PCSS O TRAINING
PROVIDERS' CLINICAL SUPPORT SYSTEM For Opioid Therapies

Putting the Pieces Together: Strategies for Pain Management

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Providers' Clinical Support System – Opioid Therapies (PCSSO)

- Grant funded by SAMHSA
- Coalition of professional organizations
- Overarching goal: To offer evidence-based trainings on the safe and effective prescribing of opioid medications in the treatment of pain and/or opioid addiction.
- AAP = 2 Webinars per grant year (6 total)
- www.pcss-o.org

CME

CME credit is available for this Webinar upon completion of an evaluation.

More information will be provided near the end of this presentation.

Speakers


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The speakers have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this CME activity.

Educational Objectives

At the conclusion of this activity participants should be able to:

- ✓ Describe common pharmacologic interventions, including opioid interventions where appropriate for pediatric and adolescent patients with chronic pain.
- ✓ Summarize the efficacy of common non-pharmacologic approaches to child and adolescent pain management.
- ✓ Assess a child/adolescent's potential for medication misuse using the CRAFFT screening tool.
- ✓ Provide anticipatory guidance to the family regarding appropriate use, storage, and safe disposal.

Quick Refresher From Webinar #1

- Webinar #1 – July 2nd
  - "Unraveling the Mystery of Acute and Chronic Pain in the Child & Adolescent"
- Pain can be broadly divided:
  - (A) **Nociceptive pain** - the sensation or noxious stimulus associated with tissue-damage, and is usually protective.
  - (B) **Inflammatory pain** - hypersensitivity associated with tissue damage due to inflammatory mediators.
  - (C) **Pathological pain** - disease state caused by injury to either peripheral or central nervous system (neuropathic) or by its abnormal function (dysfunctional).

Woolf CJ. What is this thing called pain? *The Journal of Clinical Investigation*. 2010;*120*(11), 3742–3744

Types of Pain (Refresher cont'd)

Table 2. Differences between nociceptive and neuropathic pain (modified from Serra', 2006).

Pain types	Nociceptive	Neuropathic
Definition	Pain caused by physiological activation of pain receptors	Pain caused by lesion or dysfunction of the somatosensory system, especially the nociceptive pathway
Mechanism	Natural physiological transduction	Ectopic impulse generation, among others
Localization	Local + referred pain	Confined to innervation territory of the lesioned nervous structure
Quality of symptoms	Ordinary painful sensation (good verbal descriptors)	New strange sensations (poor verbal descriptors)
Treatment	Good response (conventional analgesics)	Poor-moderate response (antidepressants, antiepileptics)

Schestatsky, P., & Nascimento, OJM. (2009). What do general neurologists need to know about neuropathic pain?. *Arquivos de Neuro-Psiquiatria, 67*(4), 1175-1178

Case Scenario #1

Your next patient is a 16-year-old male with a history of Crohn's disease who has had a number of flares in the past year.

He is requesting a refill for hydrocodone.

You have not seen him for 6 months.

He has been going to local urgent care clinics and emergency rooms due to abdominal pain and has been prescribed hydrocodone which he has been taking every 6 hours with partial success

Acute vs Chronic

Acute Pain = Pain < 3 Months

Chronic Pain = Pain > 3 Months

Opioids

- Exert effects through mu, delta, and kappa receptors
- Most profound analgesia effect at the mu receptor
- Side effects
  - Nausea and vomiting
  - Delayed gastric emptying & constipation
  - Cardiovascular effects
  - Biliary tract: Sphincter of Oddi dysfunction
  - Genitourinary system: Urinary retention
  - Skin: Pruritus
- Opioid Induced Hyperalgesia

Codeine

- CYP2D6 converts pro-drug into active metabolite
  - Codeine to Morphine, Hydrocodone to Hydromorphone, Tramadol to O-D Tramadol

We no longer prescribe codeine as an analgesic in our practice.

- Approximately 47% are "poor metabolizers"; they have little CYP2D6, and codeine is less effective for analgesia in these patients
- Conversely, 10% of the population are "ultra rapid metabolizers" – FDA alert

Kelly LE, Rieder M, van den Anker J, et al. More codeine fatalities after tonsillectomy in North American children. *Pediatrics.* 2012;129(5):e1343 -e1347

Choice of PO Opioids for Acute Pain

- Hydrocodone
- Oxycodone IR or SR
- Morphine IR or SR
- Hydromorphone
- Methadone
- Tramadol -SNRI and weak mu-receptor agonist -Avoid using with TCAs, probably all the SSRIs, and hydrocodone to avoid accumulation of tramadol and attendant risk of seizures

Nociceptive Pain

- Acetaminophen
- NSAIDS
- Opioids
  - Moderate to severe acute pain
  - Refractory neuropathic pain
  - BEWARE!!!! Chronic nonmalignant pain

Neuropathic Pain

Therapeutic Class	Drugs
Antidepressants	Tricyclic antidepressants, SSRI, SNRI
Antiepileptics / Anticonvulsants	Carbamazepine, Oxcarbazepine, Phenytoin, Topiramate, Lamotrigine, Levetiracetam, Gabapentin, and Pregabalin
Anti-Arrhythmics	Lidocaine, Mexiletine
Topical Formulations	Lidocaine, Capsaicin, Diclofenac
Analgesics	NSAIDs, Tramadol, Opioids
NMDA Antagonists	Ketamine, Dextromethorphan, GABA Antagonists
GABA Antagonists	Clonazepam and Baclofen
Alpha-2 Agonists	Clonidine, Tizanidine

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Multidisciplinary Model for Pain Management

- Physicians/ ARNP/ PA
- Nurses
- Psychologists
- Social workers
- Physical / occupational therapists
- Other providers

Shannon Odell and Deirdre E Logan. Pediatric pain management: the multidisciplinary approach. J Pain Res. 2013; 6: 785–790.

Acupuncture Clinical Studies

Vickers AJ, Rees RW, Zollman CE, et al. Acupuncture for chronic headache in primary care: large, pragmatic, randomised trial. *BMJ*. 2004;328(7442):744

Tsao J. CAM for pediatric pain: what is state-of-the-research? *Evid Based Complement Alternat Med*. 2007;3(1):143–144.

Reindl TK. Acupuncture against chemotherapy-induced nausea and vomiting in pediatric oncology. Interim results of a multicenter crossover study. *Support Care Cancer*. 2006;14(2):172-6.

Biofeedback Modalities

- Electromyograph (EMG)
- Skin Temperature
- Galvanic Skin Response (GSR)/ Electrodermal Response (EDR)
- Respiratory rate
- Cardiac rate
- Heart Rate Variability
- EEG(neurofeedback)

Biofeedback Research

Nestoriuc Y, Martin A. Efficacy of biofeedback for migraine: a meta-analysis. *Pain*. 2007; 28(1-2):111-27.

- 86 outcome studies; 55 studies met inclusion criteria
- BFB was more effective than control conditions.
- Blood-volume-pulse feedback yielded higher effect sizes than peripheral skin temperature feedback and electromyography feedback.
- BFB in combination with home training to be more effective than therapies without home training.

Massage Research

Beider S, Moyer CA. Randomized controlled trials of pediatric massage: a review. *Complement Alternat Med*. 2007;4(1):23-34.

Music Therapy

- Caprilli S, Anastasi F, Grotto RP, et al. Interactive music as a treatment for pain and stress in children during venipuncture: a randomized prospective study. *J Dev Behav Pediatr*. 2007;28(5): 399-403.
- Hartling L, Shaik MS, Tjosvold L, et al. Music for medical indications in the neonatal period: a systematic review of randomised controlled trials. *Arch Dis Child Fetal Neonatal Ed*. 2009;94(5):F349-F354.
- Treurnicht, NK, Kingsnorth S, Lamont A, et al. The effectiveness of music in pediatric healthcare: a systematic review of randomized controlled trials. *Evid Based Complement Alternat Med*. 2011:464759

WHO Analgesic Ladder

- Initially developed for treatment of cancer pain
- Has grown to include most types of pain, malignant and non-malignant
- Time course and progression of pain an important consideration

Source: World Health Organization
www.who.int/cancer/palliative/painladder/en/

Considerations for Chronic Opioid Prescribing

- Persistent pain unable to be managed with other means
- Improvement in pain and function, low SE
- Able to utilize therapy appropriately, returns for F/U
- Stable mood and psychological functioning

Evidence-Based Guidelines

- American Society of Interventional Pain Physicians (ASIPP) Guidelines for Responsible Opioid Prescribing in Chronic Non-Cancer Pain – Evidence and Guidelines
- (ASIPP Opioid Guidelines 2012)

ASIPP 2012 Evidence

- Prescribing, supply, non-medical use increasing
- Long-acting opioids contribute to increasing fatalities.
- Long term effectiveness not well studied
- Co-morbid conditions at more risk
- Non-compliance difficult to track

ASIPP 2012 Guidelines for Opioid Therapy

- Diagnosis physical and psychological, treatment goals, contraindications, monitoring; consider pain consult
- A robust agreement by all parties is essential in initiating and maintaining opioid therapy and such agreements reduce overuse, misuse, and diversion

ASIPP 2012 Guidelines

- Start low dose, short acting drugs
- Escalation to long-acting >> caution
- Methadone - experienced clinicians; check EKG
- Bowel regimen
- Chronic opioid therapy may be continued with continued **adherence monitoring** in **well-selected populations**, in conjunction with or after **failure of other modalities** with improvement in **physical and functional status** and **minimal adverse effects**

Databases

- State Specific Inquiry:
  - www.nascsa.org/stateprofiles.htm
- Emergency Department Information Exchange (EDIE)

Tolerance and Substance Use Disorder or Addiction

- Tolerance – a physiologic process of adaptation
- Substance Use Disorder or addiction – a psychological process

Case Scenario #2

Your next patient is a 15-year-old female who had anterior cruciate ligament replacement surgery 4 months ago. She had been going to physical therapy regularly but has gotten frustrated at her lack of progress and still has intermittent pain. Her surgeon thinks she is on target in her recovery.

She has been taking ibuprofen 2 to 3 times a week with only partial pain relief and wants something stronger. She also wants something for sleep.

What should you do?

Assessing for Potential Misuse

- CRAFFT
  - Questions to identify adolescents at risk for substance use
  - Quick assessment
  - Not a diagnostic tool

Harris SK, Louis-Jacques J, Knight JR. Screening and brief intervention for alcohol and other abuse. *Adolesc Med State Art Rev*. 2014 Apr;25(1):126-56.

CRAFFT

C Have you ever ridden in a car driven by someone (including yourself) who was "high" or had been using alcohol or drugs?

R Do you ever use alcohol or drugs to relax, feel better about yourself, or fit in?

A Do you ever use alcohol or drugs while you are by yourself, or alone?

CRAFFT

F Do you ever forget things you did while using alcohol or drugs?

F Do your family or friends ever tell you that you should cut down on your drinking or drug use?

T Have you ever gotten into trouble while you were using alcohol or drugs?

2 or more "yes" answers suggest that the adolescent may have a serious problem with substance use, and additional assessment is warranted.

Knight JR, et al. 2002

Case Scenario #2

- On CRAFFT screening she does answer yes to one question.
- You refer back to physical therapy and work on alternative methods to help her including massage biofeedback and acupuncture.
- You discuss sleep hygiene and ask her to follow up with you in a month.

Back to the Case Scenario #1

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Back to the Case Scenario #1

- On further questioning with your patient without parents in the room, you discover that your patient has many other stressors in his life including conflict between his parents and financial difficulties.
- On CRAFFT screening he answers yes to 3 questions.
- You ask if you can bring in other health care professionals to help him and his family such as a pain psychologist or social worker, and chemical dependency counselor.

Anticipatory Guidance for Families

- Appropriate use, storage, and safe disposal
  - Seehusen DA, Edwards J. Patient practices and beliefs concerning disposal of medications. *Am Board Fam Med*. 2006;19(6):542-7
- Discuss storage of parents' or other family members' prescriptions
- Talk to your kids about use of drugs and alcohol and other drugs including narcotics

Changes You May Wish to Make In Practice

- Screen your patients for substance abuse using CRAFFT
- Limit prescription and refill
- Consider using an opioid contract with the adolescent
- Utilize Prescription Monitoring Databases according to State requirements.
- Communicate with patient and families about medicine cabinets and how to properly dispose of unused narcotics and other prescription medicine

Q & A

- Please use the chat box to submit a question for the speakers.
- Follow-up discussion – August 12th @ 11am central
  - 877-273-4202 | Room #: 9156562
- Obtaining CME
  - After the event, you will receive a link taking you to an evaluation. Upon completion, you will be emailed your CME certification.

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- This program is accredited for 1.0 NAPNAP CE contact hours of which 0 contain pharmacology (Rx), (0 related to psychopharmacology) (0 related to controlled substances), content per the National Association of Pediatric Nurse Practitioners (NAPNAP) Continuing Education Guidelines.

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PCSS-O is a collaborative effort led by American Academy of Addiction Psychiatry (AAAP) in partnership with: Addiction Technology Transfer Center (ATTC), American Academy of Neurology (AAN), American Academy of Pain Medicine (AAPM), American Academy of Pediatrics (AAP), American College of Physicians (ACP), American Dental Association (ADA), American Medical Association (AMA), American Osteopathic Academy of Addiction Medicine (AOAAM), American Psychiatric Association (APA), American Society for Pain Management Nursing (ASPMN), International Nurses Society on Addictions (IntNSA), and Southeast Consortium for Substance Abuse Training (SECSAT).

For more information about PCSSO, visit: www.pcss-o.org
For questions PCSSO, email: pcss-o@aaap.org

AAP Section on Anesthesiology and Pain Medicine: www2.aap.org/sections/anes
AAP Committee on Substance Abuse: www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/substanceabuse

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