

Cambridge University Press & Assessment  
978-0-521-72808-9 — Essential Radiological Anatomy for the MRCS  
Stuart Currie, Steven Kennish, Karen Flood  
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## Essential Radiological Anatomy for the MRCS

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Stuart Currie

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Steven Kennish

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and

Karen Flood

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**To our loving families**

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## Preface

Nearly all surgical patients undergo some form of radiological imaging as part of their diagnostic work-up. It is often the role of the surgical trainee to clerk and examine the patient, and initiate emergent treatment and investigations in the acute setting. A basic understanding of the role of imaging and its demonstration of relevant anatomy is a fundamental prerequisite to the appropriate utilization of the radiological armamentarium.

Surgical trainees are not expected to interpret imaging to the point of issuing a report; this is the role of the radiologist. Sound knowledge of radiological anatomy can prove invaluable however in the initial reviewing of plain films, and give the surgeon a more informed opinion in the radiological multidisciplinary meeting.

Over recent years the Membership of the Royal College of Surgeons (MRCS) viva examination has increasingly made use of radiological imaging to facilitate the discussion of anatomy relevant to every day surgical practice. Indeed, the authors were questioned on sagittal magnetic resonance images of the brain, male and female pelvis and radiographs of the chest and abdomen.

For many, examinations are stressful. The last thing a candidate needs is to be faced with unfamiliar radiological images. This review of surgically relevant radiological imaging aims to prevent initial uncertainties, and should allow the candidate to rapidly progress to confidently discussing the anatomy and scoring valuable points.

This book aims to provide you with a number of key advantages before entering the exam. Firstly, you will become familiar with a range of images of differing modalities (plain film, fluoroscopy, computed tomography and magnetic resonance imaging). Secondly, different planes of imaging are utilized, so that you will not be fazed by an unusual coronal or sagittal view. You are also provided with 'favourite' anatomy viva questions and concise but detailed notes. Finally, the anatomical notes are correlated with surgical scenarios enabling you to read around potential topics for clinical discussion.

## How to use this book

### Prerequisites

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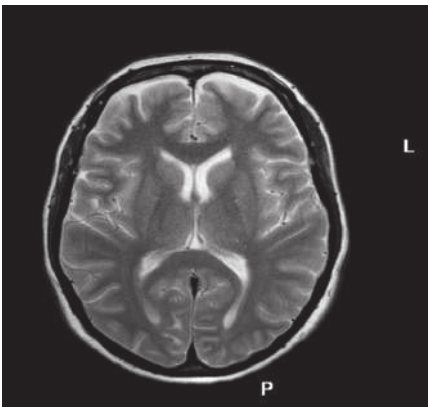
By convention, radiological images are presented in a way that equates to you looking at the 'anatomical man' face to face. The patient's right is therefore found on the left-hand side of the image and vice versa, a so-called mirror image effect. This applies to cross-sectional imaging such as axial computed tomography and magnetic resonance, as well as plain radiographs.

Interpreting the image requires you to recognize the key organs or structures and orientate yourself with regards to the plane of imaging. Once you have worked out the plane of imaging, your brain will then help you identify anatomy you expect to be found based on your 3D anatomical map.

### Reminder

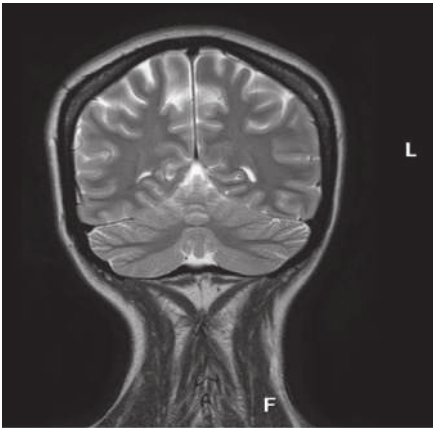
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Axial or transverse – cross-sectional images. Think of the old magician's trick of sawing someone in half. Imagine the patient's feet nearest to you, and the head furthest away with a pile of contiguous 'slices' available for you to scroll through. The right-sided structures are on the left-hand side of the image and vice versa.



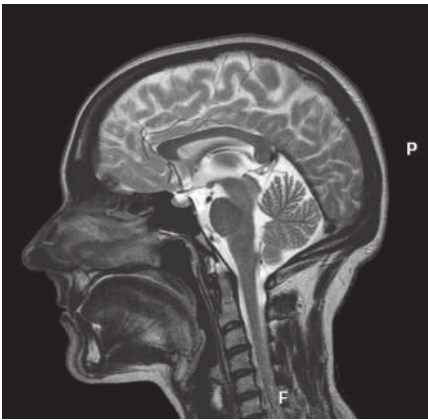
Axial Image, (L) = left, (P) = posterior

Coronal or frontal – the planes run from cephalad to caudad, separating the patient into front and back portions.



Coronal Image, (L) = left, (F) = frontal

Mid-sagittal – the plane divides the patient from cephalad to caudad but this time in an anterior to posterior direction through the midline.



Mid-sagittal Image (P) refers to posterior



**xii    How to use this book**

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**Purpose**

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This book displays radiological images with labels highlighting various organs and structures. Your aim is to identify the labelled anatomy and have a sound anatomical knowledge with respect to surgical practice. You are not expected to get all the answers correct first time around, so do not get despondent if you struggle.

Remember that the examiners use radiological imaging as a springboard to go on to discuss the relevant anatomy, which you should know. Mistakes with image interpretation are tolerated (you are not expected to be a radiologist) as long as the morbid and surgical anatomical knowledge is sound.