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INTRODUCTION TO GENERAL SURGERY

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In relation to this presentation, I declare the following, real or perceived conflicts of interest:

Nothing to declare

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PHARMACIST COMPETENCY STANDARDS

Pharmacist competency standards* addressed include:

- 3.1.2
- The performance criteria should include ability to compile medication management plan

**National competency standards framework for pharmacists in Australia, 2016*

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LEARNING OBJECTIVES

- Common reasons why people see a general surgeon
- Describe the management of common surgical conditions and common procedure performed by general surgeons
- Describe a general surgeon's approach to a patient requiring general surgery, in the peri-operative setting.

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WHAT IS GENERAL SURGERY?

- Surgical speciality that focuses on the abdominal cavity and its contents.
- Includes subspecialities
  - Breast and Endocrine Surgery
  - Hepatobiliary Surgery (Liver / Pancreas / Biliary System)
  - Upper Gastrointestinal Surgery
  - Colorectal Surgery
  - Transplant Surgery
  - Trauma Surgery
  - Soft Tissue / Melanoma

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WHAT IS GENERAL SURGERY?

- Depending on acuity / type hospital
- Regional / General Hospital
  - Surgeons with a special interests
- Tertiary referral hospital
  - Subspecialties

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GENERAL SURGERY

- Emergency
  - Trauma
  - Acute general surgery
- Elective
  - Symptomatic conditions
  - Malignancy

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COMMON REASONS WHY PEOPLE SEE A GENERAL SURGEON

- **Emergency**
  - Inflammatory / Infectious pathologies
  - Hernias
  - Bowel pathology
    - Perforated viscus
    - Bleeding
    - Neoplastic conditions
  - Trauma

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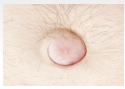
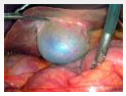
COMMON REASONS WHY PEOPLE SEE A GENERAL SURGEON

- **Elective**
  - Symptomatic hernias
  - Gallbladder pathology
  - Abdominal Pain
  - Malignancy

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DESCRIBE THE MANAGEMENT OF COMMON SURGICAL CONDITIONS

- Appendicitis
- Gall bladder pathology
- Diverticular disease
- Pancreatitis
- Hernias

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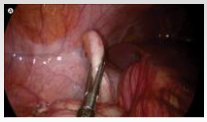
ACUTE APPENDICITIS



- Inflammation of the appendix
- Common
- Risk of rupture / abscess formation / liver abscess

Symptoms

- Central / lower abdominal pain
- Shifting to the RIF
- Associated nausea, vomiting, anorexia, diarrhoea
- Systemically unwell

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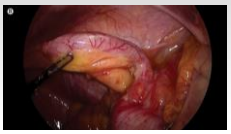
ACUTE APPENDICITIS



Management

- IVABs
- Clinical diagnosis
- Imaging - US / CT
- Surgery - laparoscopic appendicectomy

Post-op

- Usually well and able to be discharged within 24 hours
- POABs

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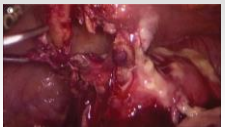
APPENDICECTOMY



- Laparoscopically majority of the time
- 3x surgical ports
- Suction purulent fluid
- Divide mesoappendix
- Secure the base of the appendix

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GALL BLADDER PATHOLOGY

Gall Bladder
- Pear-shaped organ
- Bile helps breakdown dietary fats

Gallstones
- Too much cholesterol
- Too much bilirubin

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GALL BLADDER PATHOLOGY

Complications of gallstones
- Biliary colic
- Cholecystitis - acute or chronic
- Gallbladder mucocele / empyema
- Obstructive jaundice
- Cholangitis
- Pancreatitis

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GALL BLADDER PATHOLOGY

Symptoms
- RUQ pain / Epigastric pain
- Radiating to the back / right shoulder
- Nausea / vomiting
- Systemic symptoms

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GALL BLADDER PATHOLOGY

Management
- IVABs
- Imaging - USS / CT
- May settle with non-operative management or require cholecystectomy

Post-op
- Usually well and able to be discharged within 24 hours
- May develop intolerance to fatty foods

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CHOLECYSTECTOMY

- Laparoscopically majority of the time
- 4x surgical ports
- Divide adhesions to the gallbladder
- Dissect of cystic duct and cystic artery
- Perform cholangiogram - exclude ductal pathology
- Secure cystic duct and artery with clips
- Remove gallbladder

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DIVERTICULAR DISEASE

- Most commonly in the sigmoid colon
- Anatomical weakness in the muscle wall of the bowel

Presentation

- Acute lower GI bleed
- Acute diverticulitis
  - LIF pain / systemic symptoms

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DIVERTICULAR DISEASE

Management

- Imaging - CT
- IVABs
- Most will settle with IVABs alone
- Surgery if does not resolve - Hartmann's procedure
- Elective colonoscopy to exclude underlying malignancy once inflammation resolves

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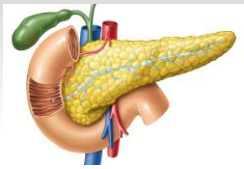
PANCREATITIS



- Pancreas is an organ that has both exocrine and endocrine functions
- Aid in digestion and blood sugar level control
- Pancreatitis, inflammation of the pancreas
  - Acute or chronic

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PANCREATITIS

Causes

- Gallstones
- Alcohol

Symptoms

- Upper abdominal pain, radiating to the back
- Fever
- Nausea / vomiting

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PANCREATITIS

Management

- Blood tests - serum Lipase / Amylase
- Supportive therapy
  - IV Fluids
- Identify cause of pancreatitis
  - Gallstones → cholecystectomy
  - Alcohol → Alcohol cessation
  - Medications

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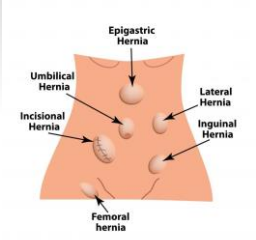
HERNIAS



- Protrusion of an organ through an opening of the muscle of tissue that holds it in place
- Types
  - Umbilical hernia
  - Inguinal hernia
  - Incisional hernia

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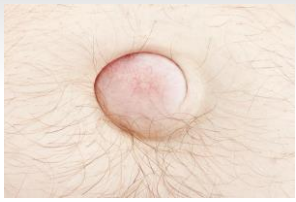
HERNIA

Symptoms

- Pain
- Lump
  - Reducible
  - Irreducible
  - Enlarging
- Obstruction
  - Nausea / vomiting
  - Obstipation



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HERNIA

Management

- Manual reduction of the hernia
- Imaging to confirm diagnosis / contents
- Surgery if irreducible
  - Repair of hernia
  - Bowel resection

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HERNIA REPAIR

- Laparoscopic or open, depending on location / size
- Divide attachments to surrounding tissue
- Reduce the peritoneal sac and its contents
- Close the defect
  - Primarily
  - Mesh repair

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ENDOSCOPY AND COLONOSCOPY

- Examination of the GI tract with the use of an endoscope
- Diagnostic and therapeutic
- Upper endoscopy
- Colonoscopy

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PERI-OPERATIVE CONSIDERATIONS

Disease factors

Patient factors

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DISEASE FACTORS

- Patient's symptoms
- Pre-operative investigations to confirm diagnosis
- Expected progression over time
- Impact on quality of life
- Risk of surgery
- Risk vs Benefit
- Patient wishes

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PATIENT FACTORS

- Fitness for surgery
  - Functional capacity / Exercise tolerance
  - METs
    - >4 METs
    - Climbing a flight of stairs without stopping
    - Walk up a hill for 1-2 blocks
    - Golf, bowls, dancing, tennis

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PATIENT CO-MORBIDITIES

Obesity
- Pre-operative weight loss
- VLCD diet (Optifast)

Respiratory disease / COPD

Cardiovascular disease
- IHD / Unstable angina
- Recent MI

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PATIENT CO-MORBIDITIES

Renal failure
- Imaging (contrast nephrotoxic)

Immunosuppression
- Transplant
- Poorly controlled diabetes
- Steroids

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PATIENT CO-MORBIDITIES

Diabetes
- First case on a morning list
  - Avoid prolonged fasting
- Strict glycaemic control
- Management of oral hypoglycaemics

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PATIENT CO-MORBIDITIES

Smoker

Alcohol consumption

Social supports

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PATIENT MEDICATIONS

Anticoagulation
- Thromboembolic risk vs haemorrhage risk
- CHADS2 scores

- Consider type of procedure

- Consider indication
  - Clotting disorder - Factor V Leiden
  - Atrial Fibrillation
  - Heart valve replacement, Cardiac stenting

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PATIENT MEDICATIONS

Aspirin
- Can be continued for most surgeries

Plavix
- Cease 5-7 days pre-op

Warfarin
- Cease 5 days pre-op
- Usually bridged with Clexane or Heparin

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PATIENT MEDICATIONS

Novel oral anticoagulants (NOAC)
- Dabigatran - Pradaxa
- Rivaroxiban - Xeralto
- Apixiban - Eliquis

- Cease 24-48 hours pre-op
- Longer if renal failure

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PATIENT MEDICATIONS

Oral hypoglycemic agents
- SLGT2 inhibitors
  - Empagliflozine, Dapagliflozin, Canagliflozin
    - Stopped 3-4 days pre-op
    - Risk of euglycemic diabetic ketoacidosis
- Other oral agents
  - Withheld morning of surgery

Insulin
- Withhold or dose reduction

Post-op
- Early return to diet
- Insulin infusion / sliding scale

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THE END

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