Pain Management Pearls and Principles:

- Believe the patient’s report of pain (but remember: 10/10 pain ≠ narcotics)
- START LOW – GO SLOW – REASSESS FREQUENTLY (esp. in elderly)
- By the mouth (whenever possible)
  - oral → transdermal → sublingual → rectal/vaginal/ostomy → PCA
- By the clock
- By the ladder
- Add non-drug therapies
- Differentiate nociceptive from neuropathic pain
- Try not to prescribe two medications in the same class at the same time (e.g., two short-acting opiates like Percocet and Vicodin). There are exceptions to this, notably in the antiepileptic drug category.
- When it comes to opiates, titrate by percents rather than milligrams (e.g. go up 25-50% for pain without sedation; go down 25-50% if there is sedation)
- Convert short-acting opiates to long-acting ones (less risk for overmedication, side effects, euphoria, end-of-dose breakthrough pain)
- Use equianalgesic doses (www.hopkinsopioidprogram.org), but anticipate incomplete cross-tolerance
- In liver and kidney patients, dose-adjust and use longer dosing intervals. Even though most opiates are eliminated through the liver, many have metabolites whose elimination depends on GFR.
- Never be afraid to consult or ask for help, no matter what the hour

ACETAMINOPHEN – nociceptive pain
- The “starter drug” of choice, even in folks with kidney or liver disease
- Limit to 2g/d in liver disease, 4g/d in healthy folks
- Highest risk for acetaminophen-related problems – alcoholic liver disease

NSAIDS – nociceptive pain (but not neuropathic)
- Ibuprofen has a NNT=2 – the best of any pain med, including morphine!
- Monitor kidney function frequently. If Cr bumps, check for AIN.
- Use carefully or not at all in kidney or liver disease
- Use big, scheduled doses for a limited amount of time (< 2 mos.) – don’t refill 11 times
- Consider adding a PPI or misoprostol (Arthrotec) to reduce risk of gastric bleeding, esp. in elderly – and don’t use long-term
- No indomethacin in the elderly – lots of CNS effects
- No aspirin in kids or teenagers (risk of Reye’s Syndrome), or pregnant or breastfeeding moms
TRAMADOL – nociceptive or neuropathic pain, fibromyalgia
- SEROTONIN SYNDROME HAPPENS. Treatment: hospitalization, d/c offending drugs (tramadol, methadone, SSRIs), start benzos.
- Reduces seizure threshold
- Start 50mg Q6h; can titrate to a total of 300mg daily in elderly (cautiously), otw 400mg daily
- Don’t believe the hype – some people are genetically predisposed to get addicted to this drug
- Avoid in liver disease
- Max 50mg BID in kidney disease due to prolonged elimination

OPIATES – nociceptive > neuropathic pain (methadone does both well)
- SEDATION PRECEDES RESPIRATORY DEPRESSION
- Reassess frequently after increasing dosage (1hr on the inpatient service for IV pain meds, 1 wk for outpatients on methadone)
- Don’t forget the bowel regimen (colace, senna, bisacodyl!)
- Dicey in liver patients. Avoid oxycodone and codeine. Use Fentanyl.
- No meperidine (Demerol) or propoxyphene (Darvocet) in kidney patients. In general, avoid morphine, but Pain docs can sometimes get away with this.
- Avoid codeine and meperidine in general. Codeine sucks as a pain medicine and has lots of active metabolites that hang around forever (so does Demerol).
- Consult a specialist before switching around methadone and fentanyl
- Starting methadone in an opiate-tolerant patient: 5 mg BID x 7 d, then 5 mg TID. Doesn’t really matter whether they were on whomping doses of other pain medicines previously – there is no good equianalgesic conversion ratio (roughly 20:1). Have a low threshold to ask a specialist to help you. In an opiate-naïve or elderly patient, start with 2.5mg QHS, then BID after 7 d.
- Methadone has a super long half-life and variable clearance - don’t titrate more frequently than once a week. And don’t give it to folks you don’t trust to understand the directions.
- Fentanyl patches are contraindicated in patients < 110 lbs

MUSCLE RELAXANTS – muscle spasm, fibromyalgia, neuropathic pain (selected)
- CIPRO + TIZANIDINE = POTENTIALLY FATAL DRUG INTERACTION
- Baclofen also works for lancinating, paroxysmal neuropathic pain. Start 5mg QHS, titrate up to 20mg QID
- Tizanidine (Zanaflex) works for neuropathic pain also, and fibromyalgia. Start 2mg QHS, titrate up to 4-8mg TID.
- Avoid carisoprodol (Soma). Metabolizes to a sedative. Very addictive.

BENZODIAZEPINES – muscle spasm
- BENZOS + OPIATES = INCREASED RISK OF RESPIRATORY DEPRESSION. Implicated in many overdoses in the state of Virginia.
- Avoid in liver disease. If you must in a liver pt, use Ativan.
- Taper slowly. 30 days of QD use is enough to generate physical dependence. Cold withdrawal can cause seizures and death.
TRICYCLICS – *neuropathic pain*
- Trazodone 10-25mg is great for sleep in the elderly. Avoid amitriptyline in old folks.
- Get EKGs when titrating up either tricyclics or methadone in someone on both, with
  attention to the QT interval. If it’s prolonging, STOP.
- May take a few weeks to fully kick in

ANTIEPILEPTICS – *neuropathic pain, postherpetic neuralgia*
- Sudden discontinuation of gabapentin (Neurontin) can cause seizures
- Titration schedule for gabapentin: 300 QHS x 3d, 300 BID x 3d, 300 TID x 3d, then
  increase by 300mg q3d until you get to relief or side-effects (usually drowsiness). Max:
  3600mg/d divided TID.
- Check electrolytes frequently for hyponatremia and hypokalemia on topiramate
  (Topamax)
- No carbemazepine (Tegretol) in liver disease

TOPICALS – *muscular or neuropathic pain*
- Lidoderm patch or capsaicin for peripheral neuropathic pain, menthol-containing
  ointments for MSK pain, compounded ointments/gels containing NSAIDs, TCAs, and
  AEDs also available

ADJUVANTS - steroids, heat/ice, TENS, acupuncture, massage, addressing accompanying
  depression/anxiety/insomnia