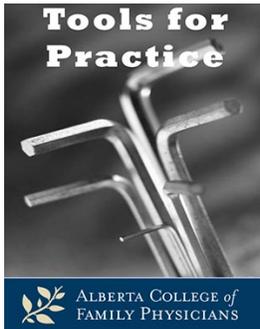


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**Reviewed: July 22, 2016**  
**Evidence Updated: New evidence**  
**Bottom Line: No change**  
**First Published: March 19, 2012**



## **Opioids and Osteoarthritis: Weighing Benefits and Risks**

**Clinical Question: What is the evidence for opioids as a treatment for osteoarthritis (OA)?**

**Bottom Line: In OA, there are no trials to demonstrate long-term improvements in pain or function with opioids. In elderly patients with OA, the risks of opioids may be worse than the risks of NSAIDs. Opioids should not be routinely used in OA, but if necessary, they should be used for short courses in carefully selected patients.**

### **Evidence:**

- Benefits: No high-quality evidence that opioids improve function more than non-opioid analgesics.<sup>1,2</sup>
  - Non-tramadol opioids: Systematic review<sup>3</sup> of 22 Randomized Controlled Trials (RCTs) with 8,275 OA patients, median 4-weeks treatment (maximum six months).
    - More patients reported  $\geq 50\%$  improvement in pain versus placebo, Number Needed to Treat (NNT)=10.
      - Median dose: 59 mg morphine-equivalent per day; higher doses did not increase benefits.
      - Smaller benefits seen in trials >4 weeks.
    - Function improved 0.6 out of 10 points more versus placebo, NNT=12.
  - Tramadol:
    - Systematic review<sup>4</sup> of 11 RCTs with 1,939 OA patients, maximum 12-week treatment.
      - More patients reported at least “moderate” improvement in pain versus placebo, NNT=6.
    - RCTs have not demonstrated a difference in pain between tramadol and NSAIDs.<sup>4,5,6</sup>
- Harms:
  - Side-effects cause one in 6-8 to stop treatment.<sup>3,4</sup>

- Cohort study of 12,840 arthritis patients (mean age 80) comparing opioids to NSAIDs:<sup>7</sup>
  - Higher risk of fracture when prescribed opioids versus NSAIDs, Number Needed to Harm (NNH)=26.
  - Opioids also associated with increased risk of cardiovascular events, hospitalizations, and mortality (NNH=17-27).
  - Limitations: Opioid risk likely exaggerated by selection bias and confounding.

**Context:**

- Only small differences in pain are seen between oral OA treatments and placebo (standard mean difference [95% Confidence Intervals]): Acetaminophen 0.13 (0.04-0.22),<sup>8</sup> NSAIDs 0.23 (0.15-0.31),<sup>9</sup> and opioids 0.28 (0.20-0.35).<sup>3</sup>
  - Consider having patients evaluated for joint replacement if pain from OA is severe, as surgery improves quality of life.<sup>10</sup>
- International OA guidelines recommend opioids only in exceptional cases.<sup>11</sup>
- Risks of opioids are dose-dependent:
  - >100 mg morphine-equivalent per day (e.g. approximately hydromorphone 20 mg or oxycodone 66 mg) is associated with increased risk of opioid-related mortality.<sup>12,13</sup>
  - Prescription opioids are a common source of misuse,<sup>14</sup> and most opioid overdose deaths occur in individuals who were prescribed opioids.<sup>15</sup>

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