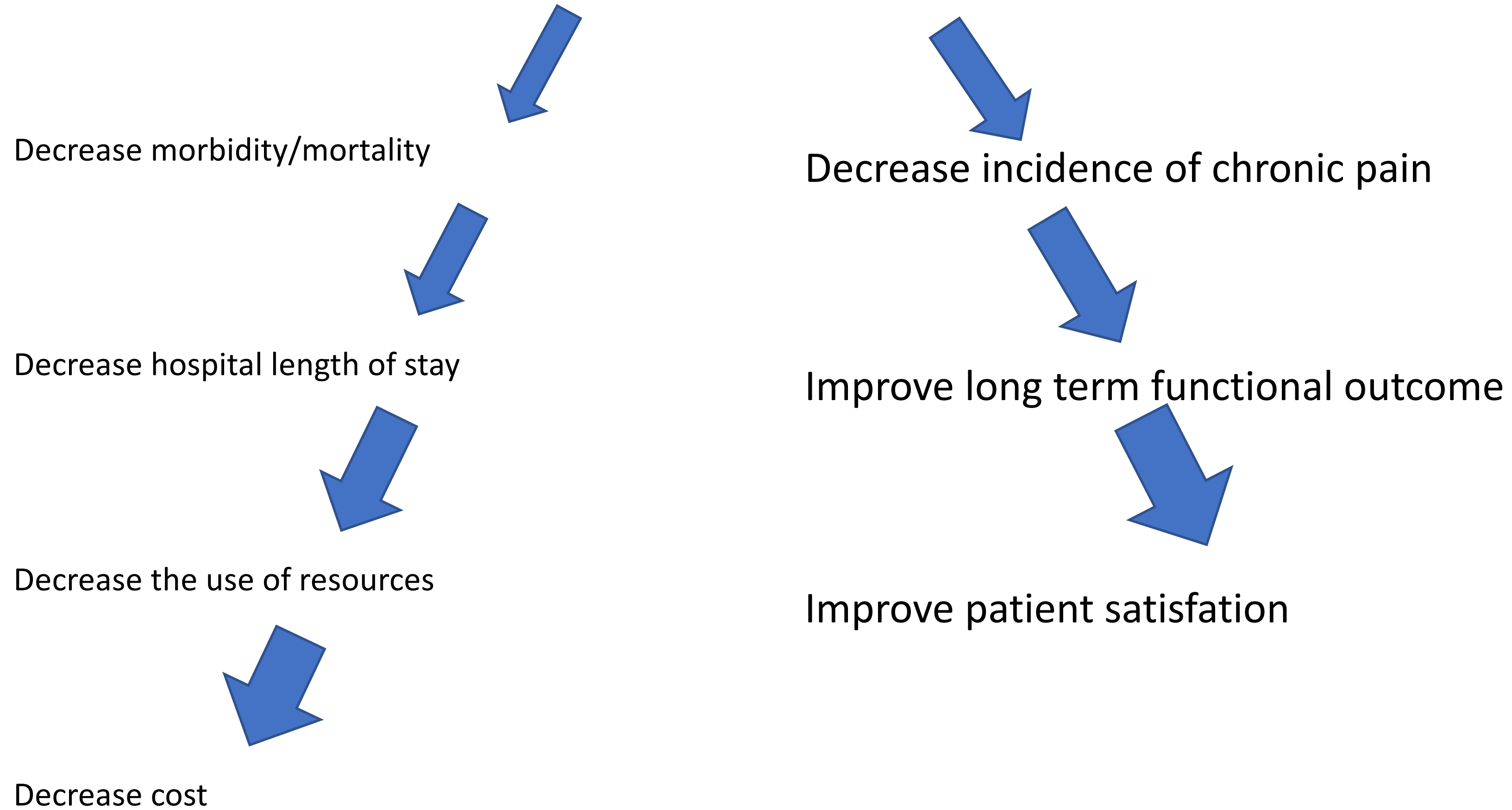

Decrease postop pain
Decrease morbidity/mortality
Decrease hospital length of stay
Decrease the use of resources
Decrease cost
Decrease incidence of chronic pain
Improve long term functional outcome
Improve patient satisfation

ERAS Pain Management

- **Preventative Analgesia**
  - Targeting all 3 phases of surgical intervention
- Preoperative, intra-operative and post-operative.
- This is an attempt to prevent central sensitization which often leads to chronic pain.

- **Multimodal Analgesia**
  - Using different medications, that act via different pain pathways to allow for a synergistic analgesic effect while decreasing potential side effects.
- In addition, regional analgesia techniques will be added to allow for superior pain control.

ERAS Pain Management

Step 1

Identify opioid naive versus opioid tolerant patients

- >60mg of morphine or hydrocodone per day for >2 weeks.
- >30mg for oxycodone per day for >2 weeks.

Step 2

Manage Expectations

- Discuss the potential for severe pain postoperatively.
- Educate regarding ERAS pain management guideline.
- Give neuraxial procedure informational pamphlet.

ERAS Pain Management

- **Pre-operatively- (Preop holding)**
  - Acetaminophen 1000mg PO.
  - Celecoxib 200mg PO (hold if h/o CAD, IBD or CrCl<60).
  - Gabapentin 600mg PO (300mg if >70yo or CrCl<30).

- **Pre-operatively- (PDCU)**
  - **Thoracic epidural**
    - Chronic pain patients.
    - Open cases.
    - Complex laparoscopic or robotic cases.
  - **Single shot intrathecal opioid injection**
    - Liver resections.
    - Straight forward laparoscopic or robotic cases.

ERAS Pain Management

- **Intraoperatively**
  - **Opioid naive**
    - Limit short acting opioids (fentanyl to 200-250mcg).
    - Avoid long acting opioids (morphine and hydromorphone).
    - Activate the thoracic epidural and start the infusion as early as possible as long as the blood pressure is stable.
  - **Opioid tolerant**
    - Same as above.
    - Ketamine infusion and/or lidocaine infusion per attending anesthesiologist and acute pain team.

ERAS Pain Management

- **PACU**
  - If >6h after preoperative PO acetaminophen then 1st dose of IV acetaminophen will be given.
  - Thoracic epidural will be bolused as needed.
  - Standard adult PACU pain medication order set should be ordered by the anesthesiology team.
    - Short and long acting IV opioids will be given **only** as needed.

ERAS Pain Management

- **POD#0-1**
  - Epidural infusion.
  - Acetaminophen 1000mg **IV** QID x24h.
  - Ketorolac 15mg **IV** QID x24h (hold if IBD or bleeding).
  - Methocarbamol 1000mg **IV** QID x24h (hold if CrCl <60).
  - Hydromorphone 0.5mg **IV** q2h PRN BTP.

- **POD#1 and beyond (if tolerating clear liquid diet)**
  - Wean epidural infusion.
  - Acetaminophen 1000mg **PO** TID.
  - Celecoxib 200mg **PO** BID (hold if bleeding, h/o CAD or IBD, or CrCl<60).
  - Methocarbamol 750mg **PO** TID.
  - Gabapentin 300mg **PO** BID (hold if CrCl<30).
  - Tramadol 50mg **PO** q4h PRN moderate pain.
  - Oxycodone 5mg **PO** q4h PRN severe pain.
  - **No PRN IV opioids!**
  - ******If opioid tolerant then restart home meds.***

ERAS Pain Management

- **POD#1 (if still NPO or not tolerating a PO diet)**
  - Epidural infusion.
  - Acetaminophen 1000mg **IV** QID max 72h.
  - Ketorolac 15mg **IV** QID max 72h (hold if IBD or bleeding).
  - Methocarbamol 1000mg **IV** QID max 72h (hold if CrCl <60).
  - Hydromorphone 0.5mg **IV** q2h PRN BTP.
  - *****if opioid tolerate and expected prolonged ileus then consider IV methadone or fentanyl patch.**

Discharge

- Celecoxib 200 mg **PO** BID for 7-14 days.
- Gabapentin 300mg **PO** BID for 7-14 days.
- Tramadol 50-100mg **PO** q4-6h for 7-14 days.
- *****if opioid tolerate then resume home meds and follow up with chronic pain management.**