Surgical Solutions to Biological Abnormalities

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Background

- Belfast, Northern Ireland
- Queens University Belfast
- Basic Surgical Training
- Research – Higher degree
- Higher Specialist Training
- Clinical Fellowship
- Academic Appointment
- Clinical, Research, Education (UG/PG)
Advantages of being a doctor

- Varied career opportunities
- Job security
- Pay
- Job Satisfaction
- Travel
- Research
- Teaching
Disadvantages

- Opportunity to study medicine difficult
- Hard work to succeed
- Long hours
- Can be antisocial
Getting in to study Medicine

Edinburgh University Medical School

2700 applicants

570 overseas applicants

2150 UK / EU

7.5% cap = 16/17 places

270 Offers

190 Places

Offer acceptance @ 65%
Edinburgh University

- No quota for Scottish or other British Regional applicants
- 55-60% of places are taken by students resident in Scotland
- 10-15% mature students
- 85-90% school leavers
Application

- Weighting of nonacademic and academic components of UCAS application varies between the 28 UK medical schools

- e.g. Edinburgh currently 50:50 weighting of non-academic and academic components

- Oxbridge virtually no weighting for non-academic component
Personal statement

- Important as a means to get invited for interview

- UK CAT similarly important for interview selection
Interview

- No interview e.g. Edinburgh, Southampton
- Traditional e.g. St Andrews
- OSCE type e.g. Dundee, Glasgow, Aberdeen
Advice

- Be aware of the selection policies and procedures of all the medical schools and pick ones that suit your strengths.

- If not successful but committed consider biomedical science and graduate entry.
General Surgery Emergencies

- Unscheduled
- Unselected
- Detective
- Anatomy
- Judgements
- Clinical skill
Abdominal Pain

- Numerous potential diagnoses
- Can be life threatening
- Many do not require surgery
- Observation
- Emergency surgery
Visceral pain

- Autonomic
Visceral pain

- Autonomic
- Dull ache
- Poorly localised
- Distension
- Inflammation
- Ischaemia
Visceral pain

- Autonomic
- Foregut
Visceral pain

- Autonomic
- Foregut
- Midgut
Visceral pain

- Autonomic
- Foregut
- Midgut
- Hindgut
Somatic pain

- Parietal pain
- Peritoneal irritation
- Severe
- Persistent
- Localised to anatomy
Somatic pain

- Parietal pain
- Peritoneal irritation
- Severe
- Persistent
- Localised to anatomy
Acute cholecystitis

- Epigastric or upper abdominal pain
- Maximally tender in RUQ
Appendicitis

- Central or periumbilical pain
- Migrating to right iliac fossa

Acute appendicitis
Diverticulitis

- Lower abdominal pain
- Maximally tender in left iliac fossa
Emergency Admission 1

- 42 year old female
- Intermittent upper abdominal pain - years
- 36 hour severe RUQ pain
- Nausea
- Fever
- Tender RUQ
Investigation
Gallstones

- Biliary colic
- Acute cholecystitis
- Jaundice
- Pancreatitis
- Gallstone ileus
Anatomy

Biliary System

- Right Hepatic Duct
- Left Hepatic Duct
- Liver
- Pancreas
- Stomach
- Gallbladder
- Cystic Duct
- Common Hepatic Duct
- Common Bile Duct
- Pancreatic Duct
- Duodenum
Minimal scarring
Emergency Admission 2

- 18 year old female
- 12 hours abdominal pain
- Vomited x 3
- Tachycardia
- Tender RIF
Anatomy

Ileum (small intestine)
Cecum (large intestine)
Appendix
Emergency Admission 3

- 75 year old male
- Longstanding irregular bowel habit
- Acute onset generalised abd. pain
- Hypotensive
- Collapse
- Rigid abdomen
Diverticular Disease
Resection and anastomosis

- Portion of colon to be removed
- Remaining sections joined

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Temporary Stoma
Specialist Surgery

- **Cancer Surgery**
  - Improved survival
  - Symptom control
  - Emergency complication

- **Multidisciplinary Team**
  - Radiologist
  - Oncologist
  - Pathologist
  - Nursing staff
Colorectal Cancer

- Most common GI malignancy
- 2nd commonest cause of cancer death
  - (1st is lung cancer)
- 36,000 cases per annum in UK
- Lifetime risk – 5%
- Spread to liver
Colorectal metastases - survival

Royal Infirmary of Edinburgh

- resection (137)
- no resection (189)

$P < 0.0001$ log rank test
Intraoperative Ultrasonography
Argon Beam Coagulation
Fibrin Glue

Tissue Fleeces
Pancreatic Cancer

- 10th most common cancer
- 5th most common cause of cancer death
- 7600 cases per year in UK
- Only 15-20% are resectable
- 20% 5 year survival
Pancreatic Cancer

Survival (%) vs Time since diagnosis (years)

- Excision
- Biliary stent only
- Other surgery
- None
Utility of MDR-CT

Primary Tumor

Venous Anatomy

Sensitivity/specificity for vascular disease approx 90%+

But poorer for small volume Liver and peritoneal disease

Arterial Anatomy

Celiac axis

SMA

Hepatic art.
Staging Laparoscopy
Pancreatic Resection

Anastomoses
1. pancreaticojejunostomy: panc. juice enters jejunum
2. hepaticojejunostomy: bile enters jejunum
3. duodenojejunostomy: restores continuity of GI tract; food passes to jejunum from stomach, preserving pylorus function
Mobilisation
Tumour Excised
Reconstruction
Summary

- Surgical solutions to biological abnormalities
  - Inflammatory processes
  - Cancer
- Emergency & Elective presentations
- Surgeon is just one member of the multidisciplinary team