Current Trends in Pain Management: Guidelines, Standards and Approaches

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My Work
Welcome to COLORADO
The Opioid Epidemic

• More Americans die each year from drug overdoses than motor vehicle crashes
• At least 50% of all opioid overdoses involved a prescribed medicine
• Sales of prescription opioids in the U.S. nearly quadrupled from 1999 to 2014, but the overall amount of pain Americans report has not changed
• Heroin-related overdose deaths have more than tripled since 2010 and continue to increase

- 2016 ANA, CDC guidelines 2016, IOM relieving pain in America 2011, National pain strategy 2016
Emergency Room (ER) Visits
Nonmedical Use of “Narcotic” Pain Relievers

Estimated number of ER visits involving nonmedical use of “narcotic” pain relievers increased 111% from 2004 to 2008.

Sources of Non-medically Used Analgesics

>60% of opioids used by non-patients are obtained from friends or family members

Centers for Disease Control and Prevention (CDC) Guideline for Prescribing Opioids for Chronic Pain

• Published in JAMA March 2016
• Purpose, Use, and Primary Audience:
  – Primary Care Providers
  – Treating patients ≥18 years with Chronic pain
  – Outpatient settings
  – Does NOT include active cancer treatment, palliative care, and end-of-life care
CDC Guideline for Prescribing Opioids for Chronic Pain

• 12 Recommendations grouped into 3 conceptual areas:
  – Determining when to initiate or continue opioids for chronic pain
  – Opioid selection, dosage, duration, follow-up, and discontinuation
  – Assessing risk and addressing harms of opioid use
CDC Guideline Recommendations: Determining when to initiate or continue opioids for chronic pain

• 1. Opioids not first-line or routine therapy for chronic pain
   – Emphasis on non-pharm, non-opioid preferred
   – Interventional approaches, Multimodal therapies

• 2. Establish and measure progress toward goals

• 3. Discuss benefits and risks of opioid therapy with patients
CDC Guideline Recommendations: Opioid selection, dosage, duration, follow-up, and discontinuation

- 4. Use immediate-release opioids when starting
- 5. Use caution at any dose and avoid increasing to high dosages
- 6. Prescribe no more than needed
- 7. Offer a taper if opioids cause harm or are not helping
CDC Guideline Recommendations: Assessing risk and addressing harms of opioid use

- 8. Evaluate and address risks for opioid-related harms
- 9. Check PDMP for high dosages and dangerous combinations
- 10. Test urine for prescribed opioid and other drugs
- 11. Avoid concurrent opioid and benzodiazepine prescribing
- 12. Treat patients for opioid use disorder (OUD) if needed
Dear Colleague,

I am asking for your help to solve an urgent health crisis facing America: the opioid epidemic. Everywhere I travel, I see communities devastated by opioid overdoses. I meet families too ashamed to seek treatment for addiction. And I will never forget my own patient whose opioid use disorder began with a course of morphine after a routine procedure.

It is important to recognize that we arrived at this place on a path paved with good intentions. Nearly two decades ago, we were encouraged to be more aggressive about treating pain, often without enough training and support to do so safely. This coincided with heavy marketing of opioids to doctors. Many of us were even taught—incorrectly—that opioids are not addictive when prescribed for legitimate pain.

The results have been devastating. Since 1999, opioid overdose deaths have quadrupled and opioid prescriptions have increased markedly—almost enough for every adult in America to have a bottle of pills. Yet the amount of pain reported by Americans has not changed. Now, nearly two million people in America have a prescription opioid use disorder, contributing to increased heroin use and the spread of HIV and hepatitis C.

I know solving this problem will not be easy. We often struggle to balance reducing our patients' pain with increasing their risk of opioid addiction. But, as clinicians, we have the unique power to help end this epidemic. As cynical as times may seem, the public still looks to our profession for hope during difficult moments. This is one of those times.

That is why I am asking you to pledge your commitment to turn the tide on the opioid crisis. Please take the pledge at www.TurnTheTideRx.org. Together, we will build a national movement of clinicians to do three things:

First, we will educate ourselves to treat pain safely and effectively. A good place to start is the enclosed pocket card with the CDC Opioid Prescribing Guideline. Second, we will screen our patients for opioid use disorder and provide or connect them with evidence-based treatment. Third, we can shape how the rest of the country sees addiction by talking about and treating it as a chronic illness, not a moral failing.

Years from now, I want us to look back and know that, in the face of a crisis that threatened our nation, it was our profession that stepped up and led the way. I know we can succeed because health care is more than an occupation to us. It is a calling rooted in empathy, science, and service to humanity. These values unite us. They remain our greatest strength.

Thank you for your leadership.

[Vivek Murthy]
PREScribing Opioids for CHRONIC Pain

Adapted from CDC Guideline

Opioids can provide short-term benefits for moderate to severe pain. Scientific evidence is lacking for the benefits to treat chronic pain.

In general, do not prescribe opioids as the first-line treatment for chronic pain (for adults 18+ with chronic pain > 3 months excluding active cancer, palliative, or end-of-life care).

Before Prescribing

1. Assess Pain & Function
   Use a validated pain scale. Example: PEG scale where the score = average 3 individual question scores (30% improvement from baseline is clinically meaningful).
   Q1: What number from 0 – 10 best describes your PAIN in the past week? (0 = "no pain", 10 = "worst you can imagine")
   Q2: What number from 0 – 10 describes how, during the past week, pain has interfered with your ENJOYMENT OF LIFE? (0 = "not at all", 10 = "complete interference")
   Q3: What number from 0 – 10 describes how, during the past week, pain has interfered with your GENERAL ACTIVITY? (0 = "not at all", 10 = "complete interference")

2. Consider if Non-Opioid Therapies are Appropriate
   Such as: NSAIDs, TCAs, SNRIs, anti-convulsants, exercise or physical therapy, cognitive behavioral therapy.

3. Talk to Patients about Treatment Plan
   - Set realistic goals for pain and function based on diagnosis.
   - Discuss benefits, side effects, and risks (e.g., addiction, overdose).
   - Set criteria for stopping or continuing opioid. Set criteria for regular progress assessment.
   - Check patient understanding about treatment plan.

4. Evaluate Risk of Harm or Misuse. Check:
   - Known risk factors: illegal drug use; prescription drug use for nonmedical reasons; history of substance use disorder or overdose; mental health conditions; sleep-disordered breathing.
   - Prescription drug monitoring program data (if available) for opioids or benzodiazepines from other sources.
   - Urine drug screen to confirm presence of prescribed substances and for undisclosed prescription drug or illicit substance use.
   - Medication interactions. Avoid Concurrent opioid and benzodiazepine use whenever possible.

When You Prescribe

Start Low and Go Slow. In General:
   - Start with immediate-release (IR) opioids at the lowest dose for the shortest therapeutic duration. IR opioids are recommended over ER/LA products when starting opioids.
   - Avoid ≥ 90 MME/day; consider specialist to support management of higher doses.
   - If prescribing ≥ 50 MME/day, increase follow-up frequency; consider offering naloxone for overdose risk.
   - For acute pain: prescribe < 3 day supply; more than 7 days will rarely be required.
   - Counsel patients about safe storage and disposal of unused opioids.
See below for MME comparisons. For MME conversion factors and calculator, go to TurnTheTideRx.org/treatment.

50 MORPHINE MILLLLIGRAM EQUIVALENTS (MME)/DAY:
- 50 mg of hydrocodone (10 tablets of hydrocodone/acetaminophen 5/300)
- 33 mg of oxycodone (~2 tablets of oxycodone sustained-release 15mg)

90 MORPHINE MILLILGRAM EQUIVALENTS (MME)/DAY:
- 90 mg of hydrocodone (18 tablets of hydrocodone/acetaminophen 5/300)
- 60 mg of oxycodone (4 tablets of oxycodone sustained-release 15mg)

AFTER INITIATION OF OPIOID THERAPY

ASSESS, TAILOR & TAPER
- Reassess benefits/risks within 1-4 weeks after initial assessment.
- Assess pain and function and compare results to baseline. Schedule reassessment at regular intervals (~3 months).
- Continue opioids only after confirming clinically meaningful improvements in pain and function without significant risks or harm.

- If over-sedation or overdose risk, then taper. Example taper plan: 10% decrease in original dose per week or month. Consider psychosocial support.
- Tailor taper rates individually to patients and monitor for withdrawal symptoms.

TREATING OVERDOSE & ADDICTION

- Screen for opioid use disorder (e.g., difficulty controlling use; see DSM-5 criteria). If yes, treat with medication-assisted treatment (MAT). MAT combines behavioral therapy with medications like methadone, buprenorphine, and naltrexone. Refer to findtreatment.samhsa.gov. Additional resources at TurnTheTideRx.org/treatment and www.hhs.gov/opioids.

- Learn about medication-assisted treatment (MAT) and apply to be a MAT provider at www.samhsa.gov/medication-assisted-treatment.
- Consider offering naloxone if high risk for overdose: history of overdose or substance use disorder, higher opioid dosage (~50 MME/day), concurrent benzodiazepine use.

ADDITIONAL RESOURCES

CDC GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN:
www.cdc.gov/drugoverdose/prescribing/guideline.html

SAMHSA POCKET GUIDE FOR MEDICATION-ASSISTED TREATMENT (MAT):
store.samhsa.gov/MATguide

NIDAMED: www.drugabuse.gov/nidamed-medical-health-professionals

ENROLL IN MEDICARE: go.cms.gov/pecos
Most prescribers will be required to enroll or validly opt out of Medicare for their prescriptions for Medicare patients to be covered. Delay may prevent patient access to medications.

JOIN THE MOVEMENT
and commit to ending the opioid crisis at TurnTheTideRx.org.
Ending the Opioid Epidemic

- Increase access to treatment: Train physicians and other clinicians who will provide treatment for opioid use disorders.
- Continue to train healthcare professionals in safe and appropriate use of opioids and alternatives to use of opioids for pain.
- Continue to educate the public about the dangers of misuse of pain medications and safe use when necessary including safe storage and disposal.
- Use PDMPs, treatment agreements, and toxicology screens to increase safety.
- Provide evidence-based treatment to all who need it for as long as it is clinically indicated.
  - Treatment of pain
  - Treatment of Substance Use Disorder and Addiction
Pain by the Numbers

- Acute and chronic pain affect large numbers of Americans
  - 2011 IOM report concluded that 100 million adults have chronic pain
  - 2012 survey found 126 million had pain in the previous 3 months

- More than 73 million surgeries each year in U.S.
  - >80% have moderate to severe pain during first 2 weeks after surgery
  - 2014 survey found that 74% had moderate to severe pain after discharge

- Pain is common in persons with cancer: 30-40% at diagnosis; 50% at all stages; 70-90% with advanced disease
  - More than a third of those “cured” of cancer report pain

- Pain is common in older persons
  - 20% of general public >65 y/o report pain
  - Almost half of nursing home residents report pain that is of moderate or greater intensity
The Pain Epidemic

• 2011- Institute of Medicine (IOM) comprehensive report: Relieving Pain In America
  – Pain represents a public health crisis of epidemic proportions
  – 100 million adults with chronic pain
  – Annual cost of chronic pain to American economy is over $500 billion each year
    • Medical treatment
    • Lost productivity
Chronic pain affects more Americans than diabetes, heart disease and cancer combined.

IOM REPORT 2011
Consequences of Unrelieved Pain: Societal Costs

- Unnecessary suffering
- Annual cost to American economy: over $500 billion
- 50 million lost work days/year in U.S.
- Unrelieved post-operative pain can increase length of stay
The “Problem” of Pain

- Pain is a uniquely individual and subjective experience with biological, psychological, and social factors.
- Treatment is inadequate:
  - Uncertain diagnoses
  - Societal stigma
  - Shortcomings in the availability of effective treatments
  - Inadequate patient and clinician knowledge
- Unrelieved pain is harmful:
  - Interferes with healing
  - Interferes with immunity
  - Interferes with functioning
  - Puts patients at risk for developing complications
Consequences of Pain

• Poor pain control can lead to the development of chronic/persistent pain
  – Acute pain can evolve directly into chronic pain from “Wind Up” of the nervous system (hyper excitability as a result of repeated, prolonged noxious stimuli) leading to neuronal plasticity. (APS, 2003, 2008)
    • Post thoracotomy syndrome
    • Post mastectomy syndrome
  – Stimuli that are normally innocuous produce pain (alldynia)
Optimal Pain Management

- Care is individualized
  - Mutual goals to balance comfort/function/safety
- Care is collaborative:
  - Interdisciplinary in conjunction with patient & family
- Pain assessment is consistent
  - Across different shifts, disciplines and settings
- Systematic reassessment & interventions evaluated
  - Findings & plan are well documented
    - Ineffective treatment plan revised
National Pain Strategy

• Developed in response to the IOM report calling to increase the recognition of pain as a significant public health problem in the U.S.
• Released in March 2016 by the Dept of Health and Human Services
• Created by a diverse team of experts from around the nation
• Roadmap toward achieving a system of care in which all people receive appropriate, high quality and evidence-based care for pain
National Pain Strategy
Recommendations for Key Areas

• Population research
• Prevention and care
• Disparities
• Service delivery and payment
• Professional education and training
• Public education and communication
Pain Management in the Hospital: Joint Commission Standards

• The hospital educates all licensed independent practitioners on assessing and managing pain
• The hospital respects the patient’s right to pain management
• The hospital assesses and manages the patient’s pain
  – Consistent with its scope of care, treatment, and services and the patient’s condition
  – Methods used are consistent with the patient’s age, condition and ability to understand
  – Reassessment and response to the patient’s pain are done based on its reassessment criteria
  – The hospital either treats the patient’s pain or refers the patient for treatment. Treatment may include pharm and/or non-pharmacologic approaches.
**Patient Satisfaction**

**HCAHPS Questions on Pain Management**

12. During this hospital stay, did you need medicine for pain?
   - □ Yes
   - □ No — If No, Go to Question 15

13. During this hospital stay, how often was your pain well controlled?
   - □ Never
   - □ Sometimes
   - □ Usually
   - □ Always

14. During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?
   - □ Never
   - □ Sometimes
   - □ Usually
   - □ Always
Guidelines on the Management of Postoperative Pain

Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists’ Committee on Regional Anesthesia, Executive Committee, and Administrative Council

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The Problem

• Patients still experiencing acute post op pain
  – >75% report the pain severity as moderate, severe, or extreme
  – >50% report relief as inadequate

• Inadequately controlled postoperative pain
  – Increases the risk of postsurgical complications
  – Negatively affects quality of life, function, and functional recovery
  – Increases the risk of persistent postsurgical pain
Postoperative Pain Clinical Guidelines

• Based on underlying premise:
  – Optimal pain management begins pre op with assessment and development of a plan tailored to the individual and surgery
• Preoperative education
• Perioperative pain management planning
• Use of pharm and nonpharm modalities (utilize multimodal therapies)
• Organizational policies
• Transition to outpatient care
Perioperative Techniques for Post Operative Pain Management

- IV bolus or IV PCA with systemic opioids
- Epidural or intrathecal opioid analgesia
  - Indwelling catheter or “single shot”
- Regional techniques
  - “Single shot” nerve block
  - Continuous peripheral nerve block (CPNB)
  - Post incisional infiltration with local anesthetics
- Multimodal analgesia
  - The use of a variety of analgesic medications and techniques that target different mechanisms of action in the nervous system to take advantage of additive or synergistic effects and achieve more effective pain relief compared with single-modality interventions
- Non-pharmacologic modalities
  - PT/OT, TENS, Ice, Heat, Music, Relaxation, Breathing, Imagery, etc...
Multimodal Treatment

Pharmacotherapy
- Opioids, nonopioids, adjuvant analgesics

Interventional Approaches
- Injections, neurostimulation

Physical Medicine and Rehabilitation
- Assistive devices, electrotherapy

Psychological Support
- Psychotherapy, group support

Complementary and Alternative Medicine
- Massage, supplements

Lifestyle Change
- Exercise, weight loss

Strategies for Pain and Associated Disability

"Mr. Collins, how would you like to try out our new music therapy program?"
Postoperative Pain Clinical Guidelines recommendations:

- Unless contraindicated, all patients should receive an around-the-clock regimen of a non-opioid agent
  - Non-steroidal anti-inflammatory drugs (NSAIDs) post op
  - Cyclooxygenase-2 specific drugs (COXIBs) OK to give pre op
  - Acetaminophen post op
  - Gabapentin or pregabalin- start pre op

- Use regional blocks wherever possible and consider catheter placement for prolonged pain

- Use continuous epidural analgesia
  - Major thoracic and abdominal procedures with increased risk of cardiac and pulmonary complications or prolonged ileus

- Provide appropriate RN monitoring of patients sedation and respiratory status
  - Specifically in first 24 hours after surgery, and with dose changes
  - Assess for risk factors warranting increased monitoring (continuous pulse ox, capnography)

Epidural Analgesia

- Widely used for post op and post trauma
- Blunts the stress response
- Targeted therapy (placement of catheter at spinal cord level appropriate to the level of surgery or injury)
- Much lower systemic effect of the opioids
  - Can be up to 10 times less than IV route
  - Earlier return of bowel function
- Utilize opioid with local anesthetic for synergistic effect, and opioid sparing (allows less to be used of each)
- Restoration of respiratory mechanics after multiple rib fractures. Can speed recovery
- Earlier ambulation- Decreased incidence of DVT
Epidural Placement

- May be placed in the thoracic, lumbar or caudal spaces.

- Thoracic – management of upper abdominal and thoracic sites of pain
  - (ie. rib fractures)

- Lumbar and caudal – used for lower abdominal and lower extremity pain
Continuous Peripheral Nerve Blocks

- Catheter placed by an anesthesiologist near a peripheral nerve that allows for the continuous infusion of local anesthetic (i.e. ropivacaine).
- Rate can be adjusted

- Most common sites:
  - Lower Extremity
    - Femoral, Adductor Canal, Fascia Iliaca, Lumbar Plexus, Sciatic, Popliteal, Saphenous
  - Upper Extremity
    - Brachial plexus, Interscalene, Infra/supra clavicular, Axillary
  - Thorax (rib fx, thoracotomy, VATS, breast surgery)
    - Paravertebral, Intercostal
  - Abdominal- (Midline and transverse abd incisions)
    - Transversus Abdominis Plane (TAP)

- Can be used safely for an extended period of time
- More effective pain management and fewer side effects than traditional opioid methods
- Opioid sparing
- Has specific order set and discharge instructions
Paravertebral placement
Paravertebral Catheter
Disposable Elastomeric pump for Incisional and Continuous Peripheral Nerve Blocks
Implantable Pain Therapies

- Neurostimulation
- Intrathecal Drug Delivery
Indications for Interventional Pain Management - Implantable Pain Therapies

• **Neurostimulation**
  – Radiculopathies
  – Phantom Limb/Stump Pain
  – Neuralgias

• **Intrathecal Drug Delivery**
  – Diffuse Cancer Pain
  – Osteoporotic Pain
  – Axial Somatic Pain
Indications for Interventional Pain Management
Implantable Pain Therapies

- Neurostimulation OR Intrathecal Drug Delivery
  - Failed Back Syndrome
  - Complex Regional Pain Syndrome (CRPS)
  - Arachnoiditis
  - Painful Neuropathies
Patient Selection Criteria for Implanted Devices (SCS & ITDD)

- Objective pathology is concordant with the pain complaint
- More conservative therapies have failed
- Further surgical intervention is not indicated
- No serious drug habituation problem exists untreated
- Psychological clearance
- No contraindications to implantation are present
Neurostimulation

• A pain treatment that delivers low voltage electrical stimulation to the spinal cord to inhibit or block the sensation of pain.
• Totally implantable system, preceded by a screening test that allows for qualification of patients likely to benefit.
• Two types of fully implantable systems: rechargeable and non-rechargeable.
• First used 30 years ago.
Advantages of Neurostimulation

- Effective method of pain control.
- Non-destructive versus neuroablation.
- Minimally invasive surgical procedure.
- Reduction or elimination of pain medications.
- May have long-term cost-effectiveness.
Intrathecal Drug Delivery

- A pain management therapy that uses a drug delivery system to deliver medication directly into the fluid surrounding the spinal cord.
- Typically used when oral opioids do not deliver enough pain relief or side effects are intolerable.
- System consists of a pump and catheter, both of which are surgically placed under the skin.
Key Benefits of Neurostimulation and Intrathecal Drug Delivery

- Efficacy can be tested in a screening test procedure
- Pain relief in at least 50% of carefully selected Neurostim patients, at least 80% of those receiving Intrathecal Drug Delivery
- Decreased oral medication usage
- Effective pain relief with lower dose levels and fewer central side effects than oral opioids
- Increased activity
- Improved quality of life
- Cost-effective, reversible therapy
Reduce Dose – Reduce Side Effects

1 mg intrathecal morphine = 300 mg oral morphine

Personal Therapy Manager - PTM

- **8840 N’Vision® Programmer**
  - Enables Patient-Activated Dosing

- **SynchroMed II Programmable Pump**
  - Delivers Patient-Activated Dose

- **8835 Personal Therapy Manager**
  - Initiates Patient-Activated Dose
SO...
How Can We Address the Opioid Epidemic AND Help Those Suffering In Pain?

- Maintain a balance among compassionate prescribing, ethical clinical strategies and societal obligations

- Easy...... Right???
Optimal Paradigm for Patient Care

A physician once said, "The best medicine for humans is love."

Someone asked, "What if it doesn't work?" He smiled and said, "Increase the dose."
Dear God,
I bet it is very hard for you to love all of everybody in the whole world. There are only 4 people in our family and I can never do it.

Nan
And Just for fun...

Become a nurse they said, it will be fun they said.