

Pain and Symptom Management for Children with Serious Illness: Challenges and Opportunities in the Context of the Opioid Epidemic

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We will do everything possible
to prevent and treat pain.

Disclosure

- The views presented in this lecture are my own. No conflict of interest exists with my presentation
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Learning Objectives: “Opioid Epidemic”

- Explore, whether a 2016 CDC guideline for adults resulted in significant increase of suffering of infants, toddlers, children and adolescents in the United States
- “Opioid Epidemic” = “Polypharmacy Illicit Drug Epidemic”
- **What are pediatric challenges?**
- **Where are pediatric opportunities?**

Inappropriate Analgesia:

- Children with persistent pain suffer more physical symptoms in adult life, more anxiety and more depression 1946 Medical Research Council and 1958 National Child Development Study

- Inadequate analgesia for initial procedures in children diminishes effect of adequate analgesia in subsequent procedures Weisman SJ, Bertram B, Schechter NL. Consequences of inadequate analgesia during painful procedures in children. Arch Pediatr Adolesc Med 1998; 152:147-9

- NICU: increased morbidity & mortality Arand JS, Barton SA, McMahon N, Lagercrantz H, Pilousis E, Young TE, et al. Analgesia and sedation in preterm neonates who require ventilatory support: results from the NOPAIN trial. Neonatal Outcome and Prolonged Analgesia in Neonates. Arch Pediatr Adolesc Med 1999 Apr; 153(4):311-8



Trauma & post-traumatic stress disorder (PTSD)

- Children with **injury** or **acute burns**: Higher doses Morphine was associated with lower levels of PTSD at follow-up months after major trauma

Nixon RJ, Maloney FJ, Ellis AA, Bart SA, Haines A, McKeown AC. Predictors of posttraumatic stress in children following injury: The influence of age, gender, heart rate, and morphine use. Behaviour research and therapy 2010 Aug;48(8):816-5; Saw G, Goodford E, Coomaraswamy K, Chanana N, Sheridan R, et al. Relationship between acute morphine and the course of PTSD in children with burns. Journal of the American Academy of Child and Adolescent Psychiatry 2001 Aug;40(8):915-21; Goodford FJ, Sorrentino EA, Caranoglu TA, Saw G, Murphy PJ, Drake JE, et al. Preliminary evidence for the effects of morphine on posttraumatic stress disorder symptoms in one- to four-year-olds with burns. J Burn Care Res 2009 Sep-Oct;30(5):836-43.



More than 115 children die in the US every day...

- More than 1 child every 15 minutes...



Osterman MJ, Kochanek KD, MacDorman MF, Strobino DM, Guyer B. Annual summary of vital statistics: 2012-2013. Pediatrics 2015; 135:1115-1125.



Boeing 747-400

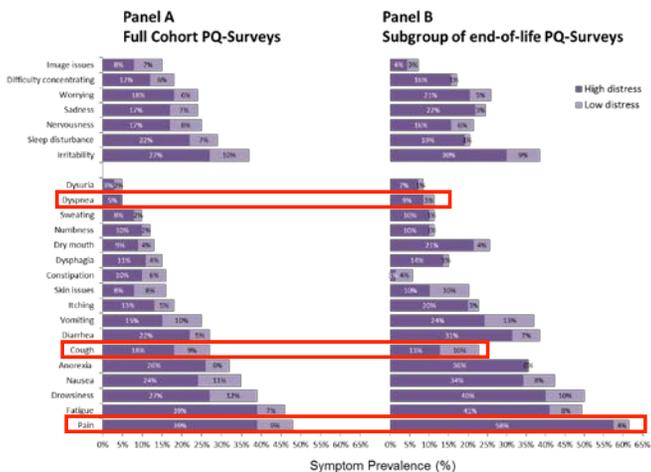
416 passengers

US Health Care System...?

- USA: (conservatively estimated)
- 237,000 children live with life-limiting conditions (LLC)
- 570 "Boeing 747"
- > 15,000 children 0-17 years die each year due to life-limiting conditions
- 36 "Boeing 747"
- one crash every 10 days



Distressing Symptoms Requiring Opioids?



Wolfe J, Orellana L, Ulirich C et al. Symptoms and Distress in Children with Advanced Cancer: Prospective Patient-Reported Outcomes from the PediQUEST Study, JCO 2015.

Opioids

- **Opioids are associated with many side effects and are potentially lethal**
- **But, no other analgesics equal in potency and effect have been discovered or developed to reduce suffering**
- **Opioids need to provide adequate treatment of pain and suffering after surgeries, burns, physical trauma, and medical illnesses such as sickle cell crisis, cancer, and pancreatitis etc.**



Krane EJ, Weisman SJ, Walco GA. The National Opioid Epidemic and the Risk of Outpatient Opioids in Children. Pediatrics. 2018;142(2)

The one with the “opioid epidemic”...





Addiction

“Charlotte, I am worried about addiction. When children are in severe pain, it's best just to NOT give them any opioids, am I correct...?”

<https://www.youtube.com/watch?v=7Csu0p9eu2W>

“How many children have to suffer needlessly from pain to avoid one opioid death?”



simple
question



- Does prescribing opioids to children in pain result in increased risk of drug abuse in adulthood?

Substance use disorder



- Age 35: Multiple cohorts of nationally representative probability samples of U.S. high school seniors (n = 4072)

Waltz P, Schusterberg JE. Adverse effects of exposure to prescription opioids and substance use disorder symptoms at age 35 in a national longitudinal study. Pain. 2016;157(10):2175-8. McCabe SE.

- **Appropriate medical use of prescription opioids in adolescence NOT associated with substance use disorder in adulthood**
- **Whereas any nonmedical use predicted substance use disorder symptoms**

- Risk of substance use behaviors during adolescence substantially increased if adolescents reported any history of nonmedical use of prescription opioids, whereas appropriate medical use of prescription opioids did not seem to be associated with substance use behaviors

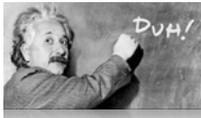
McCabe SE, Boyd CJ, Young A. Medical and nonmedical use of prescription drugs among secondary school students. J Addict Health 2007;9(2):48-55. McCabe SE, Stinson FS, Boyd CJ. Medical use, nonmedical use, and temporal use of prescription opioids: results from a longitudinal study. PAIN 2011;154:198-213. McCabe SE, Stinson FS, Boyd CJ. Medical and nonmedical use of prescription opioids among high school seniors in the United States. Arch Pediatr Adolesc Med 2012;166:797-802.

Medical "Misuse"

- Two public school districts in Metro Detroit 2009-2010: 11% opioid use or misuse last year

McCabe, S. E., & T. V. White, et al. (2012). "Medical use, medical misuse and nonmedical use of prescription opioids: Results from a longitudinal study." Pain 154(3): 708-713.

- 4 out of 5 adolescents (grade 7-11) used opioids as prescribed.
- 20% (n=95) reported misuse, of those:
 - 76% (n=72) "for pain relief only"

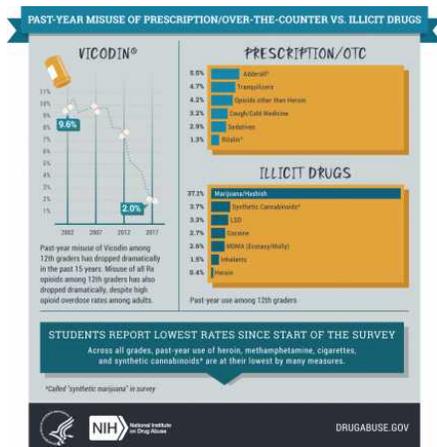


- 24% (n=23) "for non-pain relief" (because it gives me a high, because it counteracts the effects of other drugs, because of experimentation, because it is safer than street drugs, because it helps me sleep, because it decreases anxiety, because I am addicted)

- adolescents with physical pain, mental health, sleep problems were more likely to use and misuse opioids

Misuse of opioids among US 12th graders dropped dramatically despite high overdose rates among adults

https://www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2017-survey-results



CDC Guideline for Prescribing Opioids for Chronic Pain — United States, 2016

<http://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm>

- Scope: "patients aged ≥ 18 years with chronic pain outside of palliative and end-of-life care" and "treating patients with chronic pain (i.e., pain lasting >3 months or past the time of normal tissue healing) in outpatient settings"
- "recommendations do not address the use of opioid pain medication in children or adolescents aged <18 years"
- Yet... children are suffering TODAY because of this (and other guidelines / regulations) ...**



2016 CDC Guidelines for Prescribing Opioids for Chronic Pain:

- 0% pediatric content
- 0% pediatric evidence
- 0% pediatric specialists

2 of my Patients

- Sophia, 11 years
- Freya, 13 years



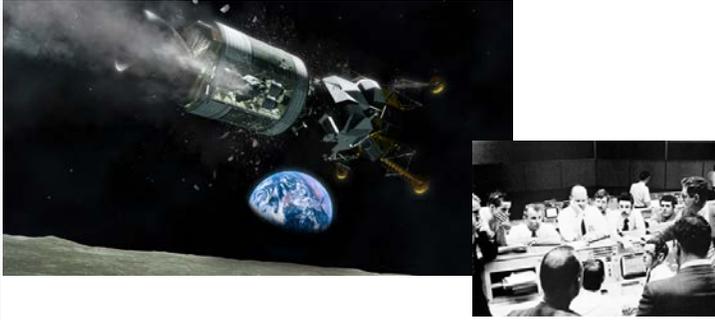
So, what amount of opioid prescribing is appropriate?



Multimodal analgesia

act synergistically for more effective pediatric pain control with fewer side effects than single analgesic or modality

- **Acute Pain**
 - Medications (Opioids, simple analgesia, Adjuvant medications)
 - Interventions (nerve block, epidural)
 - Rehabilitation (PT, OT)
 - Psychology (CBT)
 - Integrative (“non-pharmacological”) modalities
- **Chronic Pain: Pediatric Pain Clinic**
 - Rehabilitation (PT, OT)
 - Integrative (“non-pharmacological”) modalities
 - Psychology (CBT)
 - Normalizing Life (school, sleep etc.)
 - Opioids usually contraindicated





Pain Treatment

“Fluffy, do children in pain have access to a pediatric pain clinic with psychology, physical therapy and yoga in USA...? Do health insurers cover costs for those evidence-based treatments...?”

Pediatric Patients: Status-Quo

- Most pediatric patients do **NOT** have **access to** effective safe alternatives to opioids that are **covered by insurance (!)**
- **Designated Inpatient Pain Teams**
- **Interdisciplinary Pain Clinics**
 - Physical Therapy
 - Psychology
 - Integrative (non-medicine strategies)
- **Mental health services**
- **Drug treatment programs**

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@NoNeedlessPain

Major cause of opioid crisis are Health Insurers putting profit over patient care: a.k.a. "Pre-Authorization"





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America has opioid crisis, but 2.5 million children in poor countries die without analgesia

washingtonpost.com/national/2017/...



Conclusions

- **Children in severe acute pain and during their end-of-life are suffering TODAY because adult “experts” made “adult guidelines” with NO consideration toward children (22% of our population)**
- Withholding evidence-based analgesia to children in pain not only unethical, but causes immediate and long-term harm
- Potential risks in safety of analgesics real, but manageable; cannot justify denying administration of opioids to pediatric patients with severe tissue injury / end-of-life
- Opioids contraindicated in chronic pain
- While prescription opioids continue to play part in the crisis, illicit drugs are driving forces behind the increase in unintentional overdose deaths in the United States

Opportunities....?

- **To avoid children, teenagers (and adults) dying of opioids and illicit polypharmacy: Pediatric patient need to have access to**
- **i.e. offered by health care systems...**
- **...and treatment must be covered by health insurance...**
- interdisciplinary outpatient pediatric pain clinics
- inpatient pediatric pain services
- mental health services
- drug treatment programs



Treating Pain & Suffering in Children “Keeping the Eye on the Ball ...?”



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PROMISE**

We will do everything possible
to prevent and treat pain.

**Children's
MINNESOTA**

Put the most amazing people to work.



Save the Date:

Contact: CIPPC@ChildrensMN.org

12th International Symposium on Pediatric Pain (ISPP)

• Basel, Switzerland, June 16-20, 2019 <http://www.ispp2019.org>

Education in Palliative & End-of-life Care [EPEC]: Become an EPEC-Peds Trainer Conference

- Pune, India, January, 19-20, 2019
- Sydney, Australia, March 8-9, 2019
- Minneapolis, MN, USA, Oct 2-4, 2019
- Curso de Capacitadores EPEC-Peds Latinoamérica (in Spanish): South America, Nov 2018
- **Professional Development Workshop**, Minneapolis, MN, USA, Oct 5, 2019

12th Pediatric Pain Master Class

• Minneapolis, Minnesota, USA | June 13-18, 2020

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