MSQC Hernia Care Pathway

PreOp

Patient Education
-Pain expectations/multimodal pain management
-Wound care
-Postoperative ambulation and activity guidelines
-Return to work

PRN Preadmission:
-Tobacco cessation if smoking within 1 month before surgery
-Weight loss counseling if BMI ≥ 40

Preoperative Planning/ Prehabilitation
-Tobacco cessation: 1 month prior to surgery
-Weight loss counseling if BMI ≥ 40

Simple, uncomplicated cases: Perform in ambulatory setting when feasible

Bilateral inguinal hernias consider MIS

Labs/Radiology
Labs
-HbA1c or glucose if indicated

Simple, uncomplicated cases: No routine imaging

Major/Complex cases:
-Noncontrast CT w valsalva
-MRI as alternative if contraindication to CT

Glycemic Control
-HbA1c screening for diabetic patient or patient with history of diabetes (including gestational diabetes)
-**Blood glucose** screening for all non-diabetic high risk patients: age ≥ 45 and/or BMI ≥ 30

Preop Referral if:
-HbA1c 6.5%-8%: Consult PCP or endocrinology for glycemic control
-HbA1c ≥ 8% or glucose > 250 mg/dL: Consult PCP or endocrinology for glycemic control AND consider postponing surgery date

Immediate PreOp

Preoperative Shower/Bath
-Shower with soap or antiseptic agent on at least the night before surgery
-Provide product and clear instruction

Glycemic Control
-if age ≥ 45 and/or BMI ≥ 30 and blood glucose was not obtained within 90 days of surgery, obtain blood glucose in preop holding
-if preop blood glucose > 200 treatment is advised

Appropriate IV Prophylactic Antibiotics
Simple, uncomplicated cases:
-Controversial if wound class is considered clean and mesh not indicated

Major, Complex Cases:
-Indicated for repairs requiring mesh
Cefazolin 2g IV for patients <120kg
Cefazolin 3g IV for patients ≥ 120kg
-Administer 30-60 minutes before incision

See ASHP guidelines in resources for other acceptable antibiotic regimens and beta-lactam alternatives

Multimodal Analgesia
-Review pain management plan in preop holding
-Acetaminophen 1000mg

Prevention of PONV
-Screen all patients for PONV risk
-Administer antiemetic regimen based risk assessment score
-Risk Assessment Example:
4 Primary Risk Factors: Female; Non-smoker; History of motion sickness; previous PONV; Expected administration of postoperative opioids
Score 1 for each applicable risk factor
0-1 risk factors: Ondansetron 4mg 15min prior to end of case
2 risk factors: Choose one or two agents listed below
3 risk factors: Choose one or two agents listed below
4 risk factors: Apply Scopolamine patch at least 2 hours before induction, administer Dexamethasone 4-8mg IV after induction, Ondansetron 4mg IV at end of surgery

Reduced Fasting
-Clear liquids up until 2 hours prior to surgery

IntraOp

Normothermia
-Maintain body temperature of 96.8°F (36°C)

Euvolemia
-Tailor infusion of crystalloids to avoid excess fluid administration

Alcohol-based Skin Preparation
-Use alcohol-based prep

Lung Protective Ventilation
-For patients with normal pulmonary function undergoing general anesthesia with endotracheal intubation, administer increased Fio2 during surgery and after extubation in the immediate postoperative period.
-To optimize tissue oxygen delivery, maintain perioperative normothermia and adequate volume replacement.

Redosing of Antibiotics
Intervals:
-Cefazolin q4 hours
Refer to ASHP guidelines in resources

Multimodal Analgesia
-Administer ≥ 2 non-opioid analgesia medications
Examples:
-IV Lidocaine
-Local wound infiltration with long-acting anesthetic
-TAP or regional block if not done preop
- Ilioinguinal and iliohypogastric nerve blocks for open inguinal hernia repairs
-Spinal anesthesia
-Ketamine
-Ketorolac 30mg IV at end of case for routine inguinal repairs
-Infuse all port sites with short and long-acting local anesthetic

Operative Note Dictation
-Type of hernia(s)
- Hernia measurements (length & width, or diameter)
- Hernia location
- Mesh measurements (length & width, or diameter) if used
  - Product name/product ID#
  - Brand/manufacturer
  - Placement location
  - Fixation technique/device

Avoidance of Tubes
Foley Catheter
-Simple, uncomplicated cases: Consider no foley catheter
-Complex cases: Consider removal of catheter at end of case

Nasogastric tube
-Consider as appropriate for large ventral hernia repairs; laparoscopic repairs; bowel manipulation or lysis of adhesions

Postop drains
-If large skin flaps or large mesh insertion, drains may reduce seroma/fluid accumulation

PostOp

Multimodal Analgesia
-Follow Michigan OPEN opioid prescribing recommendations: Oxycodone 5mg no more than 10 tablets
https://opioidprescribing.info/
Schedule non-opioid analgesics instead of PRN for first 72 hours:
-Alternate acetaminophen 650mg with ibuprofen 600mg every 3 hours with 6 hours between dosing of acetaminophen and ibuprofen
-Use opioids for breakthrough pain only

Normothermia in PACU
-Maintain temperature >96.8°F (36°C) in PACU
-Utilize forced air warmer (Bair hugger) PRN

Patient Education
-Pain expectations/multimodal pain management
-Wound care
-Activity expectations/return to work

Post Discharge

Contact Patient within 2 business days
-Make postop phone call to patients within 2 days of discharge (72 hours if Friday case)
-Ensure patient has contact information for postoperative questions
-Increase follow up contact for patients at high risk for ED visits or readmissions

Clinic Visit within 2-4 weeks
-Single return clinic visit for uncomplicated cases
-May utilize telemedicine for some follow up visits

References

-ASHP Clinical Practice Guidelines for Antimicrobial Prophylaxis in Surgery (2013). https://www.ashp.org/-/media/assets/policy-guidelines/docs/therapeutic-guidelines/therapeutic-guidelines-antimicrobial-prophylaxis-surgery.ashx?la=en&hash=A15B4714417A51A03E5BDCAC150B94EAF899D49B
-Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection (2017). https://jamanetwork.com/journals/jamasurgery/fullarticle/2623725
-Michigan Opioid Prescribing and Engagement Network (2022). https://opioidprescribing.info/

MSQC
Michigan Surgical Quality Collaborative

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