American Academy of Pain Medicine: APP Track 2022 Annual Meeting

Today & Tomorrow in Pain Medicine: Innovations and Practical Applications

Jeremy A. Adler, DMSc, PA-C
Theresa (Tracey) Mallick-Searle, MS, PMGT-BC, ANP-BC
Amanda (Mandy) Zimmerman, PA-C

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Objectives

- Identify pathways in pain medicine for Advanced Practice Providers
- Define learning needs of APPs in pain management
- Problem solve barriers to effective care in pain management

Disclosures

Adler:

- Board of Directors, American Academy of Physician Associates
- Board of Directors, American Academy of Pain Medicine Foundation
- Speaker Bureau/Consultant: AppliedVR, Averitas, BioDelievery Sciences International, Hisamitsu, RedHill, Rockpointe

Mallick: Speakers Bureau - Salix, Averitas

Zimmerman:

- Speaker Bureau: BioDelievery Sciences International
- Advisor: BioDelivery Sciences International, SureMed Compliance
- ISR grant recipient: BioDelivery Sciences International

Agenda

1:30-2p	Opening remarks, welcome, video
2-2:15p	Presentation of early research pain management learning needs
2:15-3p	Overview of Pain Assessment/Management
3-3:30p	Barriers to Pain Management
3:30-4:45	Case-studies: 2 slide-2 minutes-2 questions
4:50	Wrap-up

*** No scheduled breaks, please feel free to take bio-breaks as needed**

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AAPM's Mission Statement

AAPM is dedicated to its mission of advancing and promoting the full spectrum of multidisciplinary pain care, education, advocacy, and research to improve function and quality of life for people in pain.

Members represent a variety of origins, including anesthesiology, internal medicine, neurology, neurosurgery, orthopedic surgery, physiatry, psychiatry, psychology, and neuroscience.

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AAPM American Academy of Pain Medicine

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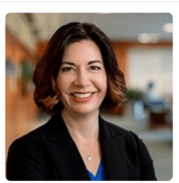
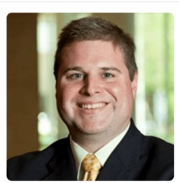


Halena M. Gazelka, MD



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Committees & Task Forces

Advanced Practice Provider Committee

(Established 2022)

Chairs:

- Jeremy Adler, DMSc, PA-C
- Tracey Mallick-Searle, MS, PMGT-BC, ANP-BC
- Amanda Zimmerman, PA-C

https://painmed.org/committees-and-task-forces/

- Annual Meeting Program Committee
- Awards Committee
- Behavioral Medicine Committee
- Bylaws Committee
- Education & CME Oversight Committee
- Ethics Council
- Finance Committee
- Membership Committee
- Nominating Committee
- Pain Fellowship Committee
- Research Committee
- Scientific Poster Abstract Committee
- Clinical Practice Guidelines Committee
- Trainee Committee
- Pain Medicine Policy Committee

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Shared Interest Groups (SIGs)

- Advanced Practice Providers (Retired 2022)
- Headache and Orofacial Pain
- Interventional Pain Medicine and Neuromodulation
- Behavioral Medicine and Pain Psychology
- Academic Pain Medicine

- Interdisciplinary Pain
- Women in Pain
- Substance Use Disorders in Pain
- Disparities in Pain Management
- Acute Pain
- Federal Pain

https://painmed.org/pain-medicine-shared-interest-groups-sigs/

APRN/PA SIG History

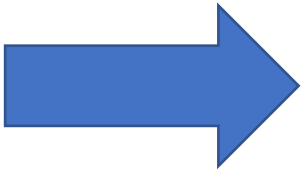
- Addopted & Sponsored by Sean Mackey, MD, PhD 2018
  - Co-chaired: Jeremy and Tracey

- Inaugural Meeting (Denver) 2019
- Second Meeting (Washington, D.C.) 2020

- SIG  Committee 2022

APP Goals at AAPM

- Advocacy
- Education
- Support
- Research



Professional Home for APPs in Pain Medicine

- Supporting APPs practicing across the spectrum of pain care

Where APPs Practice in Pain - Everywhere!

- Acute/Chronic/Transitional Pain
- Interventional
- Research
- Industry
- Advocacy
- Government
- More …

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What is your “Superpower?”

Brief video introductions of a small sampling of those among us

- Jeremy Adler, DMSc, PA-C
- Mechele Fillman, NP
- Oluwatobi Hunter, DNP, AGACNP-BC
- Zohra Hussaini, MSN, FNP, MBA
- Chris Kottenstette, PA-C
- Tracey Mallick-Searle, MS, PMGT-BC, ANP-BC
- Marsha Stanton, PhD, RN
- Amanda Zimmerman, PA-C

Imbed Video Here

Educating APRNs & PAs in Pain Management – A Needs Assessment

EDUCATING APRNS AND PAS IN PAIN MANAGEMENT – A NEEDS ASSESSMENT

Theresa Mallick-Searle, NP[1,2]*, **Amanda Zimmerman**, PA3, Lindsay Bergstreser, PA4, Sarah O'Brien, NP5
[1]Stanford Health Care, Division Pain Medicine, Redwood City, CA, [2]Co-chair APRN/PAs in Pain Medicine SIG AAPM; [3]West Forsyth Pain Management, Clemmons, NC ;
[4]Valley Medical & Wellness, Burnsville, MN ; [5]Albany Medical Center, Department of Neurology, Albany, NY ; *Presenting Author

INTRODUCTION

There is well-documented evidence of the need that exists for increased pain management education for physicians[1-6]. The Institute of Medicine[7] and the National Pain Strategy[8] have called for better training for all health care clinicians.

Little is known about the state of APRN and PA needs regarding pain education.

- According to the American Association of Nurse Practitioners (AANP), "The last AANP Member Educational Needs Assessment that was distributed in February/March 2020, received over 6,000 responses, and found that about 1 in 5 (19%), of clinically practicing NPs indicated pain management was an area they would like additional continuing education in. Pain management ranked in the top 10 (specifically, 8th) areas member requested additional resources on." (C. Tracy, personal communication, July 14, 2020)[9].
- Data from the 2016 Physician Assistant Education Association's Support to Advance Research grant, of the 209 programs surveyed, 14% reported that pain management is not included in the curriculum, and 3% reported that it is a stand-alone module[10] .

There is a lack of information known about the education in pain management provided in primary APRN and PA training, and how prepared these clinicians are to provide basic pain management after graduation.

OBJECTIVE

This survey is the first attempt to assess the current state of pain education for advanced practice registered nurses (APRNs) and physician assistants (PAs) as reported by novice and experienced clinicians, and to present the opportunity to enhance pain management education for future clinicians.

MATERIALS & METHODS

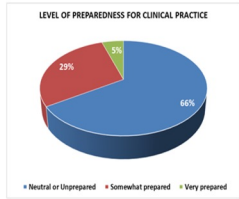
A Descriptive Survey Design was employed; ten survey questions were formulated and disseminated amongst APRNs/PAs nationwide. The pilot survey is a performance improvement initiative sponsored by the Special Interest Group: APRNs/PAs in Pain Medicine through the American Academy of Pain Medicine (Institutional Review Board (IRB) need was exempt).

A brief (10 question) survey was administered online to APRNs and PAs nationwide using various databases to get as diverse a group as possible.

ACKNOWLEDGEMENTS With gratitude the authors would like to thank and acknowledge the following for their assistance in survey distribution and background information.
The American Academy of Pain Medicine
The Point of Care Network

RESULTS

- There were 368 respondents to the survey for a total of 276 (75%) APRNs, and 92 (25%) PAs, representing a total of 47 states, D.C., as well as Canada and the Netherlands.
  - Fair representation was achieved from east/west/mid-west/southern U.S.
  - 69% of respondents have been practicing for 5+ years.
- Of the respondents, the majority (69%) report < 5 hours of pain management education in their primary training. This is even less than the 11 hours reportedly received in medical school in the U.S.[4]
  - Most of the respondents' report on the job training as their primary mode of education, followed by self-directed ongoing continuing education activities.
- One hundred sixty-eight respondents (46%) report they spend at least 50% of the time managing pain. Of those, 85 work in a pain management or palliative care specialty. The remainder work in other specialties, with the majority working in family/internal medicine.
  - An interesting finding was that of those that reported primary care/internal medicine/surgery as their practice specialty, collectively they reported less time spent on pain management then their peers in other specialties.
- In preparation to care for patients with basic chronic or acute pain management needs, 66% felt "neutral or unprepared" to do so, in their first year in clinical practice.



CONCLUSION/IMPLICATIONS FOR APRNs & PAs

- Results revealed a low confidence and perceived competence in providing pain management in both the acute and chronic pain settings, in APRNs and PAs during their first year of practice. Most clinicians either could not remember receiving focused pain education or reported less than 5 hours provided throughout their advanced practice training.
- This is a first attempt to look at the educational need for pain management at a national level, from the perspective of perceived readiness to practice, from individual APRNs and PAs, looking at both the novice and more advanced clinician.
- These initial findings call for a transformation within APRN & PA education and training regarding pain management. For those who focus their careers on pain management as a specialty, a system for certification would help to facilitate a metric of quality control, and further delineation of competency in practice.

REFERENCES

1. Briggs EV, Battelli D, Gordon D, et al. Current pain education within undergraduate medical studies across Europe: Advancing the Provision of Pain Education and Learning (APPEAL) study. BMJ Open. 2015;5(8):e008984.
2. Rankin L, Fowler CJ, Stålnacke BM, Gallego G. What influences chronic pain management? A best-worst scaling experiment with final year medical students and general practitioners. Br J Pain. 2019;13(4):214-225.
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6. Tran UE, Kircher J, Jagg P, Le H, Hiller T, Ali S. Medical students' perspectives of their clinical comfort and curriculum for acute pain management. J Pain Res. 2018;11:1479-1488.
7. Institute of Medicine. 2011. Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington, DC: The National Academies Press.
8. Von Korff M, Scher AI, Helmick C, et al. United States National Pain Strategy for Population Research: Concepts, Definitions, and Pilot Data. J Pain. 2016;17(10):1068-1080.
9. A recent AANP Member Educational Needs assessment was distributed in February/March 2020, received over 6,000 responses, and found that about 1 in 5, or 19%, of clinically practicing NPs indicated pain management was an area they would like additional continuing education in. Pain management ranked in the top 10 (specifically 8th) areas member requested additional resources on (internal AANP research, unpublished, personal communication with C. Tracy, July 14, 2020).
10. Healy JK, Martinasek M, Doran T. The Current State of Physician Assistant Pain Curriculum: A National Survey. J Physician Assist Educ. 2019;30(1):20-26.

Take a picture with your smart phone to download the full poster

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Introduction

- There is well-documented evidence of the need that exists for increased pain management education for physicians[1-6].
- The Institute of Medicine[7] & the National Pain Strategy[8] have called for better training for all health care clinicians.
- There is a lack of information known about the education in pain management provided in primary APRN/PA training, & how prepared these clinicians are to provide basic pain management after graduation.

The need is REAL

➢ The last AANP Member Educational Needs Assessment → distributed in Spring 2020, received over 6,000 responses, found that about **1 in 5 (19%)**, of clinically practicing NPs indicated pain management was an area they would like additional continuing education in. Pain management ranked in the top "10"[9].

➢ Data from the 2016 Physician Assistant Education Association's Support to Advance Research grant, of the 209 programs surveyed, 14% reported that pain management is not included in the curriculum, and 3% reported that it is a stand-alone module[10].

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Objective

- First attempt to assess the current state of pain education for APRNs & PAs.
- Reported by novice & experienced clinicians.
- Present the opportunity to enhance pain management education for future clinicians.

Materials

- A Descriptive Survey Design → ten survey questions were formulated & disseminated amongst APRNs/PAs nationwide.
- Various databases to get as diverse a group as possible.
- A performance improvement initiative sponsored by the APRNs/PAs SIG AAPM.

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Results

368 respondents

- 276 APRNs (75%)
- 92 PAs (25%)

69% of respondents practicing >5 years

47 states, DC, Canada, & the Netherlands

- Fair representation throughout the U.S.

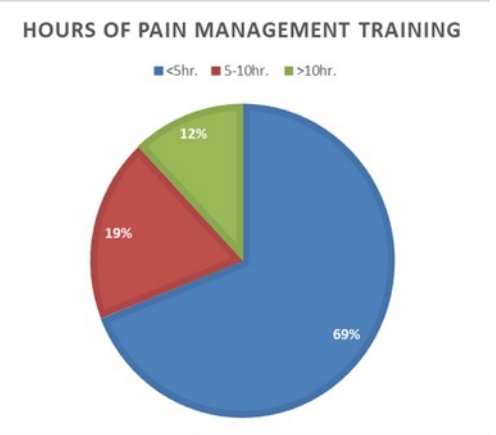
- Majority (69%) report < 5 hours pain mgmt education in their primary training.
- Less than the 11 hours reportedly received in medical school in the U.S.
- Most report on the job training as the primary mode of education, followed by self-directed ongoing continuing education activities

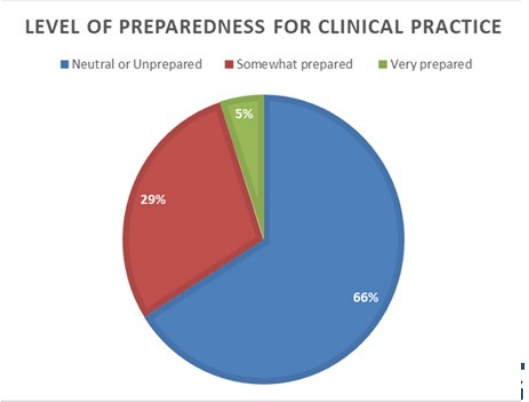
Results

- One hundred sixty-eight (46%) report they spend at least 50% of the time managing pain. Of those, 85 work in a pain mgmt or palliative care specialty. The remainder work in other specialties, the majority in family/internal medicine.

- Those that reported primary care/internal medicine/surgery as their primary practice specialty, collectively reported less time spent on pain management than their peers in other specialties.

- In preparation to care for patients with basic chronic or acute pain management needs 68% felt “neutral or unprepared” to do so, in their first year of clinical practice.





Conclusions

- Low confidence & perceived competence in providing pain management in both the acute and chronic pain settings, in APRNs/PAs during their first year of practice.
- Most clinicians either could not remember receiving focused pain education or reported <5 hours provided throughout their advanced practice training.
- First attempt to look at the educational need for pain management at a national level, from the perspective of perceived readiness to practice, from individual APRNs & PAs, looking at both the novice and more advanced clinician.
- These initial findings call for a transformation within APRN & PA education/training in pain management.
- For those who focus their careers in the specialty of pain management, a system for certification → would help to facilitate a metric of quality control → further delineation of competency in practice.

References

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Overview of Pain Management

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Objectives

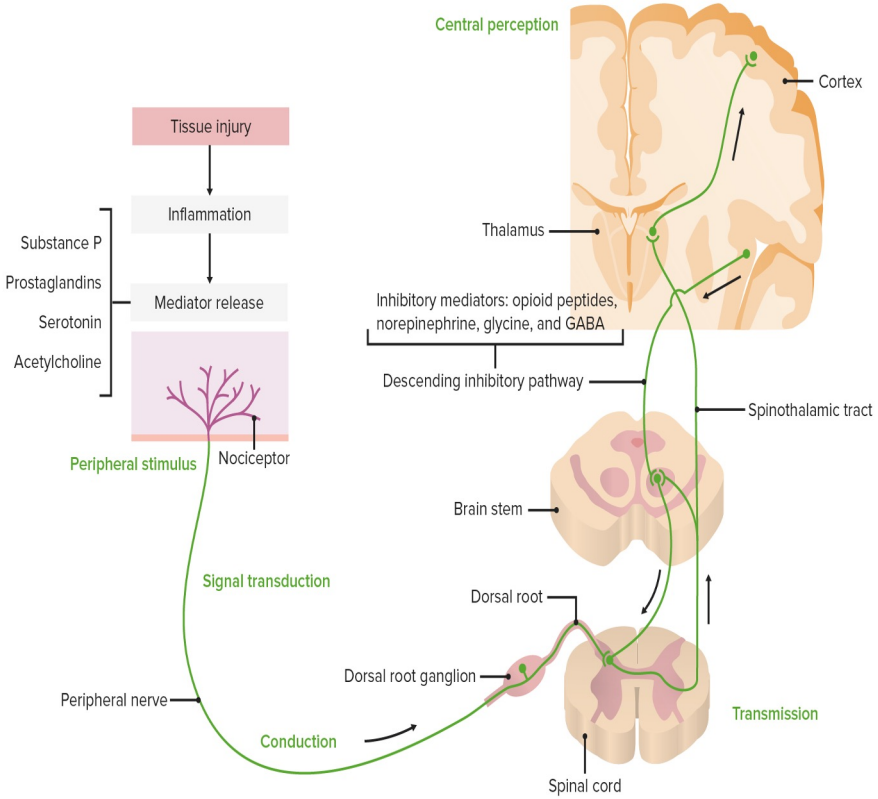
- Discuss pathophysiology of pain
- Define common Pain types
- Discuss characteristics of common pain types
- Define acute vs chronic pain
- Outline pain assessment techniques
- Appropriate diagnostic testing
- Discuss treatment options
- Outline appropriate opioid prescribing techniques

Pathophysiology of Pain

International Association for Study of Pain (IASP) 2020 Definition:

"An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage."

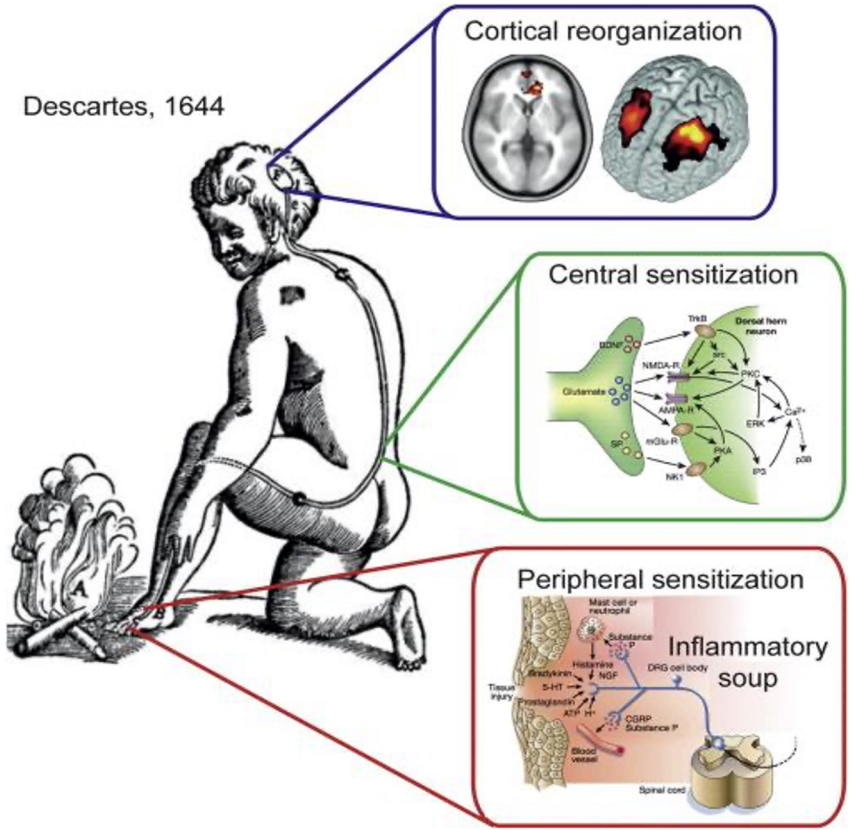
Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain. 2020 Sep 1;161(9):1976-1982.



https://www.lecturio.com/concepts/physiology-of-pain/

Types of Pain - Nociceptive

Pain that arises from actual or threatened damage to non neural tissue.



Nociceptive pain clinical characteristics

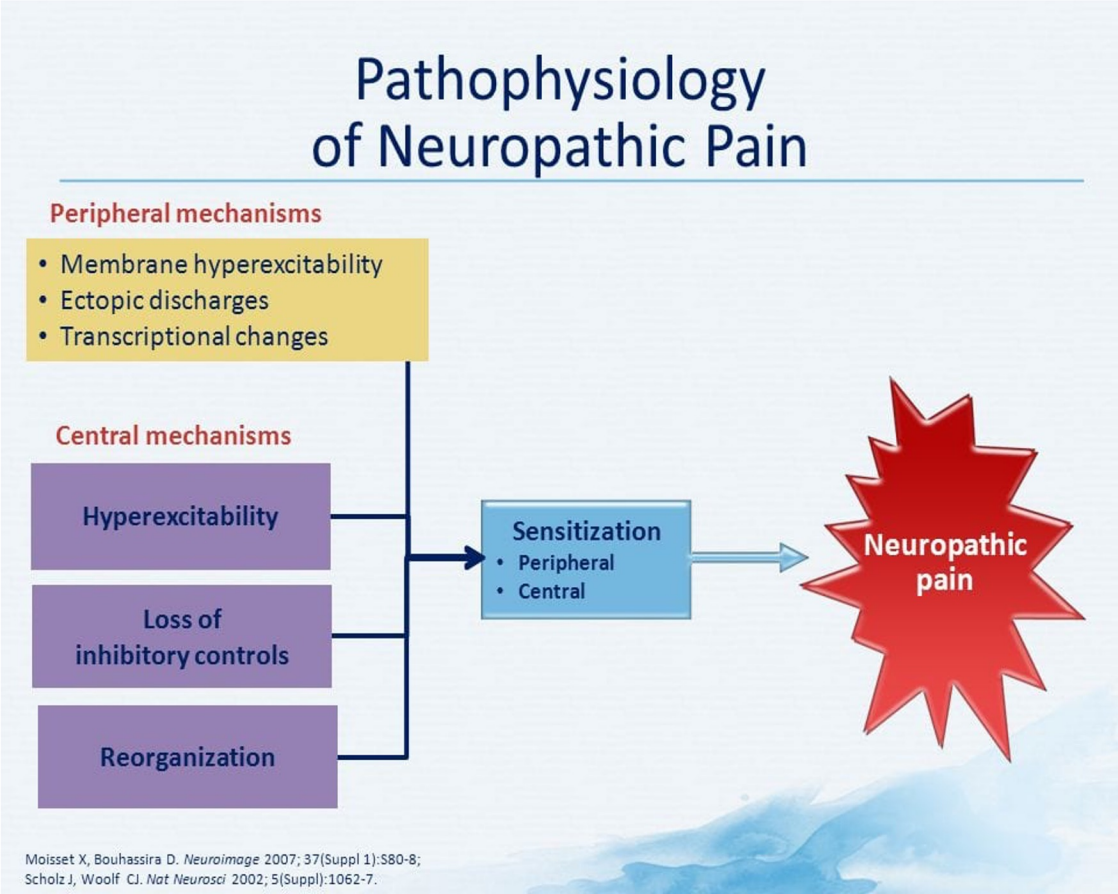
- Dull
- Aching
- Constant
- Intermittent
- Sharp
- Throbbing

Types of Pain - Neuropathic

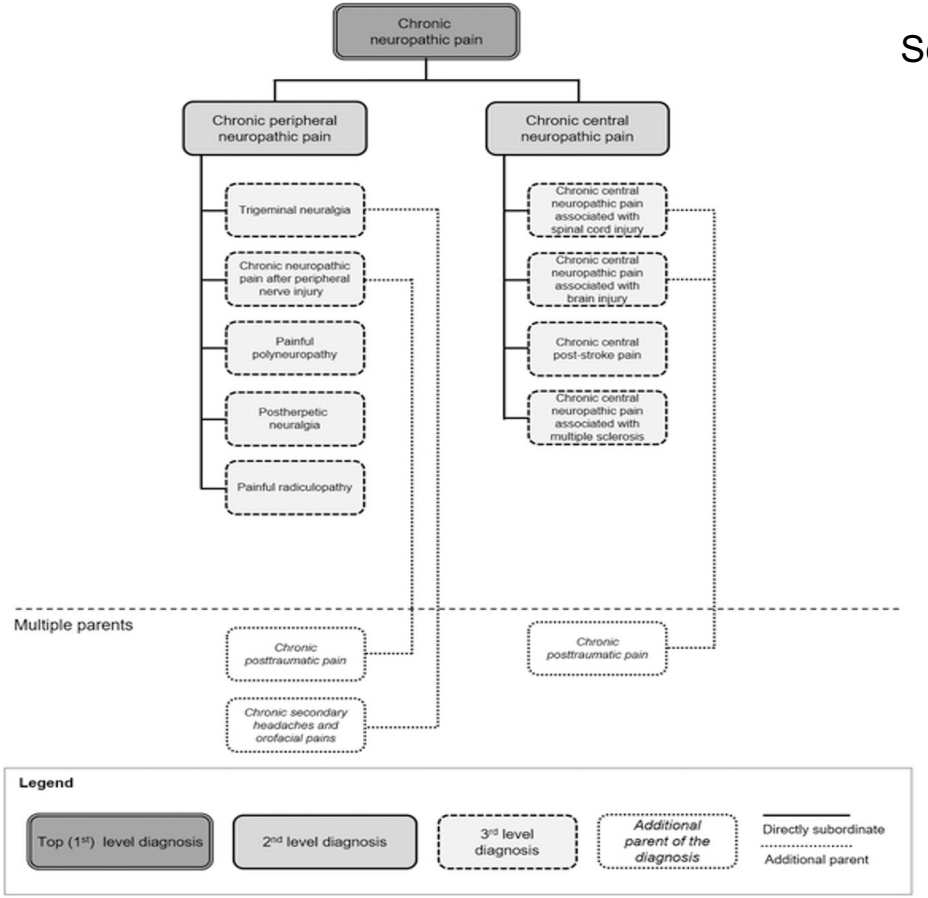
IASP definition:

- Pain caused by a lesion or disease of the somatosensory nervous system.

Scholz J, Finnerup NB, Attal N, et al., Classification Committee of the Neuropathic Pain Special Interest Group (NeuPSIG). The IASP classification of chronic pain for ICD-11: chronic neuropathic pain. Pain. 2019 Jan;160(1):53-59.



Chronic Neuropathic Pain



Scholz J, Pain. 2019

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Neuropathic pain clinical characteristics

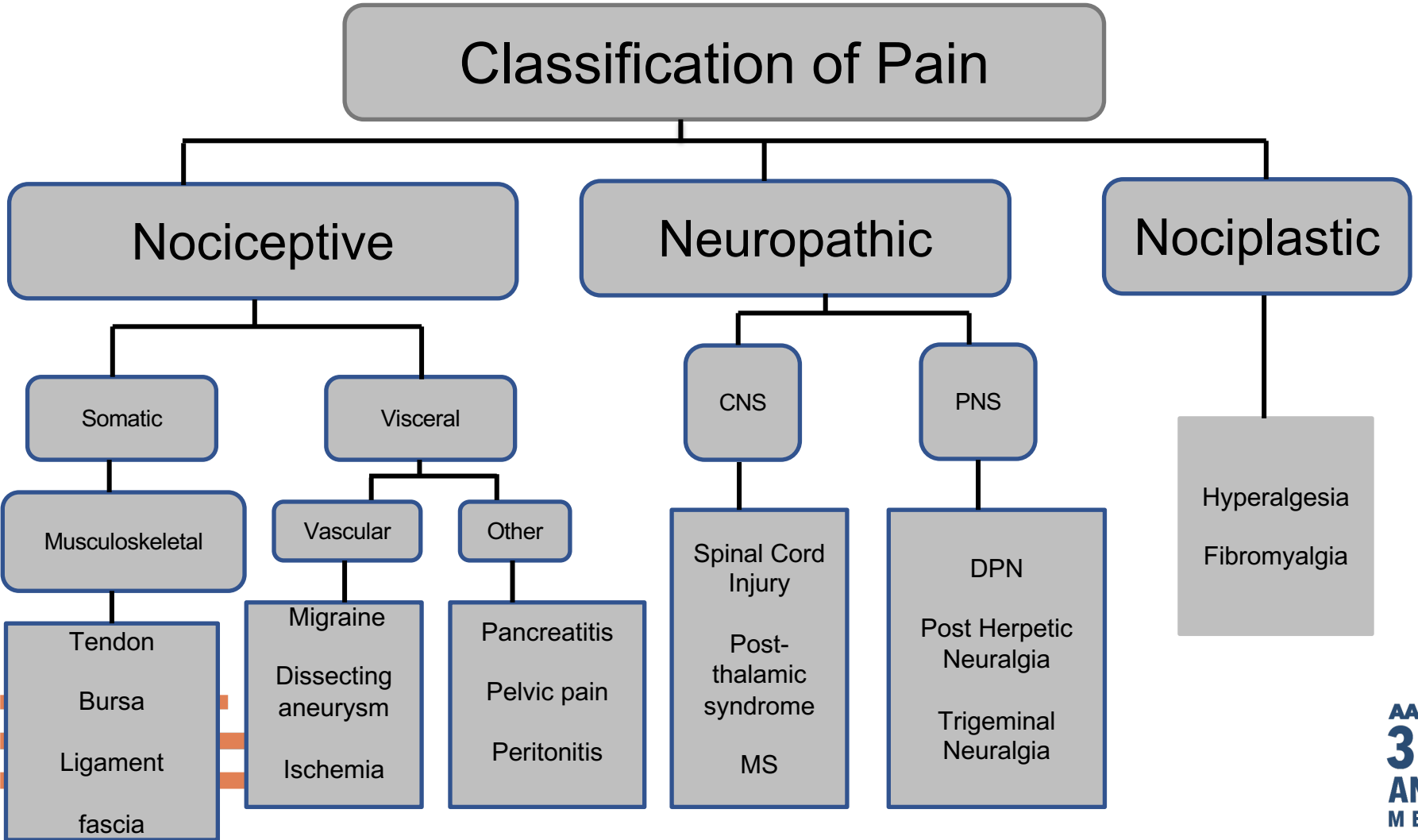
- Burning
- Pins and needles (paresthesias)
- Electric shocks
- Allodynia
- Shooting
- Numbness

Types of Pain - Nociplastic

Pain that arises from “altered nociception despite no clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors or evidence for disease or lesion of the somatosensory system causing the pain”. (IASP Taxonomy 2017)

Altered sensory processing, increased activity within acute pain areas of the brain, altered activity of nociceptive pathways, and poor functioning of endogenous analgesia.

Important to note that nociplastic pain can exist in conjunction with neuropathic and/or nociceptive pain



Acute vs chronic

- Acute
  - Begins suddenly typically as a result of tissue injury
  - Usually resolves after the injury heals

- Chronic
  - Pain as a result of tissue or nerve injury that persists or recurs for greater than 3 months.
  - “High-Impact” chronic pain (chronic pain that frequently limits life or work activities)

High-Impact Chronic Pain

Dahlhamer J, Lucas J, Zelaya C, Nahin R, Mackey S, DeBar L, Kerns R, Von Korff M, Porter L, Helmick C. Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults - United States, 2016. MMWR Morb Mortal Wkly Rep. 2018 Sep 14;67(36):1001-1006.

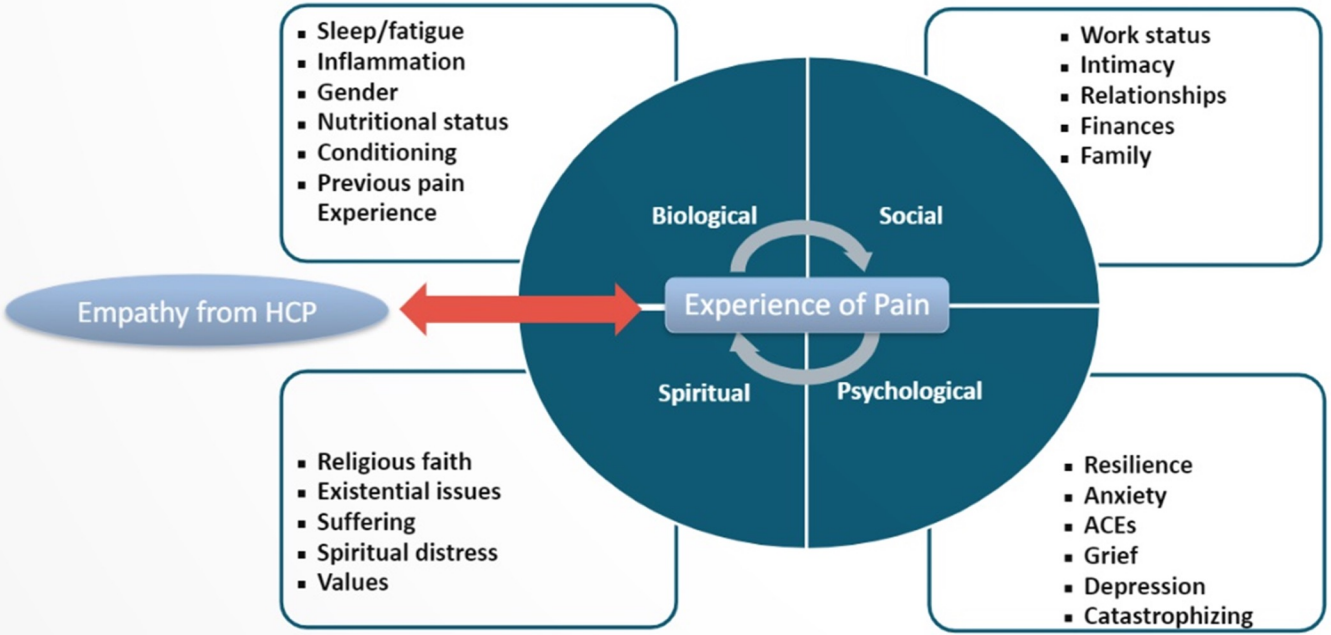
2016 National Pain Strategy

- National estimates of high-impact chronic pain can help differentiate persons with limitations in major life domains (from those who maintain normal life activities despite chronic pain, providing a better understanding of the population in need of pain services):
  - Work
  - Social
  - Recreational
  - Self-care activities

Assessment – why is this important?

- A thorough assessment expands our diagnostic abilities & guides decision-making → treatment → next steps.
- An opportunity to empathize with the patient & build trust
- Get a feel for our patient's personality, what types of interventions they might accept/resist, how they perceive their pain, and effect on their daily life.
- Understanding how someone's quality of life is affected will assist in establishing goals.
  - E.g. *"I can't spend any time with my grandchildren." That will be an important goal to address during treatment.*

Biopsychosocial Spiritual Context of Pain



Matteliano. Manag Nurs. 2014;15:391.

Pain Assessment

Description of Pain

Location

Intensity

Quality

Onset/
Duration

Variations/
Patterns/Rhythms

What Relieves the Pain?

What Causes or Increases the Pain?

Effects of Pain on Physical, Emotional, and Psychosocial Function

Patient's Current Level of Pain and Function

Fink. Proc (Bayl Univ Med Centr). 2000;13:236.

Past Medical and Treatment History

Nonpharmacologic Strategies and Effectiveness

Pharmacologic Strategies and Effectiveness

Relevant Illnesses

Past and Current Opioid Use

- Query your state's PDMP to confirm patient report
- Contact previous healthcare professionals and obtain prior medical records
- For opioids currently prescribed, note the opioid, dose, regimen, and duration
- Determine whether the patient is opioid tolerant

General Effectiveness of Current Prescriptions

Jackman. Am Fam Physician. 2008;78:1155.

Obtain a Complete Social and Psychological History

Social History

Employment, cultural background, social network, relationship history, legal history, and other behavioral patterns

Psychological History

Screen for:

- Mental health diagnoses, depression, anxiety, PTSD, current treatments
- Alcohol, tobacco, and recreational drug use
- History of adverse childhood experiences
- Family history of substance use disorder and psychiatric disorders
- Depression and anxiety can be predictors of chronic pain

Jackman. Am Fam Physician. 2008;78:1155.

Physical Exam and Assessment

General

- Vital signs
- Appearance
- Pain behaviors

Neurologic Exam

Musculoskeletal Exam

- Inspection
- Gait and posture
- Range of motion
- Palpation
- Percussion
- Auscultation
- Provocative maneuvers

Cutaneous or Trophic Findings

- Skin
- Tissue
- Muscle
- Bone

Benzon. Practical management of pain. 2013:151-161.

Pain Assessment Toolbox

Pain Assessment Tools
- BPI, 5 A's

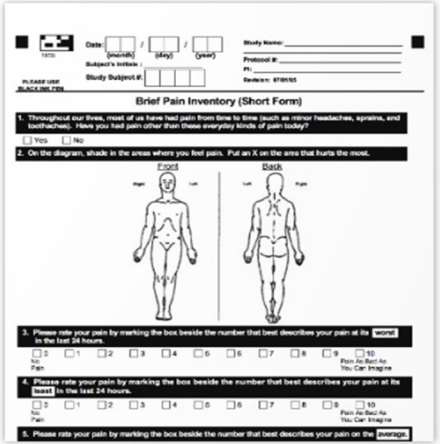
Functional Assessment
- SF-36, PPS, Geriatric Assessment

Adverse Childhood Experiences
- ACE

Assessment in Advanced Dementia
- PAINAD

Psychological Measurement Tools
- PHQ-9, GAD-7, etc

core-rems.org/opioid-education/tools/



Brief Pain Inventory (Short Form)

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?
☐ Yes ☐ No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.

Front Back

3. Please rate your pain by marking the box beside the number that best describes your pain at its worst in the last 24 hours.
☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10
No Pain — Pain As Bad As You Can Imagine

4. Please rate your pain by marking the box beside the number that best describes your pain at its least in the last 24 hours.
☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10
No Pain — Pain As Bad As You Can Imagine

5. Please rate your pain by marking the box beside the number that best describes your pain on the average.

BPI

5 A's – Opioid therapy monitoring tool

This monitoring tool, will assist you in adapting the treatment plan of your patient by evaluating whether the patient

- Has a reduction in pain (**Analgesia**)
- Demonstrated improvement in level of function (**Activity**)
- Experiencing significant (**Adverse**) effects
- Whether there is evidence of (**Aberrant**) substance-related behaviors Mood of the individual (**Affect**)

Executive Committee of the Federation of State Medical Boards of the United States, Inc. Model policy on the use of opioid analgesics in the treatment of chronic pain. July 2013. (Sourced 25/2/14) www.fsmb.org/pdf/pain_policy_july2013

5 A's

Activity

What progress has been made in the patient's functional goals?

- Sitting tolerance, standing tolerance, walking ability, ADLs

Analgesia

How does the patient rate the following over the last 24 hours?

E.g.) on a scale from 0-10, where 0 = no pain, 10 = worst pain imaginable

- Average pain ? Worst pain ?
- How much relief have pain medications provided? e.g. 10%, 20%, 30% or more?

Adverse effects

Has the patient experienced any adverse effects from medication?

E.g.) constipation, nausea, dizziness, drowsiness

Aberrant behaviors

Has the patient been taking medications as prescribed?

Has the patient exhibited any signs of problematic behaviors or medication abuse/misuse?

- Signs of drug and alcohol use
- Unsanctioned dose escalations
- Has the patient reported lost prescriptions or requested early repeats?

Affect

Have there been any changes to the way the patient has been feeling?

Is pain impacting on the patient's mood?

Diagnostic testing

- Xray
- MRI
- CT
- Myelogram
- EMG
- Blood tests

Treatment options

Conservative measures

- Physical therapy
- Rest
- time

Interventions

- Spinal injections
- Joint injections
- SCS/PNS
- Minimally invasive techniques

Medications

- NSAIDS
- Neuromodulators
- Opioids

Surgical intervention

Complementary treatments

- Acupuncture
- Acupressure
- Nutrition
- Behavioral management
- Virtual Reality

Opioid Therapy – general considerations

- Only appropriate after all other measures have been exhausted and the patient's quality of life and functional status are being negatively affected
- Screen for risk factors of abuse/adverse events
- Take into consideration comorbidities
- Assess risk vs benefit

Summary of Risk Assessment Tools

Assessment Tool	When to Use	Result Necessitating In-Person Visits
PMQ Pain Medication Questionnaire	Initiation	High-risk (score ≥25)
BRQ Brief Risk Questionnaire	Initiation	High-risk
ORT Opioid Risk Tool	Initiation (less supported)	High-risk (score ≥8)
SOAPP-R Screener and Opioid Assessment for Patients With Pain–Revised	Initiation/ maintenance	Score ≥18
COMM Current Opioid Misuse Measure	Maintenance	Score ≥9

Risk assessment should be done upon initiation and periodically with continued use

Ducharme. Mo Med. 2019;116:318. Jones. J Opioid Manag. 2015;11:171.
Lawrence. Br J Anaest. 2017;119:1092. Ogilve. Pain Manag. 2020;11:97.

Opioid Risk Agreement

Outline with patient the risks associated with opioid use including but not limited to:

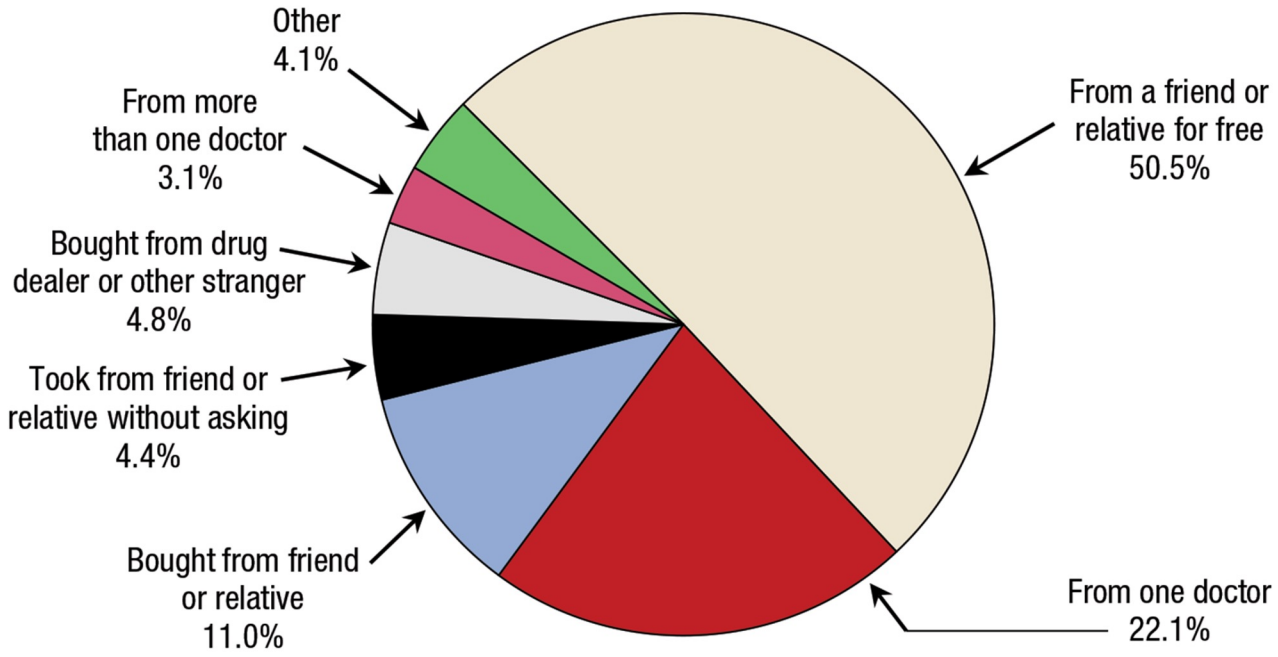
- Respiratory depression
- Dependence
- Mental fog
- Constipation
- Overdose/death

Counsel on proper use:

- Take medication only as prescribed
- Do not crush, snort, inject the medication
- Do not sell it
- Do not share it with your friends or relatives
- Safeguard the medication

https://www.hopkinsmedicine.org/pain/blaustein_pain_center/consent_form.doc

Source of prescription pain relievers for the most recent non-medical use among past year users aged 12 or older: annual



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2013 and 2014

Monitoring tools

- Prescription Drug Monitoring Data Bases (PDMP)
- Risk assessments (various tools available)
- Urine Drug Screening (UDS)
- Pill counts
- Thorough history taking – monitor for changes
  - Review of social situations
  - Living circumstances
  - Family life

Documentation

- Good diagnosis/diagnostic testing
- Risk assessments (SOAPP, COMM, ORT, ORT-OUD)
- Patient/Provider agreement
- UDS
- Pill counts
- PDMP review
- Discussion of risk
- Co-prescription of Narcan
- Review your state board documentation requirements
- Physical exam to support your diagnosis
- Discussion with supervising if required
- Pain rating
- Functional status
- 5 As
- Treatment plan and goals

Conclusions

- An understanding of common pain conditions will assist you in choosing appropriate treatment to best manage the underlying cause of your patient's pain complaint

- Honing your pain assessment skills will improve your relationship with your patient and will likely improve compliance with the treatment plan

- Careful opioid prescribing (if appropriate) with meticulous documentation will serve to protect you and your practice from liability.

On the Frontlines: How APPs Are Providing Multidisciplinary Care Amidst Barriers in Accessing

- Telehealth/Virtual Visits
- Pain Management Community Resources
- Pain Psychology
- Complementary Treatments (including physical therapy)
- Medication Management

Theresa (Tracey) Mallick-Searle

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Perfecting the virtual visit: The future is here!

Telehealth is here to stay

The global telehealth market is forecast to reach $82.03 billion by 2027

Stratistics Market Research Consulting Pvt Ltd – 4/21/20
https://www.prnewswire.com/news-releases/global-telehealth-market-is-expected-to-reach-82-03-billion-by-2027--301044244.html

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Virtual Visit in the Pain Clinic

During a recent pandemic, when many clinicians had to cancel office visits, NP Mallick-Searle, a pain management NP at Stanford Health Care, had a panel of patients to see. Rather than reschedule her appointments for a different decade, NP Mallick knew she had the option to offer treatment via video.

One of her patients was a 37-year-old female **known to the clinic** with a history of chronic migraine, presenting with refractory migraines for several days. In a traditional office visit, NP Mallick might choose to obtain a set of vital signs and do a brief ocular exam, possibly provide IM ketorolac. But today, she went for a different tool: a computer camera.

Without seeing the patient in office, NP Mallick offered a diagnosis, suggestions for acute management, and discussed a potential follow-up appointment. She conducted the entire visit through a computer camera, part of an effort to continue to provide care using a telehealth platform.

Perfecting the Virtual Visit

What they tell you:

"It's like a regular visit, just on the computer."

"You will be fine!"

"There is always someone to back you up."

What you are thinking:

- How am I going to manage?
- HIPAA compliance?
- Billing?
- What if the video fails?
- What if patients cannot log on?
- Non-English speakers?
- Medication monitoring?
- Out of state visits?
- Physical exam, vital signs, labs?
- Late arrivals, no-shows?
- Patient satisfaction?

Perfecting the Virtual Visit

TYPES OF TELEHEALTH

- Live Video (synchronous – real time, multiple approved platforms: primary care, PT, group therapy, multiple clinicians, free)
- Store & Forward (asynchronous – digital images)
- Remote patient monitoring (biometrics, etc.)
- Mobile Health (Apps, text messages)

TELEHEALTH BENEFITS

- Streamlined & efficient method of providing care
- Improved patient satisfaction and engagement
- Increasing legislation that is allowing broader coverage and parity laws
- Continued rapid technology advancements
- Increased access to care

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Telehealth Etiquette

PATIENT

- Login & check the system before the visit.
- Login 10-15 minutes early.
- Have list of medications, allergies.
- Write down questions.
- Have photo ID available.
- Don't expect that the clinician you are seeing knows your case.
- Be polite.
- Limit distractions during visit (no driving, eating breakfast, getting a massage).
- Video visit may not be a time to present with a new complaint to a clinician who is new to you.

CLINICIAN

- Camera system at eye level.
- Professional background & attire.
- Punctuality counts.
- Pre-read chart and chief complaint.
- Engage your patient.
- Communicate/eye contact, let the patient know if you are documenting/reviewing records.
- Be very clear with follow-up instructions.
- Take advantage of the digital system functionality.
- Patient expectation setting.

COVID-19 Legislative Changes: Medicare Drops Barriers to Telehealth

Patients can access telehealth from home & any healthcare facility.

Telehealth visits can use smartphone; phones with audio/video capabilities & "everyday" platforms like FaceTime and Skype.

Audio-only visits are reimbursable.

CMS added behavioral and patient education services and some E&M services to the list eligible for audio-only visits.

New patients can get telehealth visits. HHS will not audit to confirm existing relationship between patient and provider.

Providers can reduce/waive cost-sharing.

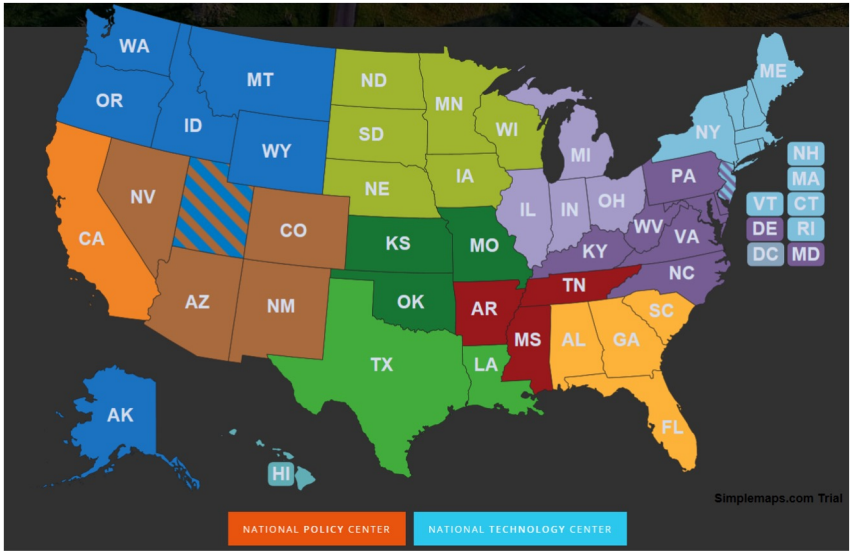
No penalty for limiting or eliminating copays or deductibles.

All providers are eligible to use telehealth.

All healthcare professionals eligible to bill Medicare for their professional services, can now use telehealth.

Advisory Board. (2020, July 26). How Covid-19 is transforming telehealth - now and in the future (power point slides). https://www.advisory.com/research/health-care-it-advisor/resources/2020/how-covid-19-is-transforming-telehealth-now-and-in-the-future

Telehealth Resource Centers: https://www.telehealthresourcecenter.org/



Telehealth Resource Centers (TRCs) have been established to provide FREE assistance, education, and information to organizations and individuals who are actively providing or interested in providing healthcare at a distance.

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Common Barriers to Multidisciplinary/Multimodal Pain Management

Clinician:

- Time
- Limited Resources
- Knowledge

Patient:

- Time
- Beliefs
- Knowledge
- Fear
- Apathy
- Secondary Gain

Insurance (coverage)

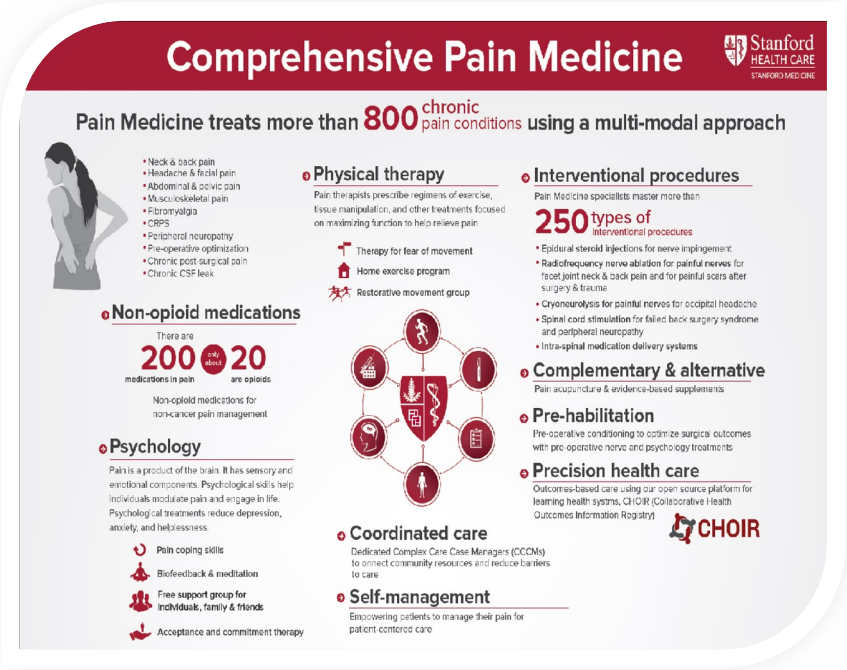
Patient Barriers

- self-efficacy
- depression
- social support
- relationship with health care provider(s)
- pain intensity
- fear of exacerbating pain
- access to health resources
- health literacy

Mann EG, et al. What Are the Barriers and Facilitators for the Self-Management of Chronic Pain With and Without Neuropathic Characteristics?
Pain Manag Nurs. 2017;18(5):295-308.

Multidisciplinary/Multimodal Pain Management

- CLINICAL MANAGEMENT
  - pharmacotherapeutics
  - interventional therapies
- BEHAVIORAL MANAGEMENT
  - psychology/psychiatry
  - social re-engagement
  - stress reduction
- BODY THERAPIES
  - physical therapy
  - functional rehabilitation
  - sleep regulation
- NUTRITION
  - weight control
  - anti-inflammatory, anti-allergenic



COMPLEMENTARY THERAPY
(acupuncture, aroma therapy)

Introducing Christina

- 52-year-old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression.
- Previously employed as a receptionist, stopped working when she was pregnant.
- Married with a 12-year-old daughter.
- Does not exercise regularly because of generalized fatigue.
- Sees a Neurologist for her migraines.
- PCP manages HCM, including episodic pain management.
- “Under-insured”

CLINICAL MANAGEMENT: Pharmacotherapeutics

- Opioids
- OTC analgesics
- Anticonvulsants
- Antidepressants (SNRI)
- Muscle relaxants
- Sleep aids

- Generic is ok
- Patient-assistant programs
- Samples
- Sales reps & medical science staff → assist with prior authorizations, education, etc.
- Specialty pharmacies {NimbleRx: https://www.nimblerx.com Alto: https://alto.com}
- Choose smart (pick the right drug for the right symptom; neuropathic v/s nociceptive pain)
- Benefit from side effects

National Prescription Assistance Programs

Medicare: https://www.medicare.gov/your-medicare-costs/help-paying-costs/save-on-drug-costs/save-on-drug-costs.html

https://www.rxhope.com/

We act as your advocate in making the patient assistance program journey easier and faster by supplying vital information and help.

Drug Discount Card

- NeedyMeds: http://www.needymeds.org 800-503-6897
- GoodRx: https://www.goodrx.com 888-277-3911
- MedicationCard: http://www.medicationcard.net/m/sp/ 888-553-5751

Discount pharmacy programs: Kmart, Walgreens, Costco, Sam's Club, CVS, Target, Walmart, Kroger

Christina : 52-year-old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression

Clinical Management : Pharmacotherapy

- pregabalin (anticonvulsant)
- duloxetine (SNRI)

Tip: Ask about sleep (co-manage)

LISA : 52-year-old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression, *poor sleep*

Clinical Management :

Pharmacotherapy

- pregabalin
- duloxetine

Co-pay savings card, specialty pharmacy, other patient assistance:

https://www.lyrica.com/co-pay-savings-card

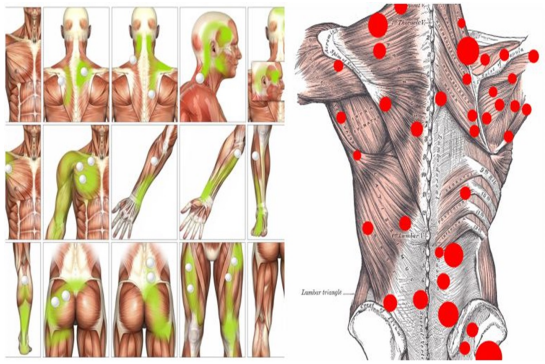
https://www.pfizerrxpathways.com

http://www.lillycares.com/findprogram.aspx

Lilly Cares Foundation Patient Assistance Program: 800-545-6962

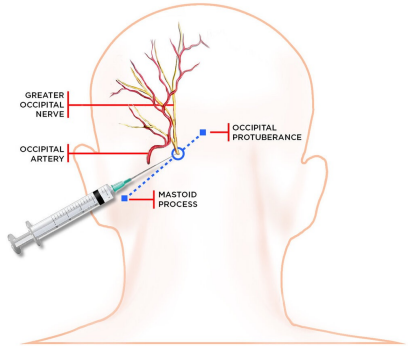
Consider obtaining samples - https://www.pfizerpro.com/support-services

CLINICAL MANAGEMENT: Procedural



<u>Simple to learn in-office procedures</u>

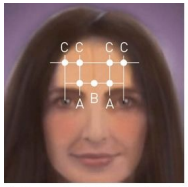
(with or w/o ultrasound)



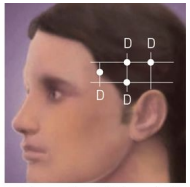
- Patient satisfying

- Reimbursable
  - Work with your billing office to identify coding & create templates for documentation
  - Work with industry – practitioner support for training and reimbursement

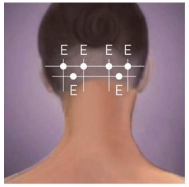
- Save the need for more invasive procedure or ED visit



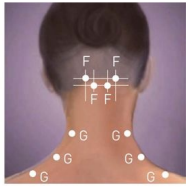
A. Corrugator: 5 Units each side
B. Procerus: 5 Units (1 site)
C. Frontalis: 10 Units each side



D. Temporalis: 20 Units each side



E. Occipitalis: 15 Units each side



F. Cervical paraspinal: 10 Units each side
G. Trapezius: 15 Units each side

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CLINICAL MANAGEMENT: Procedural

Make contacts with local interventionalists interventional pain/anesthesia practitioners, PM&R, etc.

- Save time getting patient treatment
- Patient compliance, trust
- Create partnerships with community practitioners
- Save time w/diagnostics {MRI, CT, X-ray, EMG, etc.}

Christina : 52 year old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression, poor sleep

Management : Interventional/procedural therapies

- PREEMPT injections for chronic migraine
- Trigger point injections
- +/- occipital nerve blocks, cervical epidural injection

Tips:

Education & setting patient/treatment expectations important

Community relationships

Behavioral Management

Truths" – mostly

- Insurance rarely covers behavioral management
- Behavioral management is instrumental to effectively managing chronic pain
- Requires an individualized treatment plan
- Most effective when the patient is fully vested/compliant
- Could require life-long investment

- Goals
- Change behavior

- Develop self-control/self-reliance/self-efficacy (internal locus of control)

- Stress reduction

Behavioral Management: Tips

- Sub-specialization
- Psychiatrist – medication management & significant co-morbid mental health needs
- Psychologist/Psycho-pharmacologist
- Social Workers (therapists)
- Community classes/groups/1:1 therapy
- Plethora of online resources

If insurance covers – optimal refer to psychologist (experience/graduate training in pain management)

www.ncapp.net

https://www.psychologytoday.com/us/therapists/chronic-pain

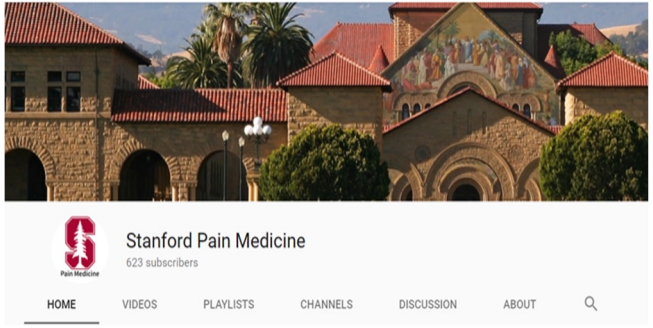
Introductory Chronic Pain Educational Resources

Retrain Pain Foundation:

https://www.retrainpain.org

Stanford Pain Management Educational videos:

https://www.youtube.com/user/stanfordpainmedicine



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Resources: Stress Reduction

Online Mindfulness-Based Stress Reduction (MBSR)

https://palousemindfulness.com/index.html

University of California San Diego's Center for Mindfulness

https://health.ucsd.edu/specialties/mindfulness/Pages/default.aspx

University of Massachusetts Center for Mindfulness

https://www.umassmed.edu/cfm/

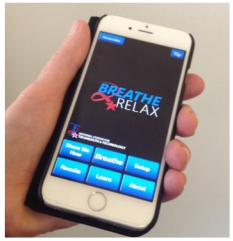
Macquarie University, Australia: Free cognitive behavioral therapy (CBT) pain course: https://ecentreclinic.org/?q=PainCourse

Resources: Stress Reduction: Apps

HEADSPACE – Teaches the basics of meditation & mindfulness in just 10 minutes a day

MINDFULNESS – Has a large variety of meditations for both relaxation & mindfulness exercises

KARDIA – Hands-op paced breathing exercise



Breathe2Relax – Personalized stress management tool

Resources: Sleep Improvement

Journal Sleep Review (2014): 6 Online Options for Insomnia Therapy

http://www.sleepreviewmag.com/2014/12/online-options-insomnia-therapy/

SHUTi is a Cognitive Behavioral Therapy for Insomnia

http://www.myshuti.com/

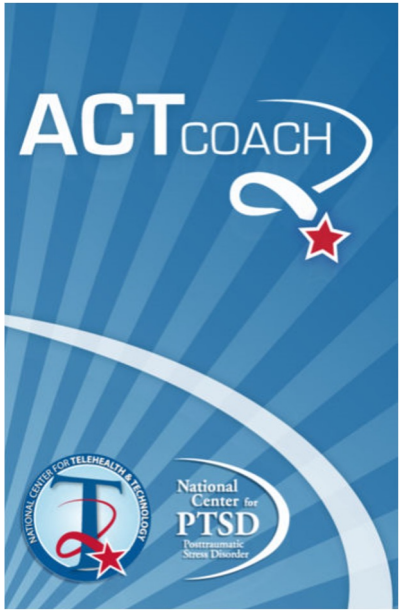
Resources: Pain Coping Skills Training (PCST)

https://www.webmd.com/webmdpaincoachapp

http://www.mobihealthnews.com/tag/pain-coach

Acceptance and Commitment Therapy (ACT): aims to help you live with unpleasant thoughts, feelings, and impulses without avoiding them or being controlled by them.

https://mobile.va.gov/app/act-coach



Christina : 52 year old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression, poor sleep

- Stanford Pain Management Educational videos
- HEADSPACE APP
- SHUTi

Tips:

Assign “homework”, simple, achievable

Hold patients accountable, involve them actively in their treatment plan

BODY THERAPIES

PHYSICAL THERAPY/FUNCTIONAL IMPROVEMENT

PAIN PSYCHOLOGY WITH PT

(fear avoidance)

<u>Why is it important?</u>

Human body was made to move

- Circulation
- Sleep
- Metabolism
- Digestion
- Endorphin release
- Joint mobility/flexibility/bone health/strength
- Improves coordination, reduces risk of injury

BODY THERAPIES: Resources

Therapeutic - Mindful Movement – YouTube
Videos & audiofiles of yoga, Tai Chi, and therapeutic exercise recommendations:
https://www.youtube.com/playlist?list=PLRMR9d2AGUQcbReG-NQSPiF8EoSOUxQ6X

Awareness Through Movement (Feldenkrais)
http://www.unfetteredmovement.org/awarenessthroughmovement/
https://www.feldenkraisresources.com/Awareness-Through-Movement-Basic-Series-p/2103-mp3.htm

https://www.youtube.com/watch?v=v8LV9jOun3c
https://www.youtube.com/watch?v=lKUSZsM3Tp8

BODY THERAPIES: Tips

- Not all therapists are created equal
- Get to know the therapists in your area
- Get to know therapist subspecialties
  - Online searches: http://www.womenshealthapta.org/pt-locator/

- Tailor the referral to the patient's needs
- Community classes: pools (warm), yoga, Tai-Chi
- Have a list of simple exercise & on-line resources available

Christina : 52 year old female w/fibromyalgia, chronic migraine, irritable bowel, mild depression, poor sleep

Therapy

- Referral to community physical therapist, education, safe exercises.
- Problem solve barriers to activities.

Tips:

Goals simple, achievable.

Encourage pacing.

Hold patients accountable, involve them actively in their treatment plan.

Specify instructions to Physical Therapist & request progress reports.

Resources

Pain support groups:

- American Fibromyalgia Association: http://www.afsafund.org/
- Complex Regional Pain Syndrome foundation: https://rsds.org/
- American Chronic Pain Association: www.theacpa.org
- American Pain Society: www.americanpainsociety.org
- Arthritis Foundation: www.arthritis.org
- Arthritis Society: www.arthritis.ca
- Biofeedback Provider Search: www.bcia.org
- Mount Sinai Beth Israel Hospital: www.stoppain.org
- National Center for Complementary and Alternative Medicine: https://nccih.nih.gov/health
- National Pain Foundation: http://www.thenationalpainfoundation.org
- Veterans Administration: https://www.va.gov/painmanagement/

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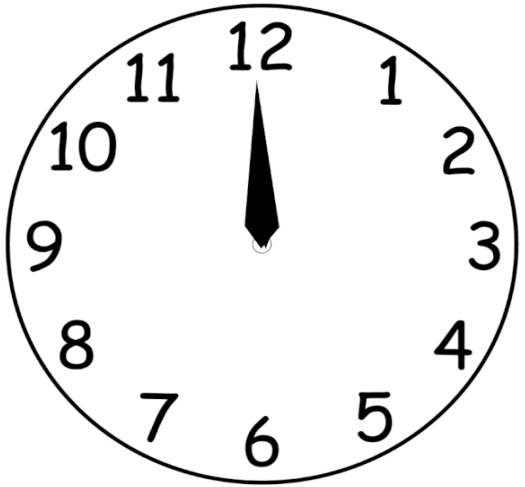
Multidisciplinary Panel with Case Vignettes
Countdown Clock on Screen: Jeremy to Moderate

- Introduce the section, ground rules, etc.

  - Assessment (3 case-studies)
  - Treatment (5 case-studies)
  - Don't miss cases! (3 case-studies)



Assessment: Migraine

- CC Headache
  - H&P and Exam
- Atypical symptoms/Risk factors?
  - Further work-up
  - Imaging
  - Referral
- If no atypical symptoms/risk factors, dx primary headache disorder: migraine most common.

Complete History & Exam

(Gobel, et al., 2020; The International Classification of Headache Disorders, 3rd edition, 2018)

Exclude Secondary Headaches
- Screen for red flags

Duration
- Headache attacks lasting 4–72 hours

Headache has at least two characteristics
- Unilateral location
- Pulsating quality
- Moderate to severe pain intensity
- Aggravation by or causing avoidance of routine physical activity

During headache at least one of the following
- nausea and/or vomiting
- photophobia and phonophobia

Migraine ID-3™

(Mattos, et al., 2017; Cousins, et al., 2011; Lipton, et al., 2003)

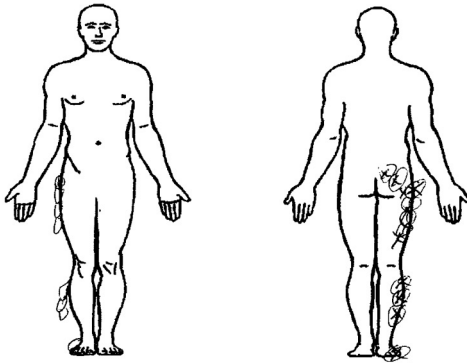
Has a headache limited your activities for a day or more in the past 3 months?

Are you nauseated or sick to your stomach when you have a headache?

Does light bother you when you have a headache?

Telemedicine Consult/Assessment – cc Right Leg Pain

- 53 y.o. male with 4 weeks right buttock pain radiating below right knee. No prior surgery
- No injury/trauma, developed over 24 hours to 9/10
- Pain is aching/stabbing, interferes with sleep
  - Aggravated:lifting, sitting, rotating, coughing, forward bending at waist
  - Alleviated: laying down (+position of comfort)
  - Associated numbness in lateral right foot. No bowel/bladder dysfunction
- PHx: HTN, Bipolar Depression
- No reports tobacco, drug use or alcohol
- Physical Therapy - no improvement
- Slight relief with ibuprofen



Telemedicine Consult/Assessment – cc Right Leg Pain

Exam:

- Tenderness: Patient identified right lumbar paraspinous muscles and buttock - did not report radiating pain when palpated
- Lumbar ROM: Flexion - Very restricted/right leg pain, Full extension/rotation/lateral bending without pain
- Sensory: Patient outlines well demarcated sensory loss covering right lateral foot
- Motor: Unable to toe walk on with right foot drop and unable to repeatedly plantar flex against body weight. Squat okay
- Spose guided straight leg raise - positive

Imaging:

- MRI Lumbar Spine - L5-S1 right disc extrusion with impingement of right traversing S1 nerve root resulting in right lateral recess and NF stenosis

Assessment: Opioid Use Disorder

- As defined by the DSM-V, OUD is a problematic pattern of opioid use leading to clinically significant impairment or distress; it is typically unintentional
- Diagnosis requires that at least 2 of the following take place within a 1-year period:

- Taking drugs in larger amounts or over a longer period of time than intended
- Persistent desire or unsuccessful efforts to cut down or control opioid use
- Spending a great deal of time obtaining/using the opioid or recovering from its effects
- Craving, or a strong desire or urge to use opioids
- Problems fulfilling obligations at work, school, or home
- Continued opioid use despite having recurring social or interpersonal problems
- Giving up or reducing activities because of opioid use
- Using opioids in physically hazardous situations
- Continued opioid use despite ongoing physical or psychological problems likely to have been caused or worsened by opioids
- Tolerance (ie, need for increased amounts or diminished effect with continued use of the same amount)
- Experiencing withdrawal or taking opioids to relieve or avoid withdrawal symptoms

DSM-V = Diagnostic and Statistical Manual of Mental Disorders, 5th Edition; OUD = opioid use disorder.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013; www.psychiatry.org/patients-families/addiction/opioid-use-disorder.

Stratifying Opioid Use Disorder

Loss of Control		
1	Substance taken in larger amounts or for a longer time than intended	"I didn't mean to start using so much."
2	Persistent desire or unsuccessful effort to cut down or control use of a substance	"I've tried to stop a few times before, but I start using this drug again every time."
3	Great deal of time spent obtaining, using, or recovering from substance use	"Everything I do revolves around using this drug." (In severe cases, most/all of a person's daily activities may revolve around substance use)
4	Craving (a strong desire or urge) to use opioids	"I wanted to use so badly; I couldn't think of anything thing else."

Social Problems		
5	Continued opioid use that causes failures to fulfill major obligations at work, school, or home	"I keep having trouble at work/have lost the trust of friends and family because of using this drug."
6	Continued opioid use despite causing recurrent social or personal problems	"I can't stop using, even though it's causing problems with my friends/family/boss/landlord."
7	Important social, occupational, or recreational activities are reduced because of opioid use	"I've stopped seeing my friends and family and have given up my favorite hobby because of drugs."

Risky Use		
8	Recurrent opioid use in dangerous situations	"I keep doing things that I know are risky and dangerous to buy or use this drug."
9	Continued opioid use despite related physical or psychological problems	"I know that using this drug causes me to feel badly/ messes with my mind, but I still use anyway"

Pharmacological Problems		
10	Tolerance (the need to take higher doses of a drug to feel the same effects, or a reduced effect from the same amount)	"I have to take more and more of the drug to feel the same high."
11	Withdrawal (the experience of pain or other uncomfortable symptoms in the absence of a drug)	"When I stop using the drug for a while, I'm in a lot of pain."

OUD can be stratified into:

- Mild: 2-3 symptoms
- Moderate: 4-5 symptoms
- Severe: 6+ symptoms

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders. 5th ed*. Arlington, VA: American Psychiatric Association; 2013; pcssnow.org/resource/opioid-use-disorder-opioid-addiction/

Common Risk Factors for Opioid Misuse, Abuse, Addiction

- Stressful circumstances (eg, poverty, unemployment, relationship trouble)
- Family or personal history of substance abuse
- Younger age
- History of criminal activity or legal problems, including DUI
- Regular contact with high-risk people or high-risk environments
- Problems with past employers, family members, or friends
- Risk-taking or thrill-seeking behavior
- Heavy tobacco use
- History of mental health issues; severe anxiety or depression
- History of drug or alcohol rehabilitation

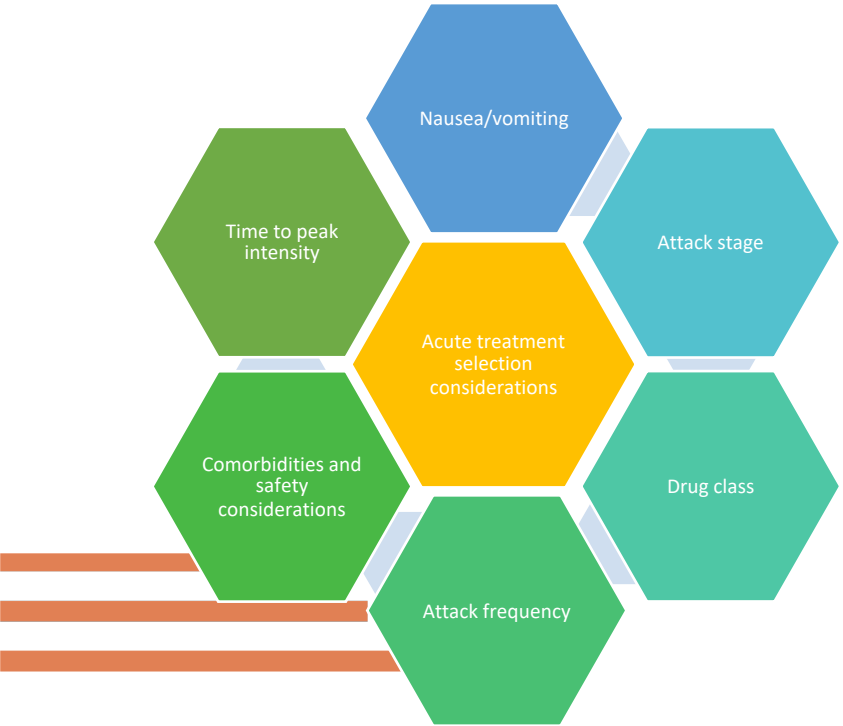
NOTE: Misuse is NOT the same as abuse or addiction

DUI = driving under the influence.

Kaye A, et al. Pain Physician. 2017;20:S93; www.mayoclinic.org/diseases-conditions/prescription-drug-abuse/in-depth/how-opioid-addiction-occurs/art-20360372.

Treatment: Migraine

Factors influencing selection of acute therapy



Acute treatment principles

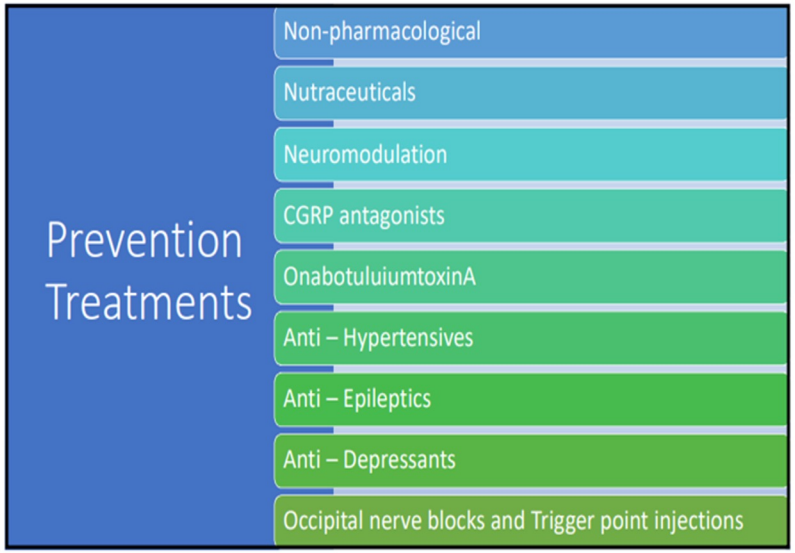
- Treat early in the attack
- Use correct dose and formulation
- Use for maximum of 2-3 days per week
- Stratify treatment
- Consider co-morbidities, patient preference and adherence

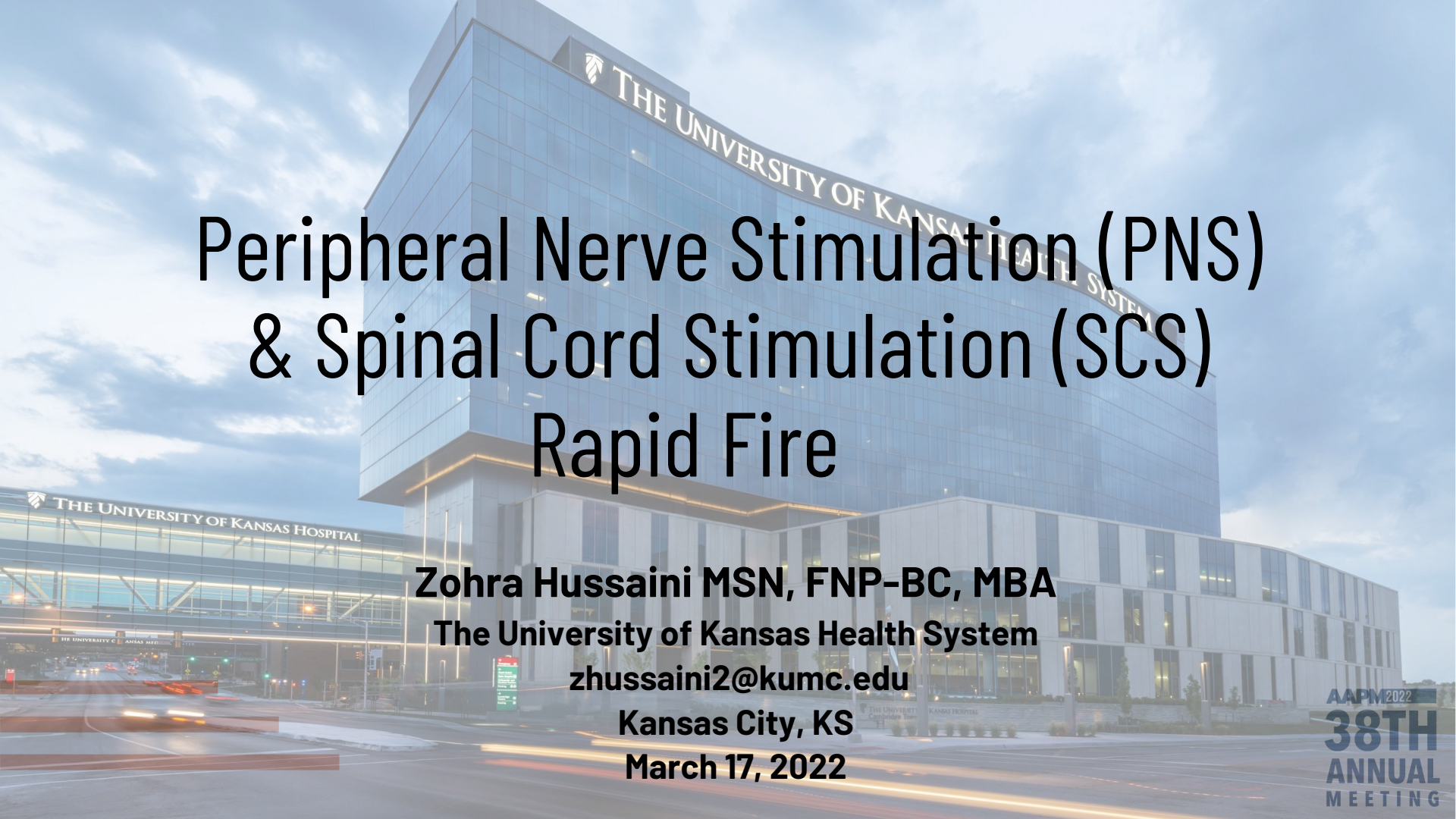
Treatment: Migraine

When to consider prevention

1. Migraine significantly **interferes** with patients' daily routine, despite appropriate acute treatment
2. **Frequent** attacks (>1/week) with risk of progression
3. Acute medications **ineffective**, contraindicated, cause troublesome adverse effects, or overused
4. Patient preference
5. Special circumstances such as:
   - Hemiplegic migraine
   - Brain stem aura
   - Prolonged aura
   - Migrainous infarction

Silberstein SD. *Continuum (Minneap Minn)*. 2015;21(4 Headache):973–989. Lipton RB, et al. *Neurology*. 2007;68:343–349





Peripheral Nerve Stimulation (PNS) & Spinal Cord Stimulation (SCS) Rapid Fire

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Kansas City, KS
March 17, 2022

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Disclosures

- Averitas
- Flowonix
- Medtronic
- Nevro
- PainTeq
- SPR
- Vertos

PNS

Peripheral Mechanism

- disrupts transmission of nociceptive afferent fibers at a peripheral level

Central Mechanism

- may involve the serotonergic (5HT2, 5HT3), GABAnergic, and glycinergic pathways
- increased inhibition of dorsal wide dynamic range neurons
- decreases central sensitization and hyperalgesia by reducing excessive peripheral nociceptive activity in the spinal cord
- induce Arc protein expression in the spinal cord dorsal horn, which inhibits AMPAR, a receptor that facilitates neuropathic, inflammatory, and bone cancer pain
- repetitive PNS inhibits the spinothalamic tract cells

Chronic Low Back Pain
Medial Branch
Chronic Joint Pain
Suprascapular, Axillary
Femoral, Saphenous, Sciatic, etc
Neuropathic, Nerve Injury/Trauma
Intercostal, Median, Ulnar, Radial, Tibial, Pudendal, etc.
Phantom limb pain, CPRS, Persistent post-surgical neuropathic pain

Patient Selection

1. Understanding of diagnosis
2. Identify injured nerve
   - EMG/NCS, imaging, diagnostic block
   - Healthy nerve target and/or ability to stimulate proximal to an injured nerve or region of pain
   - No prior surgeries that may have altered anatomy and/or impede lead placement or use of system
   - No ablation of target nerve <6mo, no recent anesthetic injections which may interfere with stimulation
3. Psych Eval
   - No or low-dose opioid use (daily use <90 mg MME)
   - Little to no history of psych problems or disorders.
   - (uncontrolled depression, SUD, pain catastrophizing, etc.)
4. Patient motivation, intelligence and expectations
   - Has caregiver or can adequately maintain and care for system (cleaning, charging, operating remote) and bandages
   - Able to manage technology
5. Infection/Allergy Risk
   - MRSA+, Smokers, HgA1C ??
   - No allergy to bandages or skin adhesives
6. Low body mass index (BMI), ideally < 30 BMI

CHIEF COMPLAINT: RIGHT KNEE PAIN

Case #1 : Right knee pain
A.B. 40 yr old white female

Subjective

- **Onset**: Work Comp Injury date 01/2017
- **HPI**: constant right knee pain, burning, stabbing, ice pick, swelling, sensitivity
- **Aggravated** by prolonged standing and sitting, and unable to sleep at night due to pain
- **TRX**: monovisc injection 2018 that helped for 6 days & arthroscopy of knee in 2018 with no improvement
- **Meds**: Currently not taking any medications for her pain, past tried gabapentin/lyrica with side effects
- Has been back to work on light duty
- Currently seeing an orthopedic surgeon for possible patello-femoral replacement

Objective

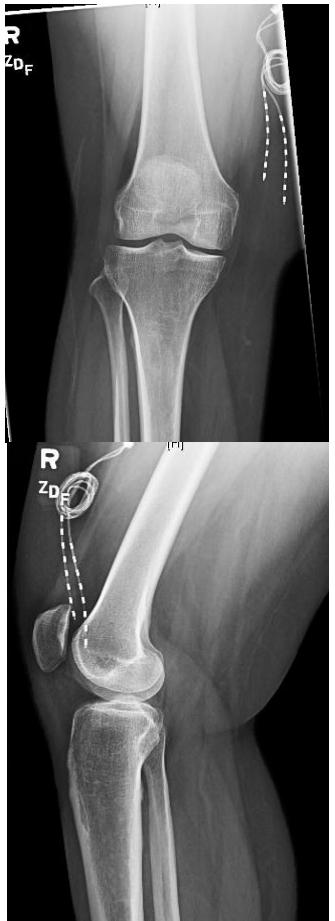
Musculoskeletal:

- Inspection of the knee reveals no significant swelling or erythema on exam.
- no allodynia on exam, but does have some dysesthesia on the medial aspect of the knee.
- 2 well-healed arthroscopic knee incisions.
- some tenderness in the posterior hamstring.
- ROM normal, no instability

Assessment/Plan

1. **CRPS**
2. **Right Knee Pain**

- Amitriptyline
- LSB
  - 80% relief
- **Femoral & Saphenous PNS**



SCS

MOA

- **Gate control theory**
  - Large nerve fiber activation in dorsal column
  - Pulse shape determines nerve fiber response to SCS.
  - Frequency of pulses used to activate large fibers.
- **SCS increases release of inhibitory NT GABA**
  - activates Ach and moderates analgesia

- **Traditional Tonic**
  - constant low freq, dorsal column, parasthesia based stim
- **Burst**
  - closely spaced bursts of stim in higher frequency with reduced amplitude for subthreshold stimulation and reduced parasthesias
- **Differential Targeted Multiplexed**
  - Glial cell-specific modulation, low freq
- **High Frequency 10K Hz**
  - dorsal horn stim at high freq providing direct neuronal inhibition, blocking large diameter fibers, parasthesia-free
- **Dorsal Root Ganglion**
  - primary sensory neuron cell body stim, blocks signals to the CNS for improved focal pain control, low energy requirement
- **Closed Loop**
  - evoked compound action potentials (ECAPs) to maintain therapeutic activation by integrated feedback to nerve fibers, self regulates

Indications

Chronic neuropathic pain from:

- **Non-surgical & Failed Surgical Back Syndrome**
- **Chronic Trunk/Limb pain**
  - Radiculopathy
  - Phantom limb pain
- **CRPS**
- **PDN**
- **Ischemic Disease**
  - Refractory Angina
  - PVD

Pt Education

- Neuropathic pain
- Failed or non-surgical candidate
- Psych Eval
- SCS Trial
- Equipment/Charging
- Post-op Wound Mgmt & Activity Modification
- Routine Follow-up

Case #2 : LBP
J.J.. 80 yr old white male

CHIEF COMPLAINT: CHRONIC LOW BACK PAIN

Subjective

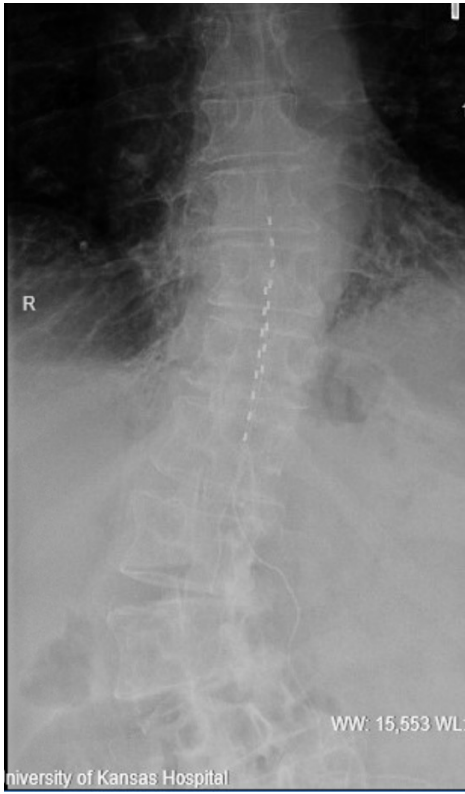
- Random onset 2014 (1st eval 2016)
- Mostly back pain initially but radiculopathy progressed
- Mild weakness, pulling sensation in leg
- Worse with standing and walking
- Improved with rest
- No B/B dysfunction
- TRX
  - Aquatic/PT helps
- MEDS
  - Aleve
  - Tramadol/HCD
  - Acetaminophen

Objective

Assessment/Plan

1. **Lumbar spondylosis**
2. **LSS w/ NC**
3. **Scoliosis**
4. **Lower ext weakness**

- LESI x 2 in 2018
  - 50% relief for 4 & 2 weeks respectively
- Surgery consult 06/2018
  - T10-L5 instrumented fusion
- **SCS Trial**
  - 80% relief
- **SCS Implant 12/2018**
  - “like a miracle”
  - 90-100% pain relief
  - Persisting weakness



Treatment: Opioid Weaning

63-year-old female with PDPN who has been on hydrocodone for 7 years for worening pain. She has done well on stable dosing for many years, continued employment, engaged in social and family activities.

- 9 months ago, she started asking for early refills on 3 separte ocassions, failed to comply with her requested UDS, current PDMP shows other controlled substances from other providers and concomient use of benzodiazepines.
- You have couseled her over the past 2 months, however aberant behaviors continue.
- The decision is to wean completely off her opioids.

Treatment: Opioid Weaning

- No single approach is appropriate for all patients
- May use a range of approaches from a slow 10% dose reduction per week to a more rapid 25% – 50% reduction every few days
- To minimize withdrawal symptoms in patients physically dependent on opioids, consider medications to assist with withdrawal (clonidine, NSAIDs, antiemetics, antidiarrheal agents)
- If opioid use disorder or a failed taper, refer to an addiction specialist or consider opioid agonist therapy
- Counseling and relaxation strategies needed

https://www.cdc.gov/drugoverdose/pdf/clinical_pocket_guide_tapering-a.pdf

Defining terms:

- Tolerance
- Dependence
- Addiction
- Pseudo-addiction

EMPOWER Study

Effective Management of Pain and Opioid-Free Ways to Enhance Relief

PRINCIPAL INVESTIGATOR:

Beth Darnall, PhD

PROJECT STATUS:

In progress; recruiting

FUNDING SUPPORT:

The EMPOWER Study funding is provided by the Patient-Centered Outcomes Research Institute (PCORI).

https://empower.stanford.edu/

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What it involves

- Partnering with your provider to develop a very slow, personalized opioid taper plan that will work for you. (You can stop the taper at any time if you wish)
- Regular clinic follow-ups with your provider
- You will be asked to complete electronic (online) surveys at various study time points.
- When you complete each survey, we will give you an Amazon gift card!

You may be assigned to receive one of the following group pain management classes in addition to your clinical care:

Chronic Pain Self-Management Program (6 weeks)

2.5-hour classes once a week that are led by two trained peer leaders. Leaders have lived experience with successful chronic pain management.

Cognitive Behavioral Therapy (CBT) for Chronic Pain (8 weeks)

2-hour classes once a week with a trained psychologist

CBT helps provide pain relief in a few ways: you will learn skills and information that will help you develop positive coping skills, reduce the impact chronic pain has on your life, and increase the power of your body's natural pain relief response!

Perioperative Opioid Management

Jennifer Hah MD, MS
Assistant Professor
Division of Pain Medicine
Stanford University

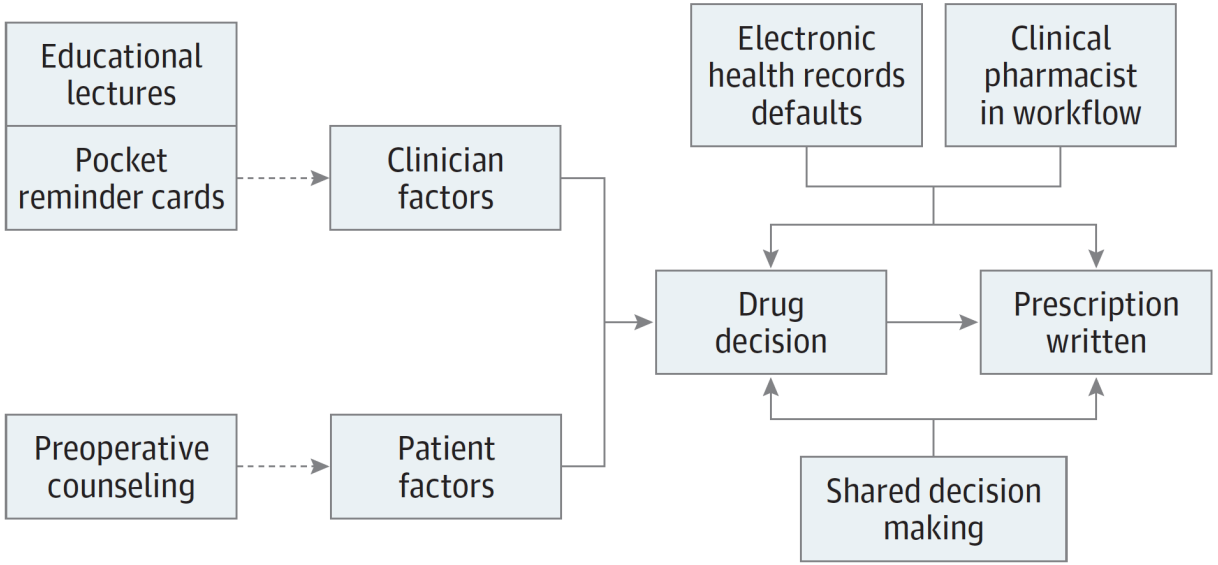
Preoperative Considerations

- Set appropriate expectations
  - Waljee J, McGlinn EP, Sears ED, Chung KC. Patient expectations and patient-reported outcomes in surgery: a systematic review. Surgery. 2014 May;155(5):799-808.
  - Transitional Pain Service or Care Coordination for Transitions
    - Preoperative referral of high-risk patients
    - Intraoperative/Postoperative/and Post-Discharge Pain Management
  - Preoperative Opioid Tapering
    - Retrospective cohort study of 123 THA/TKA patients showed 50% opioid dose reductions resulted in improved pain and functional outcomes
    - Nguyen LC, Sing DC, Bozic KJ. Preoperative Reduction of Opioid Use Before Total Joint Arthroplasty. J Arthroplasty. 2016 Sep;31(9 Suppl):282-7.

Week	Oxycodone Dose (Daily mg)	Oral Morphine Equivalents (Daily mg)
1	100	150
2	90	135
3	80	120
4	70	105
5	60	90
6	50	75
7	40	60
8	30	45
9	25	37.5
10	20	30
11	15	22.5
12	10	15
13	5	7.5
14	0	0

We recommend a taper every week by 10% of original dose until 30% remains. Then, taper by roughly 10% weekly (as feasible with available pill sizes). Clonidine 0.1 to 0.2 mg orally three times daily as needed or 0.1 to 0.2 mg/24 h transdermally every 7 days as needed can be considered for withdrawal symptoms, with close attention paid to potential hypotension or anticholinergic effects. A pause in the weaning protocol may be appropriate based on patient response.[96]

Figure. Model of Factors Affecting Prescribing Decision Making



Dotted lines indicate indirect factors; solid lines, direct factors.

Wetzel M, Hockenberry J, Raval MV. Interventions for Postsurgical Opioid Prescribing: A Systematic Review. *JAMA Surg.* 2018;153(10):948-954.

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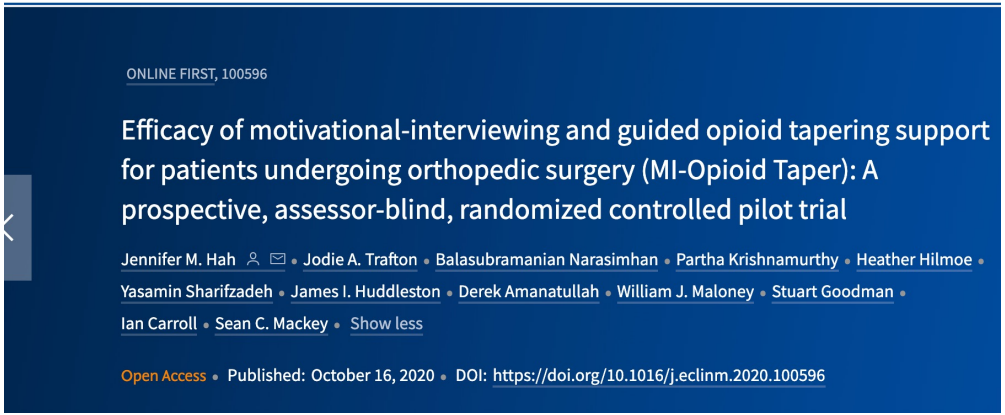


ONLINE FIRST, 100596

Efficacy of motivational-interviewing and guided opioid tapering support for patients undergoing orthopedic surgery (MI-Opioid Taper): A prospective, assessor-blind, randomized controlled pilot trial

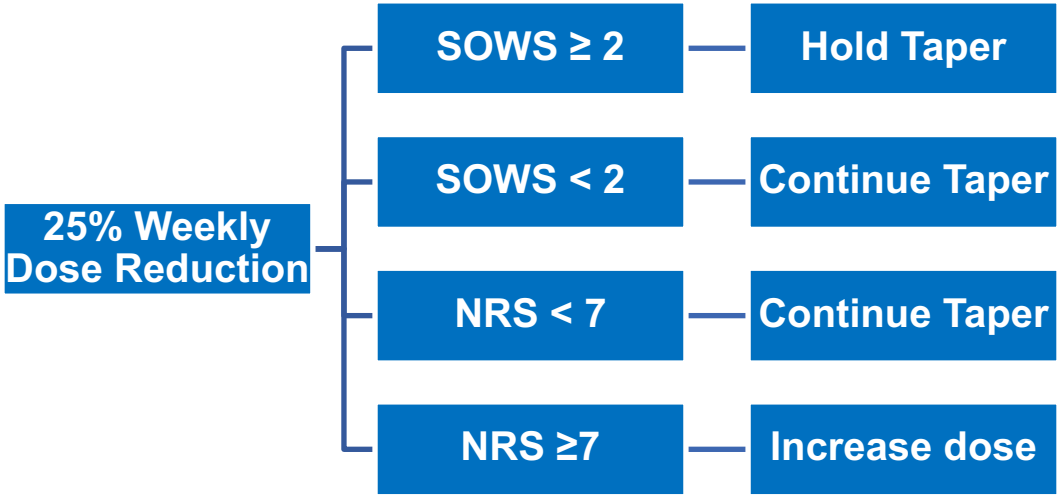
Jennifer M. Hah • Jodie A. Trafton • Balasubramanian Narasimhan • Partha Krishnamurthy • Heather Hilmoe • Yasamin Sharifzadeh • James I. Huddleston • Derek Amanatullah • William J. Maloney • Stuart Goodman • Ian Carroll • Sean C. Mackey • Show less

Open Access • Published: October 16, 2020 • DOI: https://doi.org/10.1016/j.eclinm.2020.100596

Key MI Tools for GOW Sessions
• Open-ended questions to evoke patient's goals for pain management and opioid cessation
• Affirmations to focus on strengths, abilities, or efforts to reduce opioid use
• Reflective (empathic) listening, strategically emphasizing "change talk" such as patient-generated reasons to wean opioids
• Summarizing "change talk" focusing on desire, ability, and reasons for opioid weaning
• Developing discrepancies between goals for opioid cessation and current behavior
• Avoiding argumentation for opioid tapering
• Handling resistance, through reframing or reflecting patient's views to elicit patient's arguments for opioid cessation
• Supporting self-efficacy, noting effort to taper opioids to foster patient's own belief in their ability to reach opioid cessation

MI-Opioid Taper

- Medication adherence
- Medication response
- Opioid weaning advice
- Patient support
- Patient education
- Discussion of non-adherence



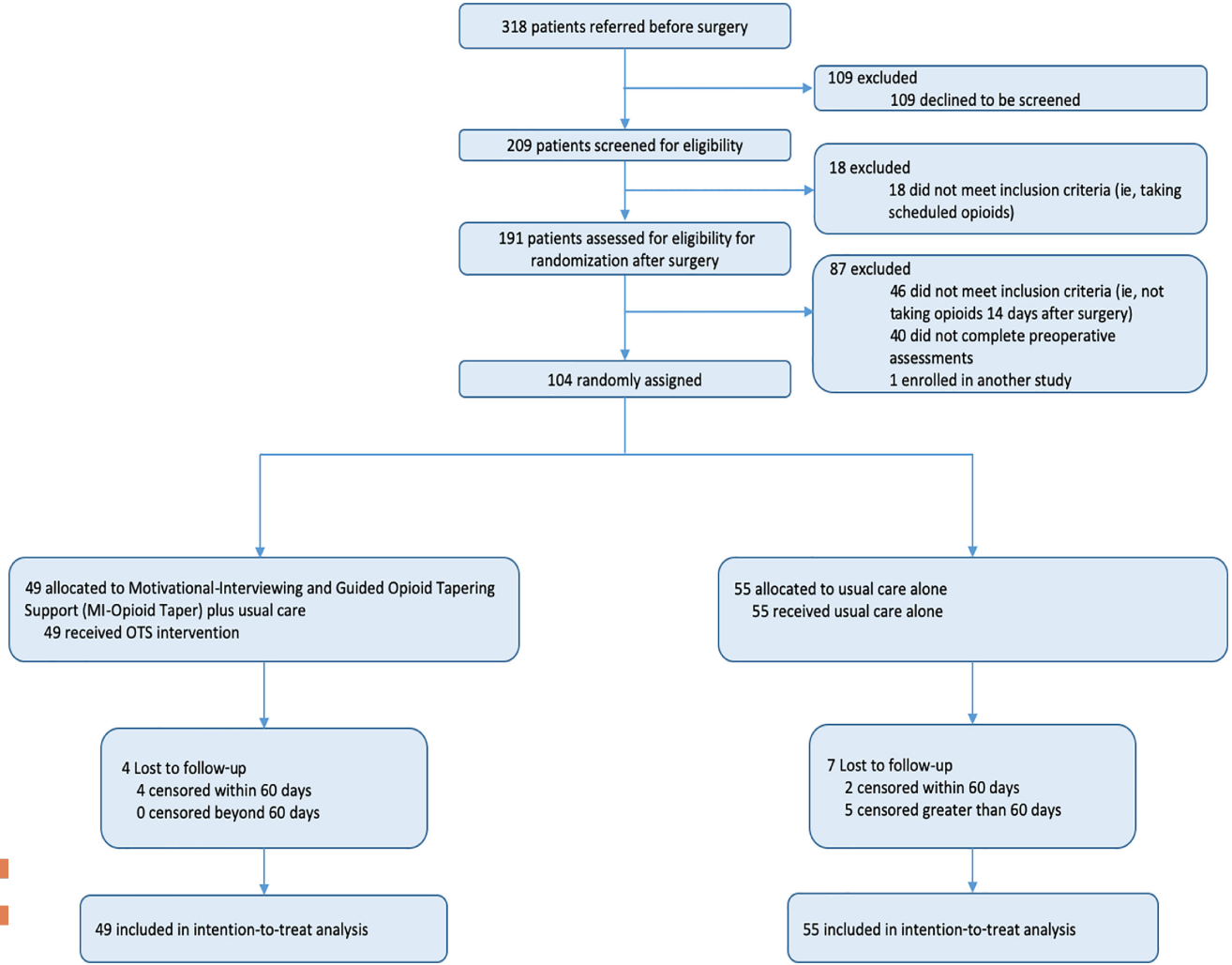


Table 5
Primary and secondary efficacy outcomes.

Outcome	Usual Care Number of Events	MI-Opioid Taper Number of Events	Hazard Ratio (95% CI)	*P* value
Primacy Efficacy Outcome: Time to Baseline Opioid Use[1]	48 of 55	45 of 49		
MI-Opioid Taper vs. UC			1.62 (1.06–2.46)	0.03
THR vs. TKR			1.88(1.23–2.87)	0.004
Secondary Efficacy Outcomes:				
Time to Baseline Opioid Use Per-Protocol Analysis				
MI-Opioid Taper vs. UC	48 of 55	38 of 42	1.57(1.01–2.44)	0.04
THR vs. TKR			1.93(1.24–3.01)	0.004
Time to Complete Opioid Cessation[1]	47 of 55	45 of 49		
MI-Opioid Taper vs. UC			1.53(1.00–2.33)	0.05
THR vs. TKR			1.22(0.80–1.86)	0.4
Time to Pain Cessation[1]	29 of 55	29 of 49		
MI-Opioid Taper vs. UC			1.26(0.75–2.12)	0.4
THR vs. TKR			1.25(0.74–2.12)	0.4
Time to Recovery[1]	38 of 55	32 of 48		
MI-Opioid Taper vs. UC			1.12(0.69–1.81)	0.6
THR vs. TKR			1.22(0.75–1.98)	0.4

[1] Intention-to-treat analysis, adjusted by operation.

Don’t Miss Diagnosis: Headache

52 y/o gay male with history of chronic migraine and cervicalgia, well managed for 15 years.

Monogamous relationship for past 20 years, started a new job, sits at a computer 8 hours a day, increased stress at home.

Initial headache started after a whiplash injury, S/p C4-C6 spinal fusion.

Presents to ED with “worse headache of his life”, B/P 160/87, c/o blurry vision and dizziness.

Don’t Miss Diagnosis: Headache

Chiang CC & VanderPluym J. Diagnosing Secondary Headaches. Practical Neurology. May 2020 - Volume 20 (3).

TABLE. THE SNOOP MNEMONIC FOR SECONDARY HEADACHE DISORDER RED FLAGS

Mnemonic	History features	Physical examination features
Systemic	History of malignancy, immunosuppression, or HIV or complaints of fever, chills, night sweats, myalgias, weight loss, or jaw claudication	Abnormal systemic examination, including blood pressure and temperature
Neurologic	Focal or global neurologic symptoms, including change in behavior or personality, diplopia, transient visual obscurations, pulsatile tinnitus, motor weakness, sensory loss, or ataxia	Abnormal neurologic examination
Onset, sudden	Headache reaches peak intensity in less than 1 minute (thunderclap)	
Onset age <5 or >65	New-onset headache before age 5 years New-onset headache after age 65	
Pattern change	Progressive headache (evolution to daily headache) or change in headache characteristics	
	Precipitated by Valsalva maneuver	
	Postural aggravation	
Papilledema	n/a	Papilledema
Pregnancy	New-onset headache during pregnancy Change in headache during pregnancy	
Phenotype of rare headache	Trigeminal autonomic cephalalgia; hypnic; exercise-, cough-, or sex-induced	

Don’t Miss Diagnosis: Cauda Equina

45 y/o male plumber with 6 mo. history lower back pain with worsening symptoms over the past month, with burning pain radiating into his right foot.

- 12-year history of chronic low back pain with intermittent left sided “sciatica” pain in his thigh. He had noted “tingling” in her genital area, intermittent ED. There was no incontinence.
- On examination, anal tone and perianal sensation were normal, as were power, tone, reflexes, and sensation in the legs.
- The patient was treated conservatively and given advice to follow up if he developed increased leg weakness, became incontinent, or noticed worsening pain.
- Three days later, He was admitted with cauda equina syndrome and underwent surgical decompression. He was left with lower limb weakness, numbness of the genitalia, loss of sexual function, and urinary and fecal incontinence.

Don't Miss Diagnosis: Cauda Equina

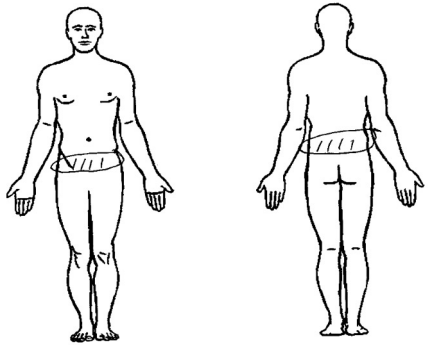
The clinical features considered to be a combination of the following occurring in someone with acute or chronic low back pain: disturbance of urinary function, disturbance of saddle sensation, reduced anal tone, & possibly bilateral sciatica.

- Reduced awareness of bladder filling
- Loss of the urge to void
- Urinary incontinence
- Loss of urethral sensation or altered sensation over the genitalia
- Some alteration of peri-anal sensation (a "numb bum" on wiping).
- There may also be perianal paraesthesia or pain.

Barraclough K. Cauda equina syndrome BMJ 2021; 372 :n32 doi:10.1136/bmj.n32

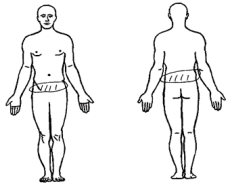
Don’t Miss Diagnosis: Abdominal Pain

- 70 y.o. male with h/o right inguinal hernia repair 2015 and IBS
- Following 10 hours seated at computer in July 2020, new onset of severe (10/10) diffuse abdominal pain with mild back pain
  - Pain is aching (daytime), stabbing (night). Pain is constant
  - Aggravating Factors: Movement, Physical Therapy, Chiropractic
  - Alleviating Factors: Laying down, TENS, Ice, and Heat
  - Denies numbness, tingling, weakness, clumsiness, bowel/bladder dysfunction
- Records indicate pain localized to just medial to bilateral ASIS with pain radiating toward midline with palpation
- Multiple ER Visits for pain control
- Allergies: Sulfa



Abdominal Pain: Workup & Treatment

- Imaging
  - Xray B/L Hips, CT Abdomen & MRI Pelvis : Unremarkable
  - Xray Lumbar Spine (with bending): DDD/Facet OA, slight stable L2-3 retrolisthesis
  - MRI Abdomen w & w/o contrast: Right renal cyst, otherwise unremarkable
  - MRI Lumbar Spine: Multilevel Mild DDD/Facet OA, Mild right L3-4, L4-5 NF Stenosis
- Interventional
  - Bilateral U/S Guided Transversus Abdominis Plane (TAP) Block – Negative & Exacerbated Pain
  - Abdominal TPIs – Left rectus abdominis and external oblique (100% relief for few hours)
- GI Workup: Unremarkable
- Treatment
  - Opioids, SNRI, TCAs, neuropathic medications
  - Physical Therapy
  - Extensive cognitive behavioral therapy



- Exam February 2022 (No abdominal tenderness, normal neuro exam) – pain described in pattern of lower thoracic (T10 or T11) dermatomes
- MRI T-Spine T10-11 posterior disc osteophyte complex and facet arthropathy causing severe central spinal stenosis with cord compression – mildly increased cord signal from myelopathy

Don't Miss Diagnosis: Suicidality

A 30-year-old female diagnosed with Asperger syndrome and with chronic pelvic pain.

History is significant for past early childhood events, abuse, neglect.

Axis 2 – Borderline Personality Disorder & Histrionic Personality Disorder

You have known the patient for 3 years and have found her to be often pleasant and compliant with the treatment plan. However, she also has a tendency to be manipulative and desires to direct her own care. She exhibits attention seeking behaviors.

Don't Miss Diagnosis: Suicidality

- Five-item Brief Symptom Rating Scale (BSRS-5)
- Geriatric Suicide Ideation Scale (GSIS)
- Suicidal Behaviors Questionnaire—Revised (SBQ-R)
- Paykel's questionnaire
- Suicidal Ideation Screening Questionnaire (SIS-Q)

Ghasemi P, Shaghaghi A, Allahverdipour H. Measurement Scales of Suicidal Ideation and Attitudes: A Systematic Review Article. Health Promot Perspect. 2015;5(3):156-168. Published 2015 Oct 25.

Don’t Miss Diagnosis: Open to Audience

AAPM 2022
38TH
ANNUAL
MEETING

Adjourn

- Join us 5:00pm – 6:00pm in **Kierland 4B**
  APP Reception hosted by SPR Therapeutics (no CME provided)
- Nalu APP Advocate Event: 6:30pm (hosts Camilla Binks, NP & Micah Lasley, PA)

- Friday 7-8:15 am - **Culture keeper - Hall West**
  - APP Committee Meeting (formally APRN/PA SIG)

- Next Year 2023 Annual Meeting (TBD)