Enhanced Recovery: What is it? Starting Outpatient Hysterectomy In Your Practice

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No disclosures
Objectives

• Discuss enhanced recovery goals and elements
• Review outpatient hysterectomy protocols
• Consider evidence based outcomes that support enhanced recovery
Origin of Enhanced Recovery

• Introduced in colorectal surgery

• Concept:
  • Replace traditional, untested practices of peri-operative care

• Goal:
  • Enhance post-operative recovery
    • Reduce LOS, narcotic use, cost
  • Reduce surgical morbidity
  • Patient satisfaction
Laparoscopic hysterectomy

The line graph shows the percentage of laparoscopic procedures over the years 2006 to 2010. The data is divided into two categories: inpatient and outpatient. The graph indicates a decrease in inpatient procedures from 80% in 2006 to 50% in 2010, while outpatient procedures increase from 10% in 2006 to 40% in 2010.
**Hysterectomy type**

![Bar charts showing the percentage of hysterectomies in 2005 and 2012 for different types of hysterectomies: vaginal, laparoscopic, open abdominal, and da Vinci.

**Fig. 1.** A comparison of route of hysterectomies in the United States from 2005 and 2012. Data on file from Intuitive Surgical, Inc.

Elements of Enhanced Recovery

• Pre-operative

Education & Expectations
Elements of Enhanced Recovery

• Pre-operative
  • Intestinal change minimized
  • Pain management
  • PONV prophylaxis

• Avoid dehydration
  • Liquids until 2 hours before surgery
• Continue caloric intake
• No oral bowel prep
• Rectal enemas
Elements of Enhanced Recovery

• Pre-operative
  • Intestinal change minimized
  • Pain management
  • PONV prophylaxis

• Premedication
  • Celebrex 400mg
  • Gabapentin 600mg
  • Tylenol 1g
• Education
Elements of Enhanced Recovery

- Pre-operative
  - Intestinal change minimized
  - Pain management
  - PONV prophylaxis

- Antiemetics
  - Dexamethasone
  - Droperidol
  - Granisetron (closure)
  - +/- Scopolamine
Elements of Enhanced Recovery

- Intra-operative
  - Euvolemia
  - Local analgesia

- Limit IVF
- Colloid preference over crystalloid
- Maintenance 40mL/hr
- DC IVF when oral intake 600mL, or 0800 POD#1
Elements of Enhanced Recovery

- Intra-operative
  - Euvolemia
  - Local analgesia
- Bupivacaine injection locally
- Regional anesthesia, vaginal surgery
Elements of Enhanced Recovery

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia
  • Minimize opiates

• Walk night of surgery, out of bed 2 hr
• POD#1 out of bed 8hr/d
• Chair for all meals
• Discontinue bladder catheter
Elements of Enhanced Recovery

- Post-operative
  - Early mobilization
  - Early feeding
  - Oral analgesia
  - Minimize opiates

- No nasogastric drainage
- Drink 800-2L day of surgery
- Begin with low residue diet, immediate
- Nutritional supplements
- Daily Senna/Docusate & Mag oxide
Elements of Enhanced Recovery

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia
  • Minimize opiates

• Schedule Tylenol 1g q 6hr
• Schedule NSAID: Ketorolac/Ibuprofen q6hr
Elements of Enhanced Recovery

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia
  • Minimize opiates

• Oral narcotic use, Oxycodone/ Tramadol
• IV narcotic if oral ineffective after 1 hr.
• No PCA
Results of Enhanced Recovery

- Reduced narcotic use
- Improved return of bowel function
- Reduced length of stay
- Patient satisfaction
Outpatient Hysterectomy

- Vaginal, laparoscopic, & robotic surgery

Pre-operative
- Counseling & education
- Pain management
- Antiemetics

- Expectations
  - Avoid dehydration
    - No solids after midnight
    - Liquids until 2-4 hrs before surgery
    - Continue caloric intake
- No oral bowel prep
- Rectal enemas
Outpatient Hysterectomy

- Vaginal, laparoscopic, & robotic surgery

- Pre-operative
  - Counseling & education
  - Pain management
  - Antiemetics
  - Understand plan post-op
  - NSAIDs
  - Oral narcotics
Outpatient Hysterectomy

• Vaginal, laparoscopic, & robotic surgery

• Pre-operative
  • Counseling & education
  • Pain management
  • Antiemetics

• Scopolamine patch
• Dexamethasone 4mg IV
Outpatient Hysterectomy

• Intra-operative
  • Local analgesia

• Regional anesthesia
• Incision site injection
• Uterosacral ligament injection
  • Bupivacaine 0.5%/epinephrine
  • Case start & end
Outpatient Hysterectomy

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia

• Observation

• Chair position, out of bed early
• Void trial: backfill foley
Outpatient Hysterectomy

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia

• Observation

• Liquids, avoid dehydration
• Solids
• High fiber diet
Outpatient Hysterectomy

- Post-operative
  - Early mobilization
  - Early feeding
  - Oral analgesia

- Observation

  - Minimize IV narcotics
  - Ketorolac
  - Belladonna & Opium Suppositories
Outpatient Hysterectomy

• Post-operative
  • Early mobilization
  • Early feeding
  • Oral analgesia

• Observation
  • PACU observation 4 hours
    • Involve family
  • Home supervision 24 hrs
  • Telephone follow
Outpatient Hysterectomy

- Complications
- Readmission

Levy 2012
Vaginal hysterectomy, single surgeon
N=1162 (96% outpatient)
30 day readmission 0.5%

Inpatient risk factors:
Age >65
Out of town residence
Lack of care giver
Outpatient Hysterectomy

- Complications
- Readmission

Khavanin, et al. JMIG. 2013
Laparoscopic hysterectomy, NSQIP
N=8846 (40% outpatient)

30 day complications: Outpatient 4.5% v 7% (p<0.001)
Outpatient Morbidity Improved:
  SSI  OR 0.63 (CI 0.46-0.87)
  DVT  OR 0.61 (CI 0.47-0.8)
  UTI  OR 0.61 (CI 0.47-0.79)

Selection Bias
Summary

• Enhanced recovery and outpatient hysterectomy protocols may be individualized to provide safe care while minimizing morbidity and maintaining patient satisfaction.
References

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