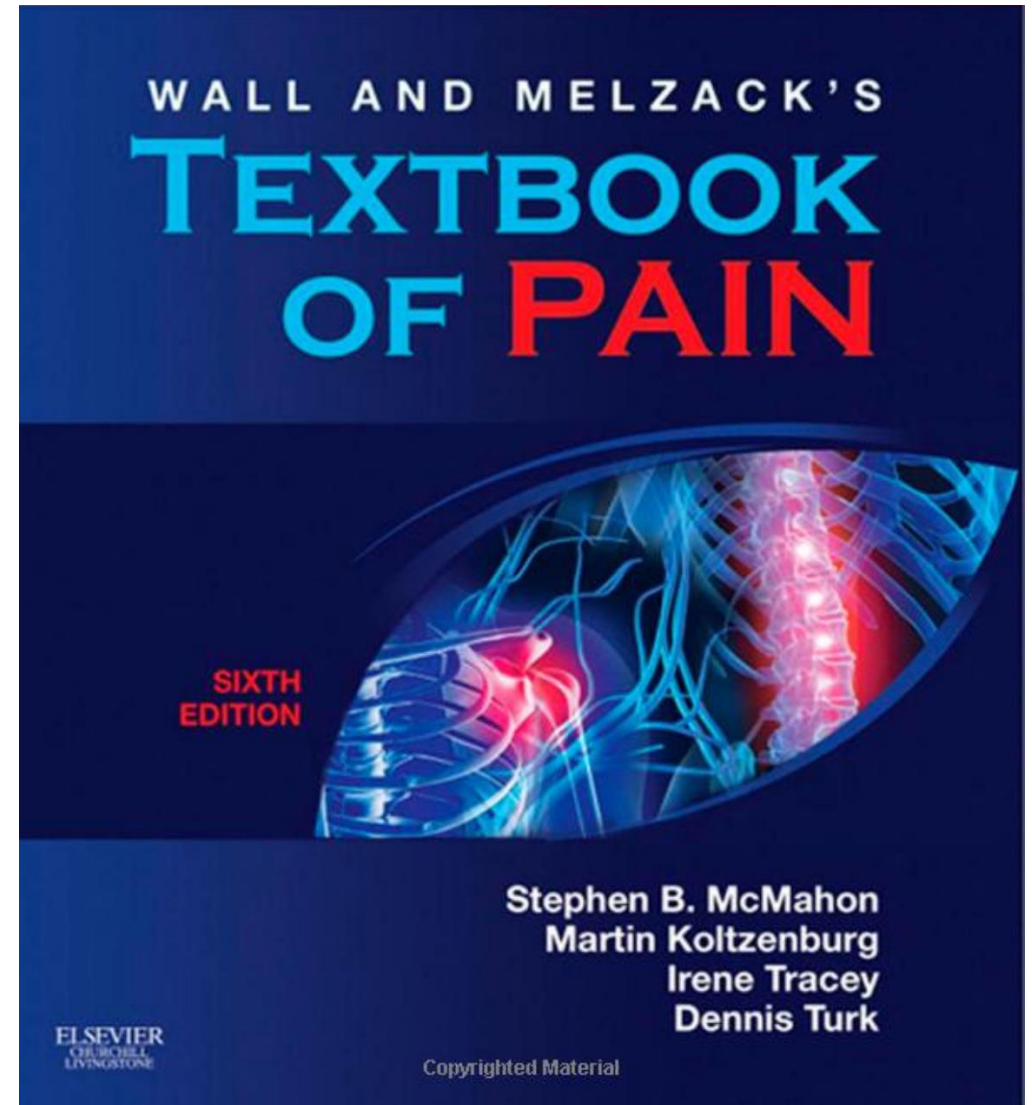
**Stephen B. McMahon  
Martin Koltzenburg  
Irene Tracey  
Dennis Turk**

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# Pain Classifications

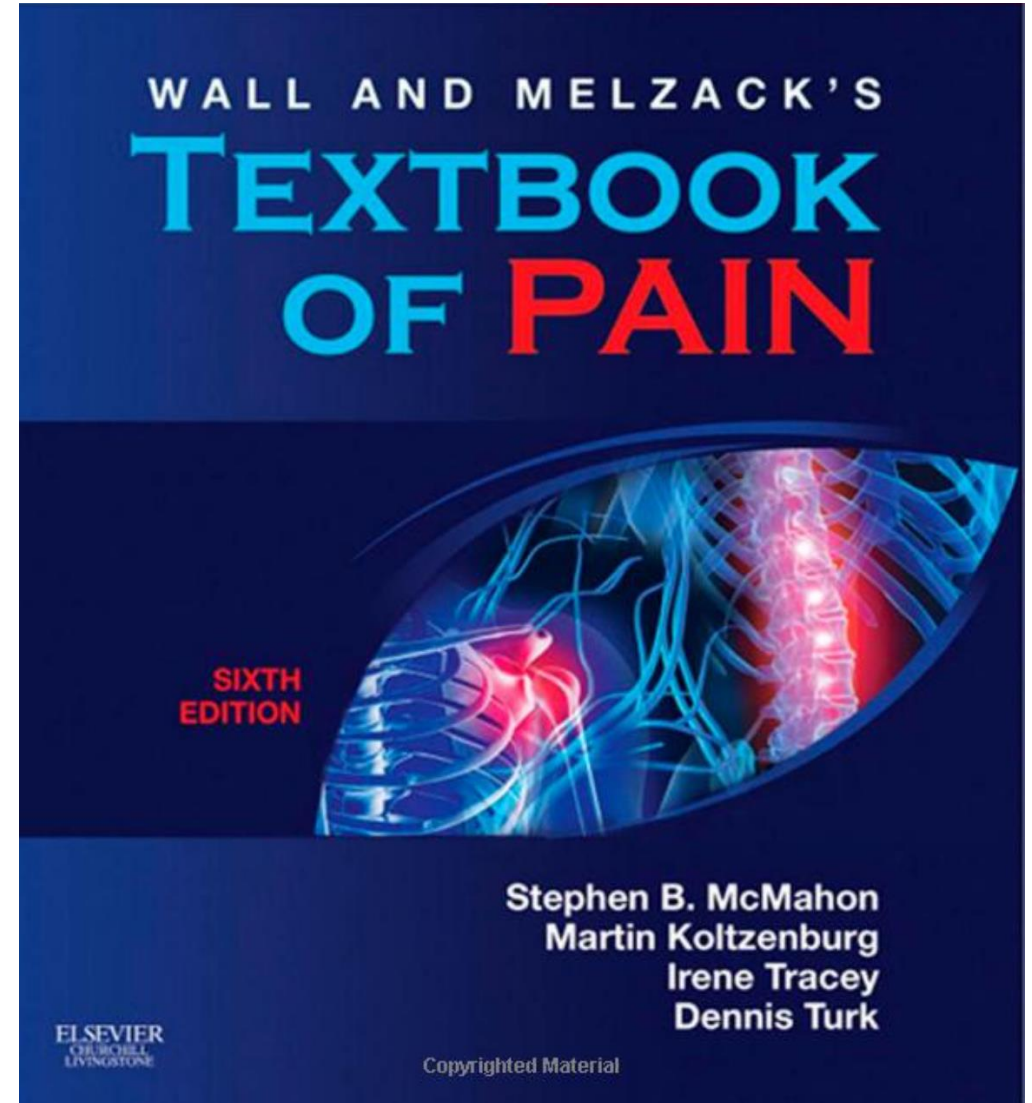
- Cancer Pain
- Visceral Pain
- Headache and Facial Pain
- Deep Somatic Tissue Pain
- Neuropathic Pain





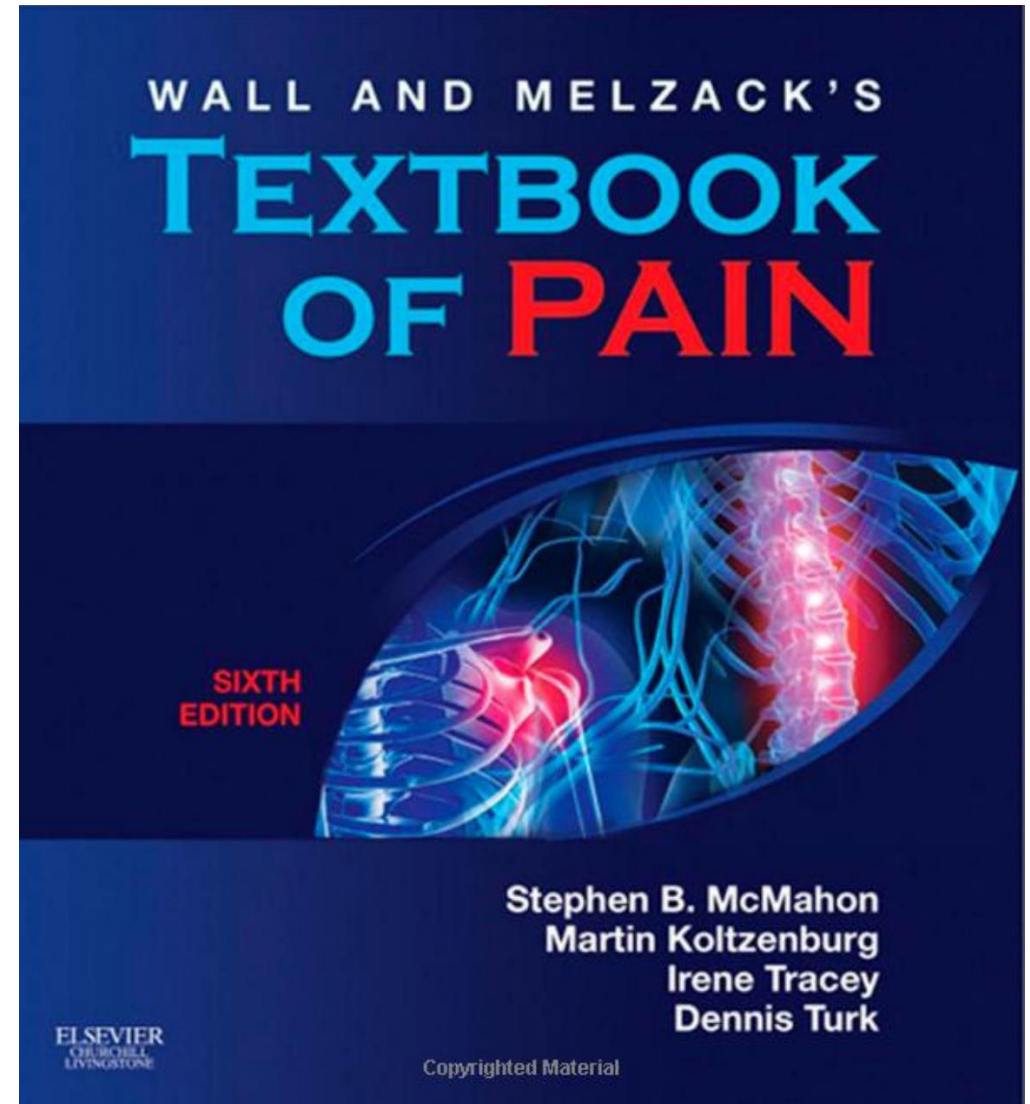
# Cancer Pain

- Cancer Pain
- Visceral Pain
- Headache and Facial Pain
- Deep Somatic Tissue Pain
- Neuropathic Pain



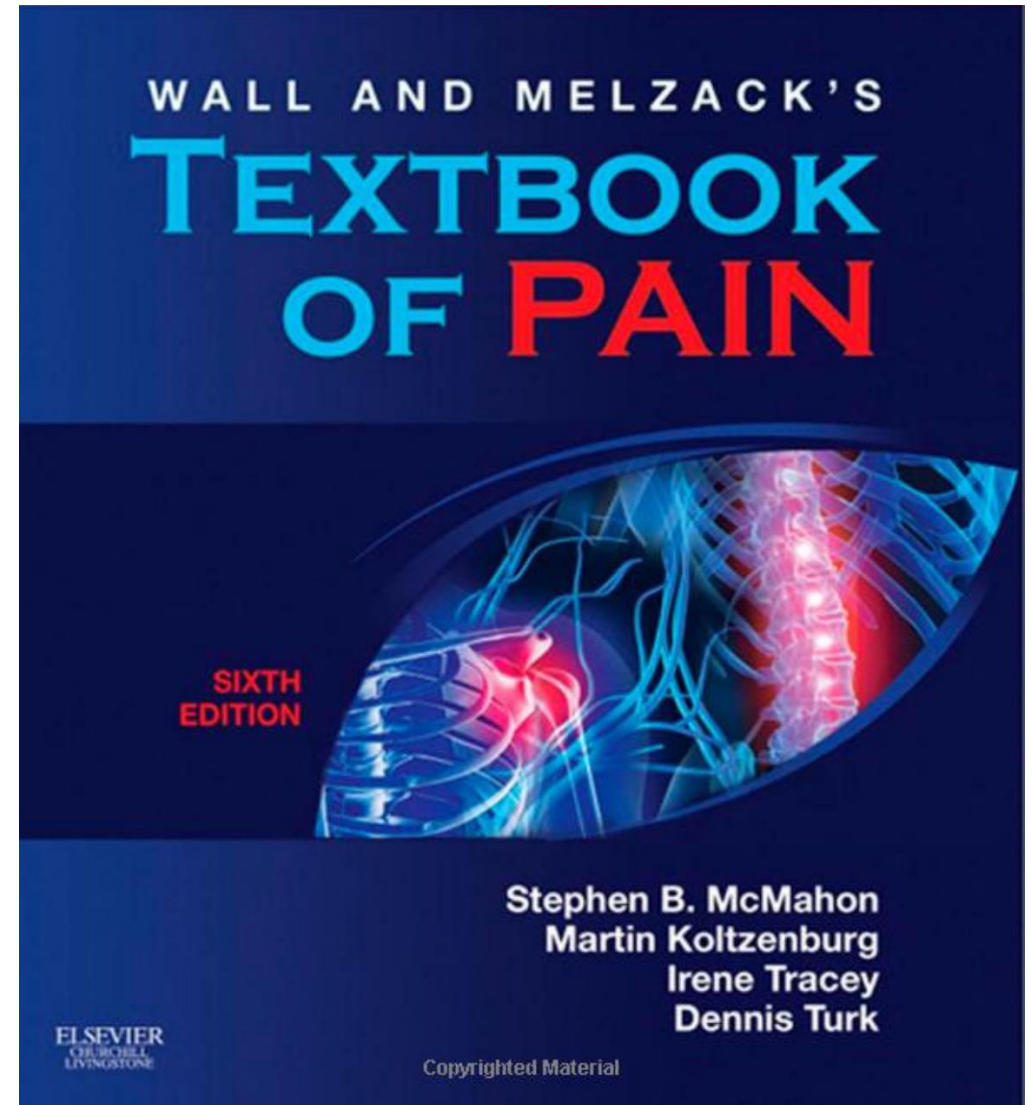
# Visceral Pain

- Cancer Pain
- Visceral Pain
  - Abdominal pain
  - Thoracic pain
- Headache and Facial Pain
- Deep Somatic Tissue Pain
- Neuropathic Pain



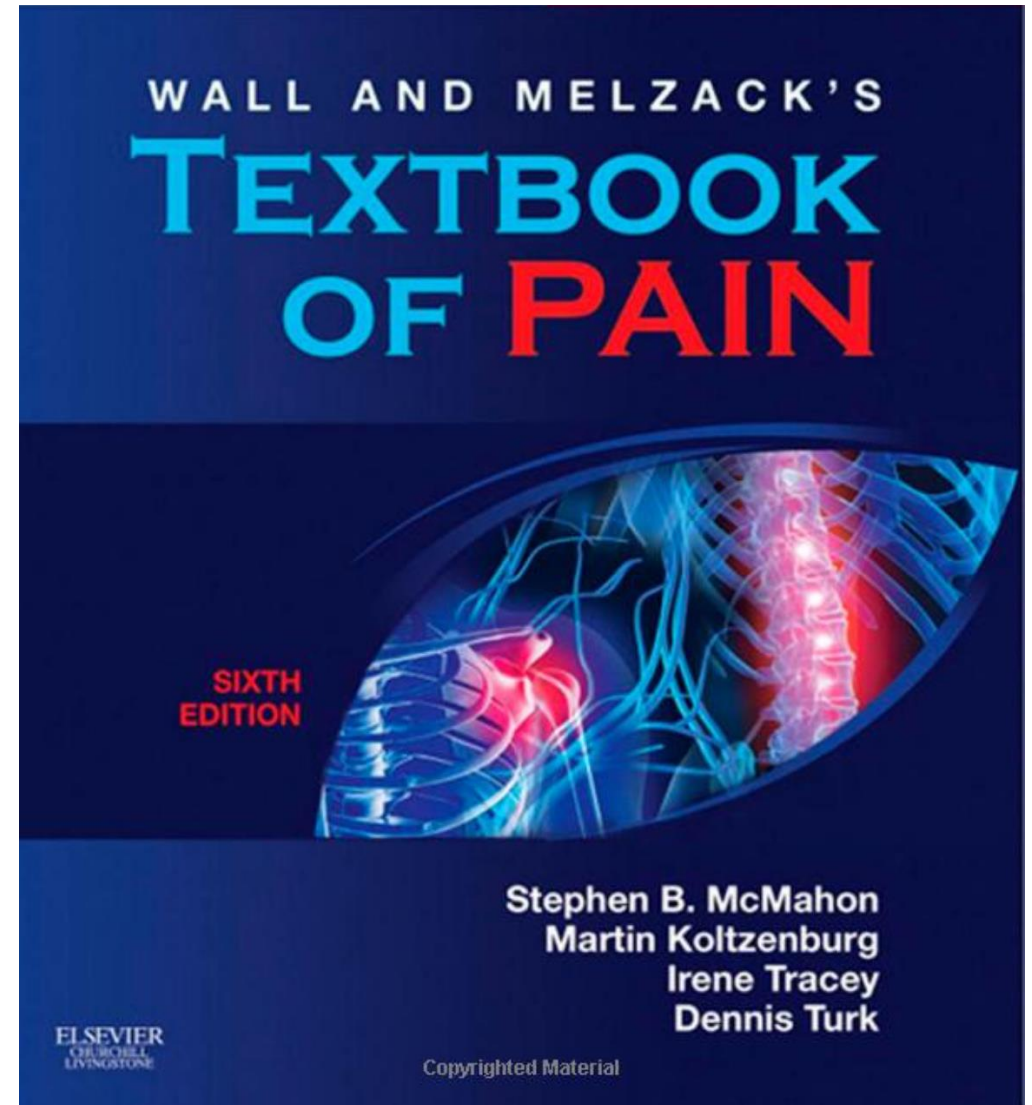
# Headache and Facial Pain

- Cancer Pain
- Visceral Pain
- Headache and Facial Pain
  - Migraine, Tension Headache
  - Orofacial pain, trigeminal neuralgia
  - Toothache
- Deep Somatic Tissue Pain
- Neuropathic Pain



# Deep Somatic Tissue Pain

- Cancer Pain
- Visceral Pain
- Headache and Facial Pain
- Deep Somatic Tissue Pain
  - Muscle pain
  - Arthritis
  - Myofascial Pain
  - Referred Pain
- Neuropathic Pain



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Travell & Simons'

# Myofascial Pain and Dysfunction

## The Trigger Point Manual

VOLUME 1. Upper Half of Body

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Second Edition

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DAVID G. SIMONS, M.D.  
JANET G. TRAVELL, M.D.  
LOIS S. SIMONS, P.T.

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Illustrations by Barbara D. Cummings

- Dr. Janet Travell
- Myofascial Trigger Points
  - A hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band.
  - Painful on compression at the site
- Referred pain –
  - the pain you feel in one part of your body is actually caused by pain or injury in another part of your body
  - Heart attack = jaw pain or left arm pain

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Travell & Simons'

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# Henry Dreyfuss & John Deere

May, 2020 | By: Danielle Devine | Photography: John Deere

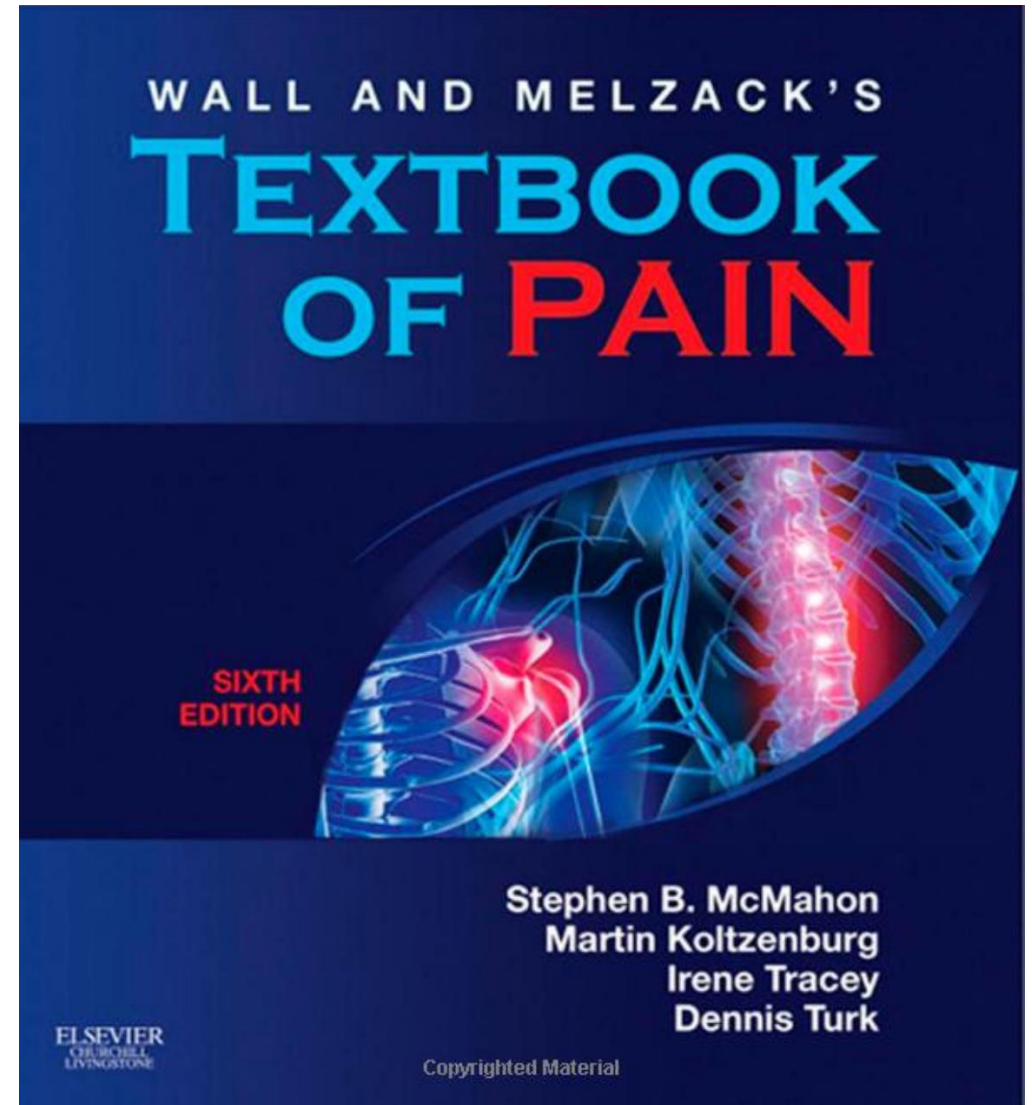
**Float-Ride Seat**  
Introduced ~1958



<https://mainehomedesign.com/design-lesson/henry-dreyfuss-john-deere/>

# Neuropathic Pain

- Cancer Pain
- Visceral Pain
- Headache and Facial Pain
- Deep Somatic Tissue Pain
- Neuropathic Pain
  - Neuroma
  - Phantom Limb
  - Diabetic neuropathy





# Pain 201: Pain is Not So Simple



*The nervous system can control pain?!?*

**Pain Modulation** (aka, Gate Control Theory)

Nervous system has a natural ability to **REDUCE** pain sensations

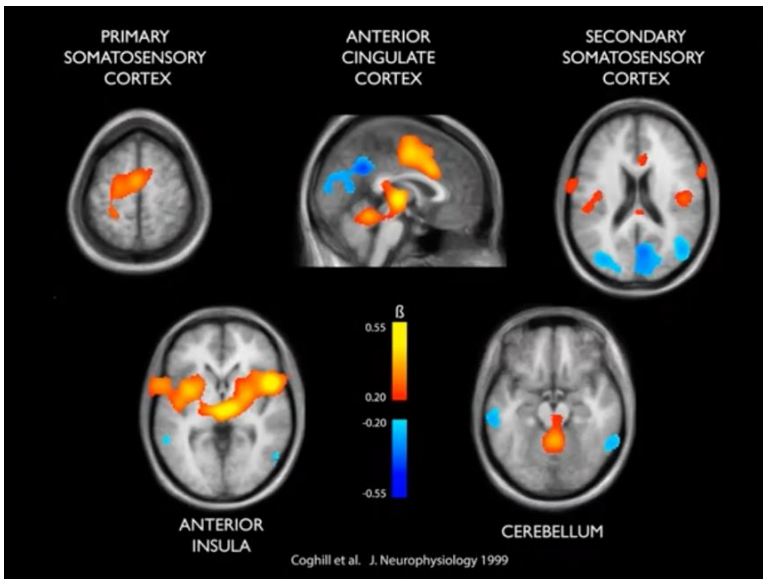
**Pain Exacerbation** (aka, Central Sensitization)

Nervous system has a natural ability to **WORSEN** pain sensations

**WHY?**

# Acute to Chronic Pain

## Acute Pain

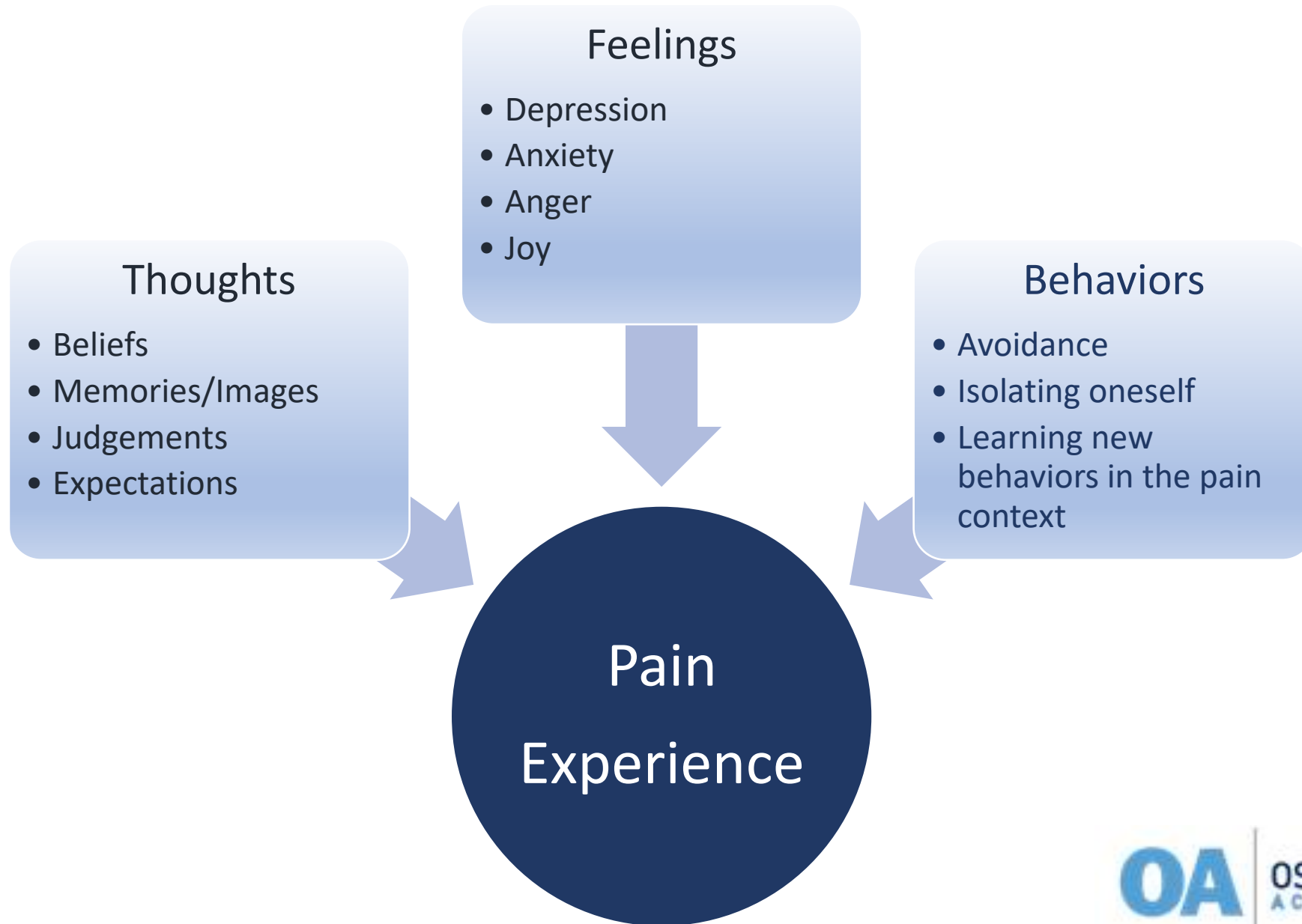


## Brain activity in response to a pain stimulus

- Sensory Network
- Attention Network
- Emotions Network
- Network involving pain control
- Network involving stress

## Persistent Pain





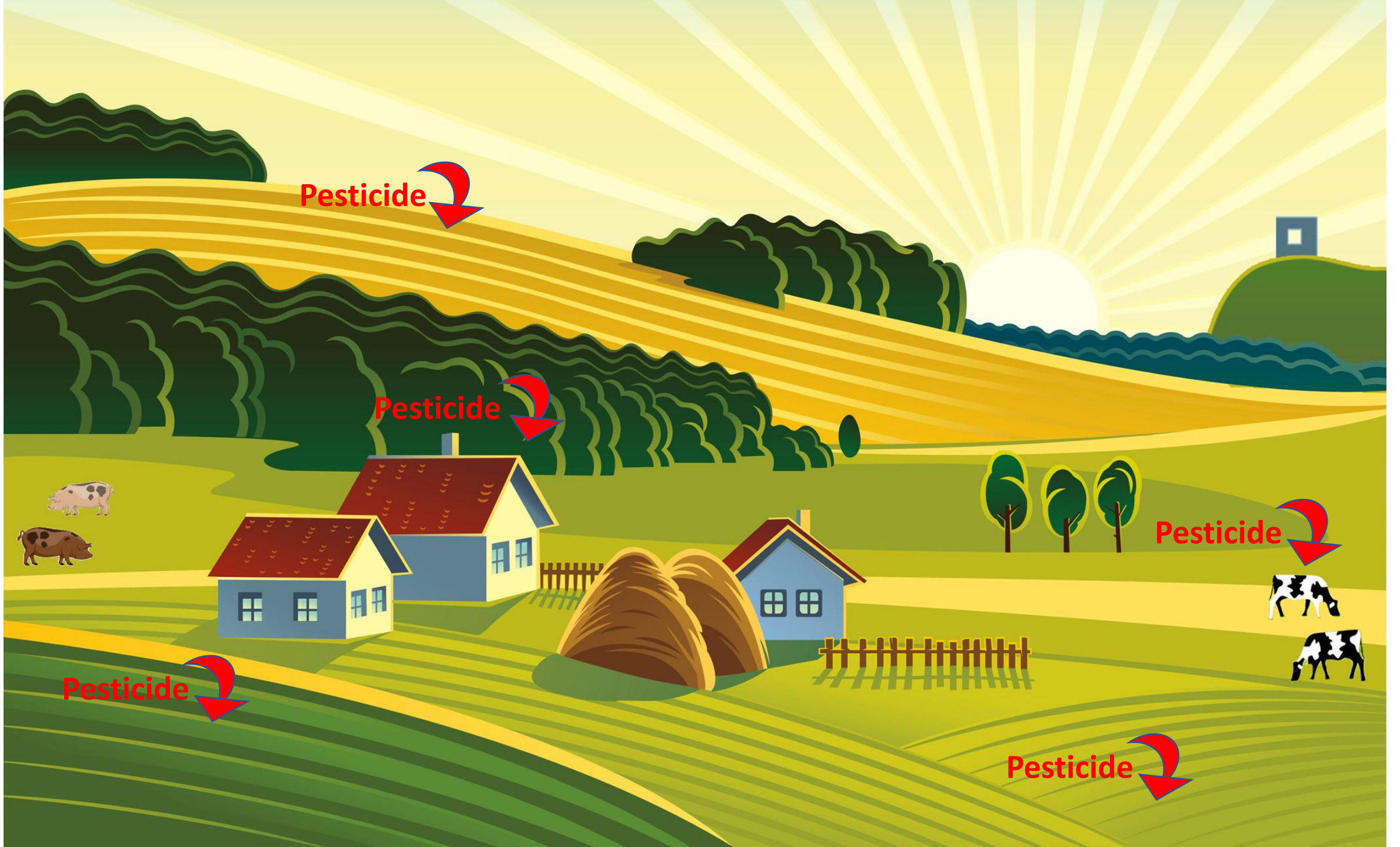
Courtesy F. Keefe.

# Pain in the Classroom (or Clinic)



# Pain in the Real World





Pesticide

Pesticide

Pesticide

Pesticide

Pesticide

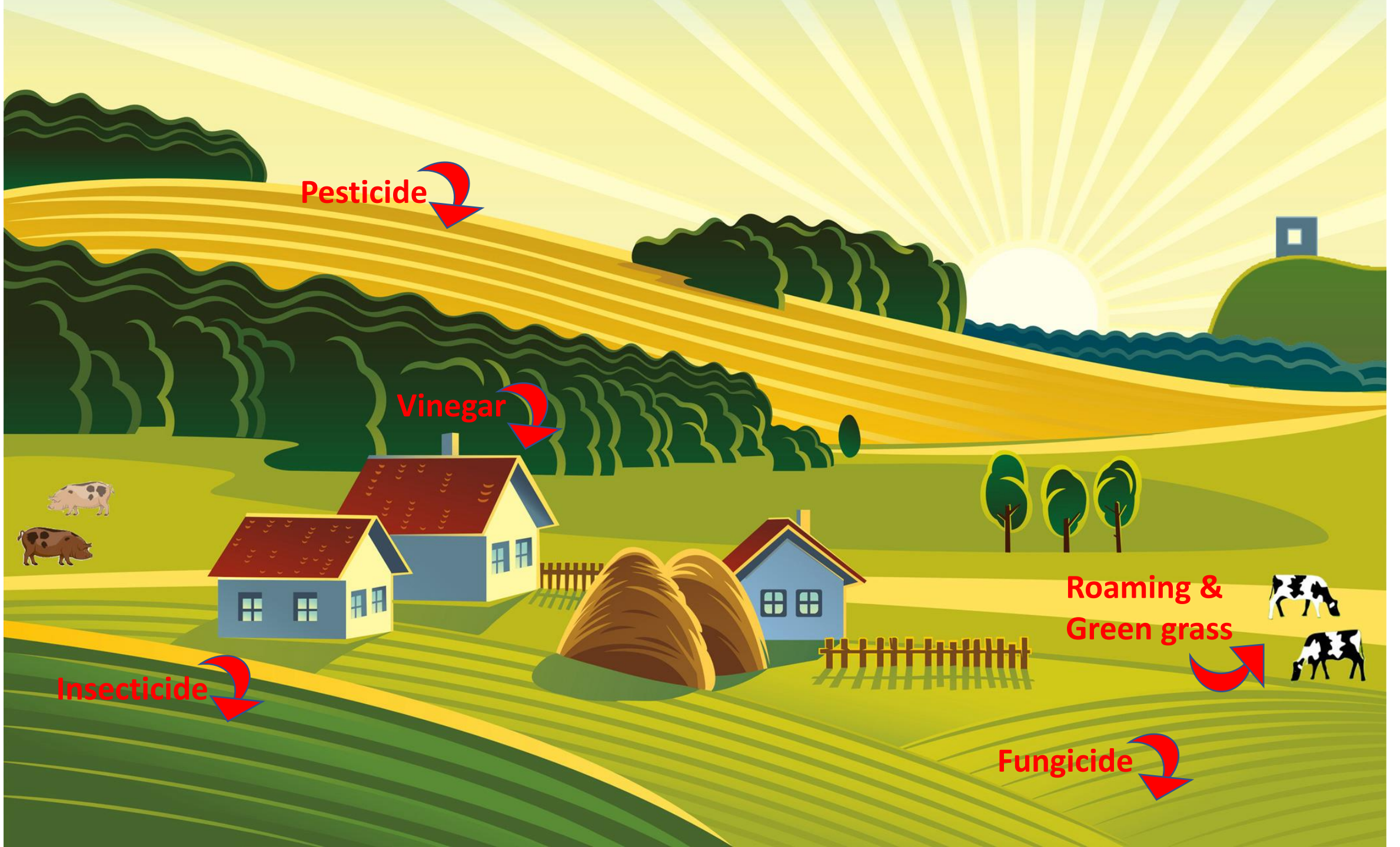
Pesticide

Vinegar

Insecticide

Roaming &  
Green grass

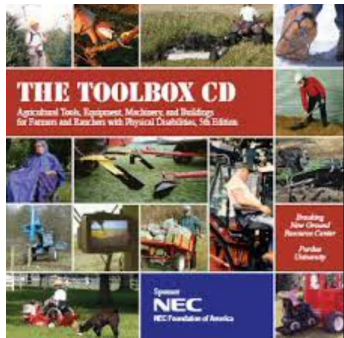
Fungicide



# Pain Management



Treatment/  
Management Strategies



Seeking Care

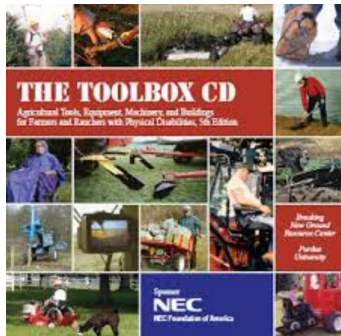




# Pain Treatment and Management Strategies



Treatment/  
Management Strategies



# Pain Management: Behavior Change and Lifestyle Modifications

- Physical Activity
  - Walking, Tai Chi, Yoga, Gardening
- Weight Management
  - Healthy Eating Behaviors
  - Good nutrition
- Injury Prevention
  - Fall Prevention
  - Safe Movement/Safety Training
- Cognitive Behavioral Therapy/Disease management education
  - Pain coping strategies, sleep hygiene, activity-based pacing
  - Managing pain flares



- *Fear of making pain/disease worse*
- *Not knowing where to start/what to do*
- *Lack of access/transportation to classes*
- *Food deserts*



# Pain Management: Medicine

- Oral Drugs – OTC, Rx

- NSAIDs
- Opioids



- *Side effects*
- *Can be expensive (healthcare coverage varies)*
- *Some are poorly understood, unregulated, or not recommended*

- Topical – OTC, Rx

- Arthritis creams
- Muscle relaxers/hot/cold
- Medicine –oral drugs, injections–
  - NSAIDs, Opioids, joint/local injection (show table?)

- Injectables

- Trigger point injections
- Joint injections (cortisone/corticosteroids)

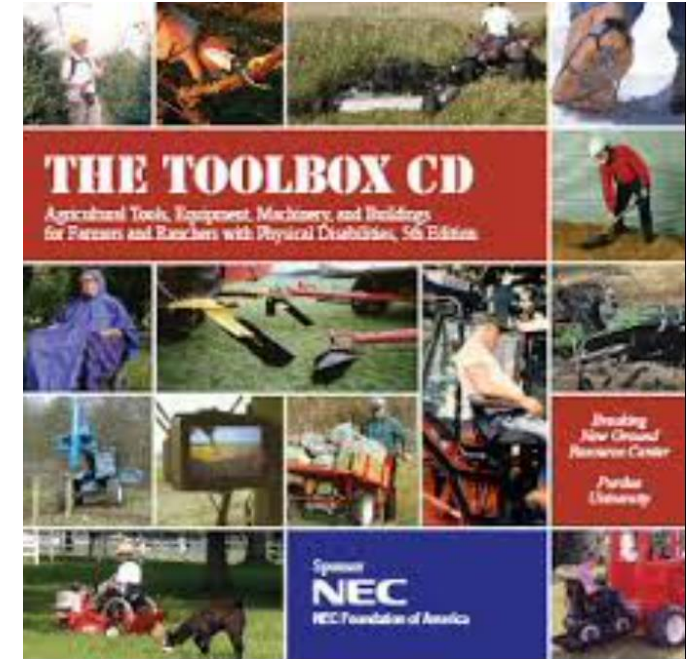


# Pain Management: Assistive and Adaptive Devices

- Braces
- Tools
- Farm equipment/ tools- protection
- Walkers, canes



- *Fit issues*
- *Training requirements/learning curve*
- *Can be expensive (healthcare coverage varies)*



# Pain Management: Surgery

- Joint replacement
- Herniated disc repair
- Amputation
- Neuroma repair



- *Surgery often the last resort (e.g., osteoarthritis)*
- *Not reversible, not for everyone*
- *Not always the answer*



# Seeking Care for Pain Management



Seeking Care



# Seeking Care: Clinical Care Options

- Clinical care provider: Primary Care, Specialty care
- Clinical care provider: Physical Therapist, Occupational therapist, Psychologist



- *Lack of broadband/internet*
- *Comfort level using technology*



# Seeking Care: Community-Based Options

- Community centers, Senior centers
- Parks and Rec, YMCAs
- Local Library
- Church/faith community
- Evidence-based programs



- *Lack of broadband/internet*
- *Comfort level using technology*





# Seeking Care: Individual/Home-based Options

- Online/Virtual Evidence-based programs
- Pain Management apps/websites
- Educational information about a disease, pain management, exercise, etc.



- *Lack of broadband/internet*
- *Comfort level using technology*

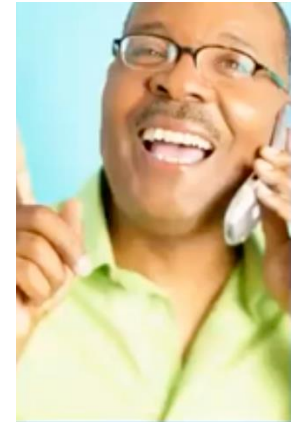


# Seeking Care: Technology

- Telehealth,
- Video-over internet,
- PT/Pain Mgt apps or internet-based training
- Virtual delivery of evidence-based programs



- *Lack of broadband/internet*
- *Comfort level using technology*



# Resources

- OA Action Alliance - <https://oaaction.unc.edu>
  - OACareTools
  - Resource Library - <https://oaaction.unc.edu/JointPain>
  - Evidence-based programs: WWE/CCG/ CDSMP
    - <https://startwalkwithease.org/Welcome/oaaa>



[www.oacaretools.org](http://www.oacaretools.org)

- National AgrAbility Project - <http://www.agrability.org>



- PainTRAINER: <https://www.paintrainer.org/login-to-paintrainer/>




# Thank you!

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<http://oaaction.unc.edu>

 @OsteoarthritisActionAlliance

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