









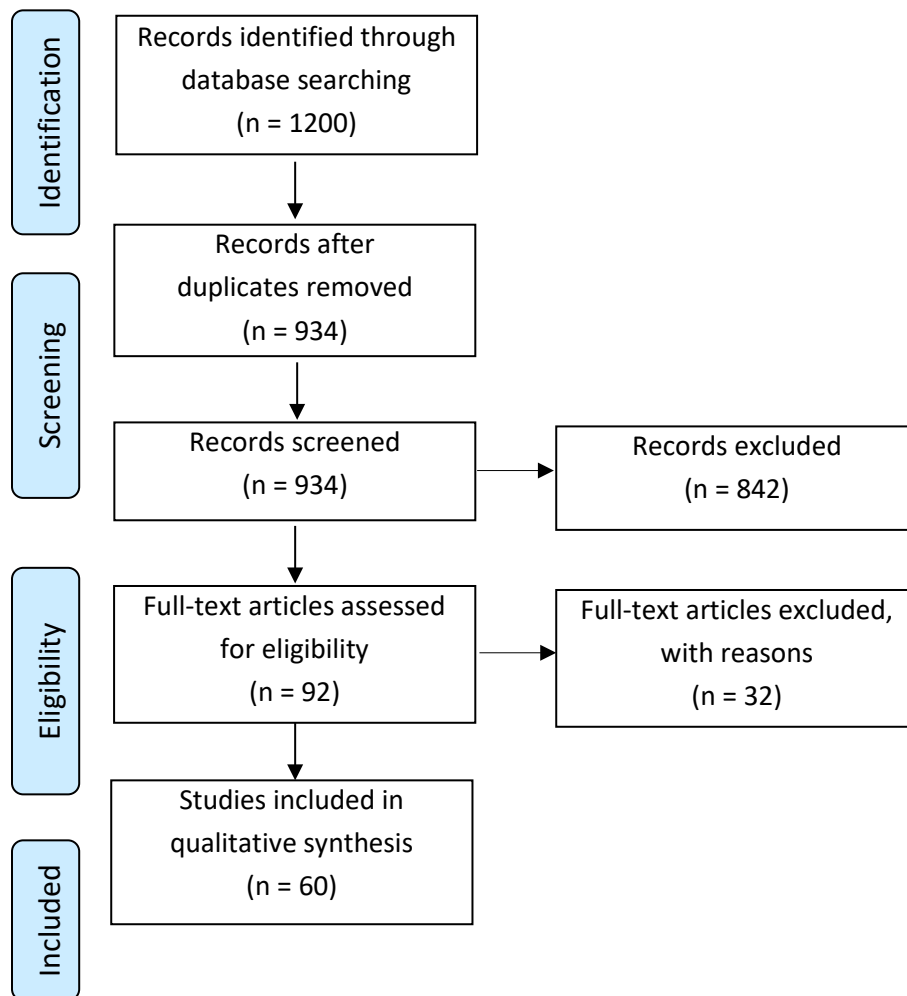










**Figure 1. Current Literature Review Diagram**

adjuvant approaches include intraoperative methadone bolus administration instead of continuous sufentanil infusion, subcutaneous morphine injection, intrathecal opioid injection, perioperative or standing gabapentin, NSAIDs, acetaminophen, ketamine, psychiatric interventions, alpha-2 agonists, continuous wound infiltration with local anesthetics, glucocorticoids, and muscle relaxants.

### Authors Preferred Strategy

After careful review of this extensive literature search, the authors currently recommend the following protocol for our patients. Preoperatively, during a family conference discussing the risks and benefits of surgery, we spend time discussing pain control following

surgery. We believe that managing expectations and making patients aware of the protocol reduces their overall anxiety and can therefore manage the psychological aspects of pain. We also prescribe preoperative gabapentin that is begun 2 days prior to surgery. Intraoperatively, we recommend low-dose intrathecal morphine. Postoperatively, we recommend gabapentin, ketorolac for 48 hours followed by ibuprofen, methocarbamol, and an opioid consisting of a demand dose IV PCA for the first 24 hours followed by oral medicine. Patients are monitored carefully postoperatively to watch for respiratory depression which may occur when intrathecal morphine is combined with a postoperative opioid; however, using low dose (5 ug/kg) intrathecal morphine we have not had any instances of this.

## Additional Links

- POSNAcademy: *Intrathecal Morphine for Pediatric Spine Surgery*  
[https://www.posnacadey.org/media/Intrathecal+Morphine+for+Pediatric+Spine+Surgery/0\\_u3fzguv2/19140032](https://www.posnacadey.org/media/Intrathecal+Morphine+for+Pediatric+Spine+Surgery/0_u3fzguv2/19140032)
- POSNAcademy: *Posterior Spinal Instrumentation and Fusion for Treatment of Adolescent Idiopathic Scoliosis*  
[https://www.posnacadey.org/media/Posterior+Spinal+Instrumentation+and+Fusion+for+Treatment+of+Adolescent+Idiopathic+Scoliosis/0\\_kpkklion/19140032](https://www.posnacadey.org/media/Posterior+Spinal+Instrumentation+and+Fusion+for+Treatment+of+Adolescent+Idiopathic+Scoliosis/0_kpkklion/19140032)

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