OSCE-Aid Presents:

Common Cases: Surgery and Vascular
What to expect

Stable, chronic conditions in well patients

Patients who have had previous surgery and have scars or stomas

Medical conditions with surgical sequelae
What is expected of you

To demonstrate a clear, safe system of examining surgical patients

To demonstrate an understanding of the major elective operations performed

To understand some surgical pathology
Surgical Stations

1) Abdominal Scars
2) Stoma examinations
3) Hernia examinations
4) Vascular examinations
Abdominal scars

- Rooftop
- Kocher’s
- Transverse
- Lanz & Gridiron
- Groin
- Vertical femoral
- Pfannenstiel
- Laparoscopy ports
- Paramedian/Battle
If in doubt, just say what you see...

- Laterality
- Quadrant/area
- Size/length
- Orientation
- Associated features
- Relation to other scars or stomas
Important Scars

• Midline laprotomy – “the workhorse”
  – **Exploratory** – emergency or exploratory
  – **Bowel** pathology
    • Colonic or rectal resection - malignancy
    • Small bowel resection/stricturoplasty - malignancy/IBD
  – **Open AAA** repair
Important Scars

• **Laparoscopic ports**: Umbilical (10mm for the camera) + 2-4 other small incisions
  – Most commonly: appendicectomy and cholecystectomy

• **ALL bowel resections can be done laparoscopically**: look for larger scars nearby

• **Kochers (right)/Subcostal (left)**
  – Open access to the biliary tract and spleen
  – Older patients who have had cholecystectomy
Important Scars

• Nephrectomy Scar
  – *One not to miss*
  – Indication: malignancy or severe calculi in non-functioning kidney
Likely Cases: Crohn’s

SIGNS

• Young, male, smoker

• Cachectic

• Pale (anaemia of chronic disease / iron deficiency / B12 deficiency)

• Evidence of multiple courses of steroids

• Clubbing

• Energy drinks e.g. ensure plus
Likely Cases: Crohn’s

**SIGNS**

- Oral ulcers / evidence of malnutrition e.g. glossitis
- Abdominal scars
  - Likely multiple, including laparotomy
  - May include previous stoma sites
- Stomas - ileostomy/colostomy
- Fistulae – enterocutaneous
- Anal fissures
Present your findings:

“On examination of this young gentleman, he appeared well at rest, but with a markedly cachectic. He had conjunctival pallor, multiple oral ulcers and a plethora of abdominal scars indicating a large number of abdominal surgeries and previous stoma sites. I suspect this gentleman’s underlying diagnosis is an inflammatory bowel disease such as Crohn’s disease”
What are the key differences between Crohn’s Disease and Ulcerative Colitis?

<table>
<thead>
<tr>
<th>Crohn’s Disease</th>
<th>Ulcerative Colitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the mouth to the anus</td>
<td>Colon &amp; Rectum</td>
</tr>
<tr>
<td>Bowel wall thickened - ‘cobblestones’</td>
<td>Thin bowel wall</td>
</tr>
<tr>
<td>‘Patchy’ disease with skip lesions</td>
<td>Continuous disease</td>
</tr>
<tr>
<td>Ulcers can be deep – transmural</td>
<td>Ulcers do not cross the muscularis mucosae (mucosal)</td>
</tr>
<tr>
<td>Granulomas are common</td>
<td>Granulomas are uncommon</td>
</tr>
</tbody>
</table>
Top questions: (2)

What are the indications for surgery in Inflammatory Bowel Disease?

- Failure of medical management to control symptoms
- Abscess formation and fistulae
- Obstruction / strictures
- Toxic megacolon
- Sepsis
- Cancer
- Curative (only UC)
Surgical Stations

1) Abdominal Scars
2) Stoma examinations
3) Hernia examinations
4) Vascular examinations
Stomas: What to Look For

The Stoma

- Site
- Spouted or flush
- Pink/well perfused
- Skin bridge/rod
- Retracted
- Luminal stenosis
- Hernias
Stomas: What to Look For

The contents of the bag (if clear)

- Liquid/Solid Stool/Gas
- Colour
- Volume
- Blood?

“The stoma appears to be functioning well….”
Stomas: What to Look For

The surrounding area:

– Cellulitis
– Excoriation of skin
– Parastomal hernias
– Associated scars
– Nearby mucous fistula
# Stomas: What to Look For

<table>
<thead>
<tr>
<th></th>
<th>Site</th>
<th>Bag Contents</th>
<th>Stoma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ileostomy</strong></td>
<td>RIF</td>
<td>Liquid stool (green coloured)</td>
<td>Spouted</td>
</tr>
<tr>
<td><strong>Colostomy</strong></td>
<td>LIF</td>
<td>Solid stool (brown coloured)</td>
<td>Flush with skin</td>
</tr>
<tr>
<td><strong>Urostomy</strong></td>
<td>RIF</td>
<td>Urine</td>
<td>Spouted</td>
</tr>
</tbody>
</table>
Present your findings:

“I examined this gentleman’s stoma. It is situated in the right lower quadrant of the abdomen together with a midline laprotomy scar. There is a marked parastomal hernia but no surrounding cellulitis. The surrounding abdomen is soft. The stoma is raised from the skin and stoma bag contains liquid stool only. This is likely to be an ileostomy.

To complete my examination, I would examine the perineum and perform a digital examination of the stoma.”
Stomas: A Few Principles

– Permanent or temporary
– Protecting a distal anastomosis
– Need for further laparotomy
– Hartmann’s:
  • Emergency resection
  • Diseased colon is resected and rectal stump oversewn
  • End colostomy brought to skin surface
  • Reversal in 6-12 months
Surgical Stations

1) Abdominal Scars
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Groin Lumps: The Inguinal Hernia

- This will be the most likely case in finals (stable, common, multiple findings on examination)
- Femoral hernia also less likely possibility
- You must examine the testis (this WILL be expected in Finals)
The Inguinal Hernia: Examination Findings

- Bulge is felt superior and medial to the pubic tubercle
- Cough impulse
- Bowel sounds / extension into testis
- Abdominal findings
- Scars from previous hernias
The Inguinal Hernia: Important Negatives

- Non-tender
- Non-pulsatile
- Compressible and reducible (no obstruction / no strangulation)
Present your findings:

“This gentleman has a 3 by 3 cm right sided groin lump situated superiorly and medially to the pubic symphysis. It is soft, non-tender and is easily reducible with a strong cough reflex. There is no extension into the genitalia.

I believe this is an uncomplicated inguinal hernia. The abdomen is soft with no palpable masses.”
Top questions: (1)

What are the differential diagnoses for a groin lump?

- Hernia – INGUINAL or Femoral
- Lymph node
- Arterial aneurysm
- Saphenous Varix
- Haematoma
- Groin abscess
- Testis (undescended)
Top questions: (2)

What is the definition of a hernia?

“Protrusion of a tissue through the wall of the cavity in which it is normally contained”
Top questions: (3)

What are the risk factors for developing a hernia?

• Male
• Personal history or family history of hernias
• Factors increasing abdominal pressure
  – Obesity, ascites
  – Cough (chronic)
  – Constipation
  – Manual labour
• Factors weakening abdominal wall
  – Abdominal surgery (esp. open appendicectomy)
  – Wound healing problems
  – Older age
Top questions: (3)

How should this hernia be managed?

• Non-operative: control of chronic cough, weight loss

• Operative
  – If obstructed or strangulated: urgent surgery
  – Open mesh repair
  – Laparoscopic repair

N.B. Femoral hernias may come up in questioning!
Top questions: (4)

What are the borders of the inguinal canal?

<table>
<thead>
<tr>
<th></th>
<th>Roof: Transversalis and internal oblique aponeurosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior Wall:</td>
<td>External oblique aponeurosis</td>
</tr>
<tr>
<td>Contents:</td>
<td>Spermatic Cord and Ilioinguinal Nerve</td>
</tr>
<tr>
<td>Posterior Wall:</td>
<td>Transversalis Fascia and conjoint tendon</td>
</tr>
<tr>
<td>Floor:</td>
<td>Inguinal Ligament</td>
</tr>
</tbody>
</table>
Surgical Stations

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Vascular Disease

Make sure you answer these questions:

• Is it venous, arterial or mixed disease?

• Varicose veins:
  • Are there complications present?
  • At what level and distribution is the disease?

• Arterial:
  • How severe is the disease?
Signs: Arterial Disease

- Smoker, overweight, male, “arteriopath”

- Look:
  - Colour
  - Necroses between the toes
  - Ulceration: tips, toes, heels
  - Scars: bypass

- Feel:
  - Cool with weak pulses

- Move:
  - Buerger’s test, Doppler flow
Buerger’s Angle

Every text book will give you different values for mild, moderate, severe and critical ischaemia.

**Buerger’s Angle** (elevation of the legs in the supine position):

- The legs should NEVER go pale in a healthy individual, even at 90 degrees
- Pallor at <20 degrees is likely to be severe ischaemia
ABPI

ABPI = ankle : brachial pressure index

(systolic of the ankle / systolic of the upper limb - measured using a Doppler probe)

0.9 - 1.2 Normal

0.5 - 0.9 Moderate arterial disease

<0.5 Severe disease (needs an urgent referral)

>1.2 Calcification from PAD
Present your findings:

“I examined the legs of this elderly gentleman. They were **heavily bandaged** prior to my arrival, however the bandages were clean and dry on inspection.

His **pulses** were weak bilaterally and the **dorsalis pedis** was absent on the left hand side. **Popliteal pulses** were intact. There was no active ischaemia. He had a **Buergers angle** of 45 degrees. I would like to measure the **ABPI**.
What is critical limb ischaemia?

- It is a chronic condition characterised by rest-pain, ulcers and gangrene in the presence of known severe arterial disease.

- *N.B. different* from acute leg ischaemia, often caused by trauma, aneurysms or emboli.
Top questions: (2)

How do you manage chronic limb ischaemia?

- **Conservative** - exercise, smoking cessation, diet
- **Medical** - aspirin, statins, BP control
- **Surgical** - stenting, angioplasty, grafting, amputation
Signs: Venous Disease

- Haemosiderin deposits
- Lipodermatosclerosis
- Thrombophlebitis
- Ulcers and atrophie blanche
- Varicose veins and incompetent veins
Venous Disease

• Varicose veins are usually related to:
  – Obesity
  – Age
  – Prolonged standing
  – Pregnancy
  – DVTs

• But remember abdominal and pelvic masses as more worrying causes
Present your findings:

“I examined the legs of this elderly woman. They were dressed in compression bandages but were clean and dry on inspection.

She had marked venous eczema, haemosiderin deposition and lipodermatosclerosis. There are multiple healed ulcers over the malleoli. There are varicosities in the long saphenous vein.

There was incompetence in the valves demonstrated with the tourniquet test at the level of the sapheno-popliteal junction…”
Top questions: (1)

What are varicose veins?

Dilated, tortuous superficial veins on the skin surface caused by venous insufficiency and incompetent valves.

What are the indications for treatment?

Symptomatic varicosities e.g. aching, pain, bleeding, ulcers
Top questions: (2)

How would you further investigate varicose veins?

• Ultrasound scan with doppler flow
• ABPIs
• Pelvic/abdominal ultrasound if indicated

What are the treatment options for varicose veins?

• Non-operative: compression bandaging, dressings, lifestyle
• Operative: sclerotherapy, laser ablation, vein stripping
Vascular Disease

Choose your varicose vein level test but be prepared to demonstrate all the common methods

When presenting remember important positives and important negatives

Try to remember two of each!
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Edited by: Dr Celine Lakra

Hosted by: OSCE-Aid

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