Surgical Master-class
1. Mr Fleming is a 75 year old male who is brought to the ED with 24 hours of worsening upper abdominal pain. His vital signs are: HR 110/min, BP 102/65, RR 18, BT 38.5º C. You decide to take blood cultures and commence triple antibiotics. What investigation is the next priority to order?

   a) An erect chest x-ray
   b) An abdominal CT scan
   c) Serum amylase and liver function tests
   d) Endoscopy and ERCP
   e) An abdominal ultrasound
2. You are asked to see a 38 year old woman, on a surgical ward, 4 hours after an uncomplicated elective laparoscopic cholecystectomy. The nurses report that she has been in some pain and has complained of shortness of breath. A set of arterial blood gases has been drawn while she was breathing room air and the result is as follows: pH 7.48 (7.35-7.45), PaO₂ 96 (80-100), PaCO₂ 28 (35-45), HCO₃ 20 (22-26), Base Ex +1

What is the most likely explanation for the patient’s dyspnoea?

a) Post operative bleeding
b) Asthma
c) Pulmonary embolus
d) Pneumonia
e) Pain
3. You have been managing a patient post partial thyroidectomy for a multinodular goitre. You are called by Microbiology because the tip of a central venous catheter you sent 2 days ago has grown a gram-positive cocci. The patient concerned had developed a fever 2 days postoperative. You had not identified a focus for the fever but the CVC had been removed when the fever developed. Blood cultures have subsequently been negative. The patient was not commenced on antibiotics. For the past 24 hours the patient’s temperature has reached a maximum of 37.3°C

What is the most likely explanation?

a) The patient has a gram positive septicaemia
b) The patient has staphylococcus bacteraemia
c) The microbiology findings are probably the result of contamination
d) The patient’s central line was colonized by staphylococci
e) The patient has a likely wound infection
4. Mr Bolton is a 65 year old male with a long history of heavy alcohol abuse. He presents to hospital on the third occasion in 2 years with typical feature of acute pancreatitis. The following abnormal results are obtained

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBC</td>
<td>18.8</td>
<td>4 - 11 x 10⁹/L</td>
</tr>
<tr>
<td>Biochemistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>2.9</td>
<td>3.8-4.9 mmol/L</td>
</tr>
<tr>
<td>HCO₃</td>
<td>21</td>
<td>22-32 mmol/L</td>
</tr>
<tr>
<td>Glucose</td>
<td>8.8</td>
<td>4.0-7.0 mmol/L</td>
</tr>
<tr>
<td>AST</td>
<td>425</td>
<td>&lt;40 U/L</td>
</tr>
<tr>
<td>ALP</td>
<td>87</td>
<td>&lt;45 U/L</td>
</tr>
</tbody>
</table>

What would his predicted risk of mortality be?

a) Indeterminate; more information is required on admission
b) Moderate ~ 15
c) High ~40
d) Indeterminate: more information is required at 48 hours after admission
e) Low ~ 1%
5. Mr Neil Brompton is a 65 year old male who presents with a painful left groin mass. He feels nauseated and has vomited persistently for the last 12 hours.

What is the most likely diagnosis?

a) Torsion of the testis
b) A strangulated femoral hernia
c) An irreducible direct inguinal hernia
d) An irreducible indirect inguinal hernia
e) Epididymo-orchitis
6. The standard treatment for an inguinal hernia in a 50 year old man who is minimally symptomatic is which of the following?

a) Observation with surgery if it enlarges
b) Observation with surgery if it becomes irreducible
c) Sutured repair
d) Open Mesh repair
e) Laparoscopic mesh repair
7. You are the night intern in casualty when a 57 year old woman with known metastatic breast cancer presents at 4 am. She complains of increasing thoracic back pain over several days not responding to oral analgesia. She doesn’t complain specifically of weakness or bowel or bladder symptoms but on examination she has some numbness up to the level of the umbilicus.

What is the investigation that this lady needs urgently?

a) Tc99m Bone Scan
b) Thoracic and lumbar spine X-rays
c) PET scan of thoracic and lumbar spine
d) MRI scan of thoracic and lumbar spine
e) Nerve conduction studies of the lower limbs
8. A 55 year old woman presents with a 2 cm lump in her right breast. The lump is in the upper outer quadrant and is firm and mobile. No axillary lymphadenopathy is palpable. The most appropriate management is?

a) Mastectomy and axillary clearance
b) Lumpectomy and axillary clearance
c) Fine needle aspiration of the lump
d) CT scan of the chest and abdomen
e) PET scan
9. A 35 year old medical receptionist presents having found what she thinks may be a breast lump on self breast examination. On examination she has generalized lumpy breasts with no discrete masses present. Which of the following is the best test to investigate further?
   a) Mammogram
   b) Ultrasound guide biopsy
   c) Mammogram and ultrasound
   d) CT scan
   e) Fine needle aspiration of the lump
10. A 50 year old cleaner presents with a lump in the left breast that is both clinically and radiologically suspicious for cancer. How should a diagnosis best be reached?

a) Fine needle aspirate and cytology
b) Percutaneous core biopsy
c) Incisional biopsy
d) Excisional biopsy
e) Lumpectomy
11. A 36 year old woman has undergone treatment for breast cancer: Stage IIB; T2N0(i+)M0. She has undergone a lumpectomy, chemotherapy and radiotherapy. She asked if the cancer comes back where will it happen.

What would you tell her is the most common site for recurrent breast cancer?

a) Bone
b) Lung
c) Liver
d) Brain
e) Axillary lymph nodes
12. You have had a patient's care handed over to you in ED. John Rikolic is a 56 year old man who has presented with one week of malaise, jaundice and itch but no constitutional symptoms.

On examination you find he has icteric sclerae, normal vital signs and a palpable lump in the RUQ which moves with inspiration. You expect his blood tests to show:

a) Raised albumin
b) Raised AST
c) Reduced globulin
d) Raised ALP
e) Low albumin
13. In Mr Rikolic’s case, you understand that his jaundice could be caused by many conditions. You have a high index of suspicion that the cause of his problems is:
   a) Gastric cancer
   b) Oesophageal cancer
   c) Cholelithiasis
   d) Pancreatic cancer
   e) Hepatocellular cancer
14. Bradley Solomon is a 21 year old man brought into your rural general practice by his mother for a check up. He was struck on side of the helmet by a cricket ball earlier in the day and felt he may have blacked out for a short time but then was able to continue playing.

He now feels a bit tired. On assessing him further the most important diagnosis to exclude is:

a) Subarachnoid haemorrhage
b) Subdural haematoma
c) Fractured zygoma
d) Intra-cerebral contusion
e) Extradural haemorrhage
15. A 42 year old woman has undergone treat for breast cancer: Stage IA; T1N0(moi+)M0. She has undergone a lumpectomy. In assessing her prognosis of early breast cancer what is the most important prognostic factor?

a) Age  
b) Size  
c) Grade of tumour  
d) Receptor status  
e) Nodal status
16. James Robbins is a 66 year old retired policeman who presents to ED with 24 hours of anorexia, colicky abdominal pain, vomiting and abdominal distension. He has noticed poor urine output and appears to have reduced skin turgor, HR 96, BP 120/70. He has a past history of an appendectomy at age 12, hypertension and cataracts at age 65.

What is the most appropriate initial fluid for this man?

a) 5% Dextrose
b) 5% Dextrose with Potassium chloride
c) Normal Saline
d) Normal Saline with potassium chloride
e) Synthetic colloid
17. A 54 year old male is brought to the ED after losing control of his motorcycle and hitting a tree. He is diagnosed with multiple left rib fractures and a left pneumothorax. A large bore 28 F intercostal catheter (ICC) is inserted with difficulty due to pain. The Registrar performing the procedure was not confident about the position of the tube due to a large amount of blood draining from the incision site of the ICC.

What is the best way of determining the correct location of the intercostal catheter?

a) A chest x-ray confirm that the most distal side hole is intra-thoracic
b) Confirming that the drainage water seal level oscillates with the heart beat
c) Gas bubbles in the drainage water seal
d) More than 500 mL of blood draining through the tube
e) Reverse swing of the drainage water seal when the patient performs a valsalva manoeuvre
18. Bruce Mitchell is a 59 year old banker who was brought by ambulance to the Emergency Department with sudden, severe abdominal pain in the mid abdominal area. He has smoked 25 per day for 40 years and is currently taking felodipine and irbesartan.

His BP is 110/70 and his HR is 108 regular. He appears distressed and is sweaty. Which of the following findings are of most significance on abdominal examination?

a) Rebound tenderness over McBurney’s point
b) A tender pulsatile mass in the abdomen
c) Absent pulses in one leg
d) A prominent abdominal bruit
e) Caput medusae
19. Noel Fleetman presents to the vascular clinic with unsightly varicose veins of both legs. He has also had an ulcer 2-3 cm above the medial malleolus, present for 7-8 weeks. This ulcer is irregular and bleeds on minor contact. The edge of the ulcer appears raised. You think this ulcer is most likely to be

a) Squamous cell carcinoma
b) Basal cell carcinoma
c) Keratoacanthoma
d) Bowen’s disease
e) Pyogenic granuloma
20. A 72 year old man presents with a 4 month history of pain in the left calf while walking that is relieved by rest. He has no pain at rest and is an ex-smoker with a 30 pack year previous history. He is not diabetic, hypertensive or hypercholesterolaemic. On examination his dorsalis pedis and posterior tibial arteries are impalpable bilaterally. His left popliteal artery is weak and the right present. Femoral arteries are palpable and have no bruits. The most appropriate initial investigation is?

a) Lower limb angiogram
b) Lower limb Doppler
c) Plain X-ray of the left calf
d) CT of the lumbar spine
e) Lower limb nerve conduction studies
21. Manuel Borg is a 70 year old man who has had Type 2 diabetes for 30 years. He has had leg pain on walking for some time, but over the last two months he gets pain when walking to his letterbox. Yesterday he had his angiogram but now presents with a swelling over the puncture site. This is most likely to be caused by

a) Infection with Staph aureus
b) False aneurysm
c) Necrobiosis lipoidica
d) Haematoma
e) Traumatic aneurysm
22. Dorothy Butler has been brought to ED from her nursing home. She has been on long term Levodopa for Parkinson’s disease and oxycodone for low back pain, but has become unwell and confused, with anorexia, vomiting and no bowel actions.
Dorothy Butler Continued...

What does her X-ray indicate?

a) Bowel obstruction
b) Ischaemic colon
c) Intussusception of the caecum
d) Sigmoid volvulus
e) Toxic megacolon
23. A 54 year old butcher has adenocarcinoma of the colon resected and histopathology reveals 5 nodes positive for disease.

The next most appropriate step in management is?

a) Radiation therapy
b) Adjuvant chemotherapy
c) Further laparotomy
d) Observation with 3 monthly CT scans
e) PET scan
24. Ben D’Amico is a 26 year old man who is brought in following a fall at work. He complains of difficulty moving the fingers of his right hand. You find he has reduced strength in splaying his fingers apart and has reduced sensation over his little finger. His elbow and shoulder movements are normal. You suspect he has suffered trauma to his:

a) Radial nerve  
b) Ulnar nerve  
c) Median nerve  
d) Axillary nerve  
e) Brachial plexus
25. John Panelos is a 23 year old man who presents following a motorbike accident 30 minutes ago. He is brought in to ED by a friend riding alongside him on another bike. On examination his HR is 84, his BP is 126/80 and he has mild abdominal tenderness over the left upper quadrant. He otherwise feels ‘quite well’ with no pain otherwise. You decide the most appropriate action is:

a) Administer oxycodone and review in 3-4 hours.
b) Perform a digital rectal examination
c) Allow him to go home if his Hb is normal.
d) Allow him to have a small amount of food and drink
e) Observe him closely in ED over the next few hours
26. Rachael McIntyre is a 29 year old pastry chef who has suffered a burn on her right hand. On examination she is not in much pain in the burnt area and the skin appears somewhat dry.

http://www.starnow.co.uk/bekcul len/photos/3135268
Rachael McIntyre cont . . .
She is likely to need:

a) Intramuscular analgesia
b) Skin grafting
c) Intravenous fluids
d) Gentamycin prophylaxis
e) Keloid prophylaxis
27. Jeremy Testudo is a 49 year old physical education teacher who has suffered from an itchy perianal region on and off for about 4 months. He believes he has normal bowel motions but sometimes notices some bright red blood on the toilet paper. There is no blood in the bowl and no sensation of a lump. He has no constitutional symptoms, but does feel a bit stressed as it is exam time at his high school. When you examine him, you are likely to find:

a) Thrombosed haemorrhoids
b) A perianal haematoma
c) Perianal dermatitis
d) An anal fissure
e) Candida infection
28. Louise Coleman was diagnosed with Crohn’s disease when she was 16 years old. Over the past 15 years she has had many admissions for bowel obstructions and perianal abscesses, sometimes requiring long stays in hospital. Over the preceding 36 hours she has developed nausea, vomiting and, more recently, abdominal distension and pain. On examination she has a normal temperature, HR 92/min, BP 120/76. She has a tender and distended abdomen with absent bowel sounds. Your next step in management will be to:

- Insert a Nasogastric tube
- Arrange an urgent laparatomy
- Arrange for urgent decompression
- Counsel her about the need for a stoma
- Arrange for mesenteric angiography