I. Identification of patients at increased risk of respiratory depression

Reviewing medical records (patient condition).

Nonrandomized comparative studies (comparisons of patient condition or clinical status)


Observational studies, case reports, or non-pertinent comparison groups


Physical examination.

No entries

II. Prevention of respiratory depression

Positive pressure ventilation.

No entries

Drug selection.

Route of administration.

Single-injection epidural opioids vs parenteral opioids (IV, IM):

Randomized controlled trials: intravenous opioids


**Randomized controlled trials: intramuscular opioids**


**Single-injection spinal opioids vs parenteral opioids (i.e., IV, IM, intermittent IV, IV PCA):**

*Randomized controlled trials*


**Epidural opioids (single-injection or PCEA) vs IV PCA opioids:**

*Randomized controlled trials: single-injection vs IV opioids*


*Randomized controlled trials: PCEA vs IV PCA opioids*


Nonrandomized comparative studies


Observational studies, case reports, or non-pertinent comparison groups

14. Glass PSA: Respiratory depression following only 0.4 mg of intrathecal morphine. Anesthesiology 1984; 60:256-257

Extended-release epidural morphine vs parenteral morphine:

Randomized controlled trials

Extended-release epidural morphine vs immediate release epidural morphine:

Randomized controlled trials

Nonrandomized comparative studies
Observational studies, case reports, or non-pertinent comparison groups


Continuous infusion epidural opioids vs IV opioid infusion:

Randomized controlled trials


Nonrandomized comparative studies


Continuous infusion epidural opioids vs IV PCA opioids:

Randomized controlled trials


Observational studies, case reports, or non-pertinent comparison groups

**Type of drug**

**Single-injection epidural hydrophilic opioids (e.g., morphine, hydromorphone) vs lipophilic opioids (e.g., fentanyl/sufentanil):**

**Randomized controlled trials**


**Nonrandomized comparative studies**


**Observational studies, case reports, or non-pertinent comparison groups**


**Single-injection intrathecal hydrophilic opioids vs lipophilic opioids:**

**Randomized controlled trials**


**Continuous infusion epidural hydrophilic opioids vs lipophilic opioids:**

**Randomized controlled trials: CIE hydrophilic opioids vs CIE lipophilic opioids**

Randomized controlled trials: CIE hydrophilic opioids+bupivacaine vs CIE lipophilic opioids+bupivacaine


Nonrandomized comparative studies


Dose selection

High vs low doses of single-injection/single-dose epidural opioids (i.e., morphine, hydromorphone, fentanyl, or sufentanil):

Randomized controlled trials

Nonrandomized comparative studies


High vs low doses of extended-release epidural opioids (i.e., morphine, hydromorphone, fentanyl, or sufentanil):

Randomized controlled trials


High vs low doses of single-injection/single-dose intrathecal opioids:

Randomized controlled trials

Nonrandomized comparative studies


High vs low doses of continuous infusion epidural (CIE) opioids:

Randomized controlled trials


Nonrandomized comparative studies


Dose reduction vs cessation of opioids (to improve respiratory rate and reduce adverse outcomes related to respiratory depression):

No entries

Drug combinations

Neuraxial opioids with versus without parenteral opioids, hypnotics or dissociative anesthetics (e.g., ketamine):

Randomized controlled trials

No entries

Nonrandomized comparative studies

1. Ahuja BR, Strunin L: Respiratory effects of epidural fentanyl: changes in end-tidal and respiratory rate following single-doses and continuous infusion Anaesth 1985; 40:949-955

III. Monitoring for respiratory depression

Detection of respiratory depression.

Pulse oximetry monitoring versus no pulse oximetry monitoring.

Randomized controlled trials


Observational studies, case reports, or non-pertinent comparison groups

End-tidal CO₂ monitoring vs no end-tidal CO₂ monitoring.
No entries

Monitoring level of sedation monitoring vs not monitoring level of sedation.
No entries

Timing and duration of monitoring.
Continuous vs intermittent monitoring (to improve detection of respiratory depression)
No entries
IV. Management of respiratory depression

Supplemental oxygen.

Randomized controlled trials

Nonrandomized comparative studies

Naloxone vs no naloxone.

Randomized controlled trials

Observational studies, case reports, or non-pertinent comparison groups
Naltrexone vs no naltrexone.

Randomized controlled trials