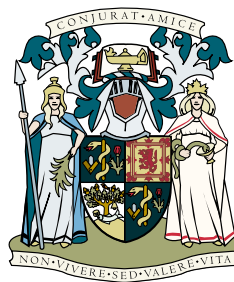


REVISED WITH EFFECT FROM MAY 2010 (v4)

MRCs

Intercollegiate MRCs
Parts 1 and 2
Sample Multiple
Choice Questions



The Examination

Part A of the MRCS will be a four-hour examination consisting of two MCQ papers, each of two hours' duration. A number of the items in the papers will be new items that are being pretested. These items will not contribute towards a candidate's final mark. Candidates will not be told which items will not contribute towards their final score.

The papers will cover generic surgical sciences and applied knowledge, including the core knowledge required in all nine specialties as follows:

1. Paper 1 Applied Basic Science
2. Paper 2 Principles of Surgery-in-General

To achieve a pass in Part A the candidate will be required to demonstrate a minimum level of competence in each of the two papers in addition to achieving or exceeding the pass mark set for the combined total mark for Part A.

The mark for each paper will be combined to give a total mark for Part A. Both papers must be taken on the same day.

Guidance to Candidates

- » There are equal marks for each question.
- » Marks will not be deducted for a wrong answer. However, you will not gain a mark if you mark more than one box for the same item or question.
- » The answer sheets are scanned by machine. If you do not enter your answer to each question correctly and clearly on the answer sheet the machine which scores your paper may reject it.
- » Only answers that are clearly struck horizontally across the correct response will guarantee a mark. Faint marking may be misread, resulting in no mark for that question.
- » Many candidates find it easier to mark their answers on the question booklet first and transfer them to the answer sheet later. If you do this, you should allow time to transfer your answers to the answer sheet before the end of the examination. No extra time will be given for the transfer of answers.
- » You should check that each page of your question booklet has been correctly printed and that the coloured flash on the top of the front page of your question booklet and answer sheet match.

Instructions to Candidates

- » Do not make any marks on your answer sheet other than inserting your candidate number and indicating your answer with a bold horizontal line in the boxes provided.
- » Use only the pencil provided. Do not use pen or ballpoint.
- » If you need to change an answer, you should make sure that you rub it out completely so that the computer can accept your final answer.
- » Do not fold or crease the sheet.

Intercollegiate MRCS Part A: Sample Questions

Paper 1 Applied Basic Science

Single best answer (SBA) format

- » This two-hour paper will consist of 135 single best answer questions.
- » Each question contains five possible answers of which there is only one single best answer.
- » You should decide which option from the list is the single best answer.
- » When you are satisfied with your decision, record your answer on the answer sheet.
- » In the example below, the answer is D; you would record your answer by making a heavy black mark, in pencil, in the box labelled D on line 76 (as shown).

Example single best answer question

76. A 67-year-old woman is brought to the Emergency department having fallen on her left arm. There is an obvious clinical deformity and X-ray demonstrates a mid-shaft fracture of the humerus. She has lost the ability to extend the left wrist joint. Which nerve has most likely been damaged with the fracture?
- A The axillary nerve
 - B The median nerve
 - C The musculocutaneous nerve
 - D The radial nerve
 - E The ulnar nerve

Example answer sheet

76	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	<input type="checkbox"/> E
77	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E

Further examples of single best answer questions

1. A 67-year-old man is admitted to hospital for investigation of an irregular heart beat. The 'conducting system' of the heart includes which one of the following anatomical structures?
- A Atrioventricular node
 - B Chordae tendineae
 - C Fibrous skeleton of the heart
 - D Interatrial septum
 - E Phrenic nerve

2. A 75-year-old woman who had a carcinoma of the distal rectum underwent an anterior resection. The blood supply of the tumour arises from which of the following?
- A Coeliac artery
 - B Ileocolic artery
 - C Inferior mesenteric artery
 - D Internal iliac artery
 - E Superior mesenteric artery
3. A 63-year-old woman presents to her General Practitioner with a three-week history of back pain. She has lost 8 cm in height over the last four years. Investigations reveal:

	Result	Normal
Adjusted (corrected) calcium	2.05 mmol/L	2.15-2.55
Phosphate	0.89 mmol/L	0.6-1.25
Estimated glomerular filtration rate (eGFR)	92 ml/minute	>90
Parathyroid hormone (PTH)	9.8 pmol/L	1.0-6.5

Which of the following is the most likely cause?

- A Hypoparathyroidism
 - B Primary hyperparathyroidism
 - C Pseudohypoparathyroidism
 - D Secondary hyperparathyroidism
 - E Tertiary hyperparathyroidism
4. A 50-year-old woman presents with a swelling in the left side of the neck which is shown to be of thyroid origin. Hemithyroidectomy shows Hashimoto's thyroiditis complicated by a lymphoma. What is the most likely cell type of the lymphoma?
- A B cell
 - B Macrophage
 - C NK cell
 - D Plasma cell
 - E T cell

Example answer sheet

1	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E
2	<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> E
3	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E
4	<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> D	<input checked="" type="checkbox"/> E

Paper 2 Principles of Surgery-in-General

Extended matching questions (EMQ) format

- » This two-hour paper will consist of 135 extended matching questions.
- » Each theme contains a variable number of options and clinical situations. Only one option will be the most appropriate response to each clinical situation.
- » You should select the most appropriate option. It is possible for one option to be the answer to more than one of the clinical situations.
- » When you are satisfied with your decision, mark it on your answer sheet, following the example given, by making a heavy black mark in pencil in the box containing the letter corresponding to the option you have chosen.
- » You should only mark the option that you believe to be correct.

Example extended matching questions

Theme: Chest injuries

Options

- A Tension pneumothorax
- B Aortic rupture
- C Haemothorax
- D Aortic dissection
- E Ruptured spleen
- F Cardiac tamponade

For each of the situations below, select the **single** most likely diagnosis from the options listed above. Each option may be used once, more than once or not at all.

61. A 24-year-old man is brought into the Emergency department having been stabbed with a screwdriver. He is conscious. On examination he is tachypnoeic and has a tachycardia of 120 beats/minute. His blood pressure is 90/50 mmHg. He has a small puncture wound below his right costal margin. A central venous line is inserted with ease, and his central venous pressure is 17 cm. A chest Xray shows a small pleural effusion with a small pneumothorax. He has received two units of plasma expander, which has failed to improve his blood pressure.
62. A 42-year-old man is admitted following a road traffic accident complaining of pains throughout his chest. He was fit and well prior to the incident. He is tachypnoeic and in considerable pain. His brachial blood pressure is 110/70 mmHg and his pulse rate is 90 beats/minute. Both femoral pulses are present though greatly diminished. A chest Xray shows multiple rib fractures and an appreciably widened upper mediastinum. Lateral views confirm a fractured sternum. An ECG shows ischaemic changes in the V-leads.

61	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input checked="" type="checkbox"/> F	<input type="checkbox"/> G	<input type="checkbox"/> H	<input type="checkbox"/> I	<input type="checkbox"/> J
62	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G	<input type="checkbox"/> H	<input type="checkbox"/> I	<input type="checkbox"/> J

If you decide that the answer to the first situation is option F, you would record this by making a heavy black mark in the box labelled F on line 61. If you decide that the answer to the second description is option B you would record this by making a heavy black mark in the box labelled B on line 62.

Further examples of extended matching questions

Theme: Pathological fracture

Options

- A Giant cell tumour
- B Metastatic carcinoma
- C Osteoblastoma
- D Osteomalacia
- E Osteoporosis

For each of the patients described below, select the **single** most likely diagnosis from the options listed above. Each option may be used once, more than once or not at all.

1. A 68-year-old woman has suffered with back pain for four years and developed slight kyphosis in the last year. She underwent a hysterectomy and bilateral salpingo-oophorectomy at the age of 35. She presents with a fracture of the left neck of femur after slipping at home.
2. A 32-year-old woman presents with pain and swelling in the right shoulder. X-ray shows a large radiolucent swelling in the head of the right humerus extending to the subchondral plate.

Theme: Nerve root/nerve injuries

Options

- A First sacral nerve root
- B Fourth lumbar nerve root
- C Fifth lumbar nerve root
- D Common peroneal nerve
- E Deep peroneal nerve
- F Sciatic nerve
- G Superficial peroneal nerve
- H Tibial nerve

For each of the patients described below, select the **single** nerve or nerve root that is most likely to have been injured from the options listed above. Each option may be used once, more than once, or not at all.

3. A 40-year-old man presents with a two-month history of lower back pain. During the last three weeks he has noticed that the pain radiates down the back of his left leg and that he has difficulty walking. On examination in the supine position, elevating his left leg aggravates his pain. There is diminished sensation on his left heel and along the lateral border of his left foot. The ankle jerk is absent on that side.

4. A construction worker has his left leg trapped under falling bricks. At a follow-up clinic eight weeks later it is observed that on the left side he has a foot drop and diminished sensation on the lateral aspect of his leg and the dorsum of the foot, with marginal sparing. He is unable to dorsiflex his left ankle or foot.

Theme: Conditions of the parotid gland

Options

- A Abscess
- B Carcinoma
- C Mikulicz's syndrome
- D Mumps
- E Pleomorphic adenoma
- F Sialiectasis
- G Sjögren's syndrome

For each of the patients described below, select the **single** most likely pathological condition from the options listed above. Each option may be used once, more than once or not at all.

5. An emaciated 80-year-old homeless man is admitted with a hot tender swelling in the left parotid region. He is pyrexial.
6. An 18-year-old is admitted with bilateral testicular swelling, upper abdominal pain, fever, malaise and bilateral parotid swelling.
7. A 34-year-old woman presents with discomfort and swelling of the left parotid salivary gland after meals.

Theme: Lower leg ulceration

Options

- A Chronic obliterative arterial disease
- B Deep venous dysfunction
- C Rheumatoid arthritis
- D Squamous cell carcinoma
- E Superficial venous dysfunction

For each of the clinical situations listed below, select the **single** most likely diagnosis from the options listed above. Each option may be used once, more than once or not at all.

8. A 72-year-old man presents with a painful lower calf ulcer, marked pitting oedema and an ankle/brachial systolic pressure index of 0.2.
9. An 80-year-old retired chef has noticed that the edge of an ulcer situated above the medial malleolus for 17 years has recently become 'heaped up' and bleeds easily on contact.

Example Answer Sheet

1	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
2	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
3	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
4	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
5	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
6	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
7	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
8	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
9	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>