The Opioid Epidemic

Recent guidelines on opioid prescribing from the CDC in response to the overdose epidemic.

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This JAMA article from 2011 demonstrates the danger of elevating doses of prescription opioids, showing that the risk of fatal overdose for patients treated with opioids is directly dose-related. This risk is elevated for patients receiving opioids for any reason and does not appear dependent on schedule or PRN schedules. This evidence was the reason our opioid taper targets reducing daily PO morphine equivalents to less than 100mg, as this threshold showed increased mortality.


In response to recent CDC findings, The White House issued this plan which calls for a multiagency, multispecialty approach with the goal of decreasing opioid use in the United States over the next few years. This sets forth many specific goals for opioid prescribing habits as well as education and monitoring.


The Center for Disease Control (CDC) analyzed opioid sales and use in the United States from 1999–2008 and found opioid analgesic overdose deaths are increasing. Inter-state differences in overdose and use was not explainable by demographic differences but did correlate with variation in prescribing. In response to this trend, the CDC recommended judicious prescribing practices, reimbursement regulation and possible legislation.


After examination of drug overdose deaths in New Mexico from 2006–2008, patients at risk were found to be older, males with greater number of prescriptions of any kind, one or more sedative/hypnotic prescriptions, and specific narcotic prescriptions (buprenorphine, fentanyl, hydromorphone, methadone, oxycodone). The authors suggest prescription monitoring programs would facilitate better, more informed prescribing habits in clinicians.


This study outlines the different opioid use trends and associated opioid related mortality of patients enrolled in social assistance programs in Ontario, Canada from 2003–2008. The results found opioid prescribing rates increased 16% during the study and patients with higher opioid doses (over 200mg daily morphine) had an increased risk of opioid-related mortality over the following two years.
When comparing prescribing habits for office visits focused on musculoskeletal pain in 1980 to the same type of visits in 2000, opioid and NSAID prescribing had increased for acute and chronic complaints despite the same number of visits. This shows musculoskeletal pain is currently being more aggressively treated with opioids and NSAIDs as opposed to 1980. 

In an epidemiologic approach, this article highlights the lack of evidence suggesting long-term narcotic treatment is safe and effective. In fact long-term narcotic does not result in improvement in function or quality of life and is associated with a high prevalence of adverse drug effects and therefore should only be used in a very select population under close supervision. 

The authors present the problem of the explosion of opioid use over the last 10–20 years and the public health risk it presents. They also outline the initial steps the Federal Drug Administration is taking in an attempt to curtail this rampant prescribing, specifically post-marketing studies of long-acting and transmucosal opioid formulations.

Management of Perioperative Pain

This comprehensive guide developed by the VHA covers in–depth options for postoperative pain management accompanied by comments on evidence for different interventions.

This study investigated opioid–related adverse drug events including gastrointestinal issues, central nervous system effects, pruritus and urinary retention in hospitalized postsurgical patients. Risk of events was increased with increasing opioid dose as well as orthopedic and GYN surgeries. Importantly, hospital costs and length of stay were also increased in patients with adverse events.
In a review of the literature, chronic pain was found to be most common after amputation, inguinal hernia surgery, breast surgery, gallbladder surgery, and lung surgery. Along with type of surgery, the type of nerve damage may play a role in acute and chronic pain; furthermore psychologic and physiologic factors are likely influential in pain sensitivity.


When comparing postsurgical inflammatory pain vs neuropathic pain, these authors found postsurgical chronic pain closely resembles neuropathic pain. The most common type of postsurgical pain is likely iatrogenic neuropathic pain and, therefore, surgical techniques that avoid nerve damage should be used wherever possible.


Analyzing a retrospective cohort, it was discovered that 55% of patients who received analgesic medication required nausea, vomiting and/or constipation pharmacologic treatments. Not surprisingly, intravenous opioid injections had nearly 5 times greater risk of gastrointestinal (GI) side effects as compared to oral nonopioid analgesics. Overall, patients who received medication for GI side effects of analgesics had longer hospital stays (0.25 days) and increased hospital costs.


In this continuing education article for nurses and respiratory therapists, a multidisciplinary panel answers questions regarding postoperative, opioid–related respiratory depression.


Mortality, hospital length of stay and cost was investigated for patients experiencing adverse drug events related to postoperative analgesia. Patients experiencing adverse events, most commonly nausea and vomiting or rash, hives and itching, were found to have no difference in mortality, but increased hospital stay (0.5 days) and increased hospital cost.

**Opioid-Induced Hyperalgesia**

A handy and fairly quick read, Marion Lee’s “Comprehensive Review of Opioid-Induced Hyperalgesia” is an excellent way to familiarize oneself with the current knowledge on the topic. The article reviews terminology, implicates various proposed mechanisms, examines clinical prevalence, and even recommends techniques for diagnosis and management.


This article reviews the literature in humans for opioid induced hyperalgesia, a well known phenomenon in rodents. The literature was unable to support or refute hyperalgesia formation in humans except in healthy humans receiving narcotic infusions which did cause consistent hyperalgesia.


In a thorough systematic review, the authors found opioid induced hyperalgesia may cause chronic and acute pain to worsen in the face of narcotic medication. This may be especially concerning in patient with chronic pain as their condition will likely require long-term treatment.


This case report discusses severe opioid-induced hyperalgesia in a young male, chronic pain patient. Acute treatment required ICU admission for ketamine infusion. Pathophysiology and treatment options of adjunct medications and opioid reduction are discussed.


In this case report and editorial, acute opioid-induced hyperalgesia in a pediatric patient is discussed. The possible mechanism of hyperalgesia involving NDMA receptor activation is presented. Diagnosis and options for treatment including clonidine and buprenorphine are outlined.