

# So you want to be ... an interventional radiologist

**R**adiology has undergone a huge change since the discovery of X-rays just over 100 years ago, and in the field of interventional radiology there has been an almost exponential rise in the procedures performed over the last two decades. Interventional radiology allows imaging (fluoroscopy, computed tomography and ultrasound) to guide the manipulation of instruments placed through blood vessels or percutaneously in order to carry out treatment. Because it does not require major incisions it allows the treatment of patients who may not be fit for open surgery. Many exciting innovations and advances are making interventional radiology an increasingly attractive career.

## Skills required

Interventional radiology combines the skills of a diagnostician (inquisitive mind, ability to memorize and apply lists of differential diagnoses, pattern recognition) with the hand-eye coordination of a surgeon. Radiologists are increasingly involved in multidisciplinary meetings and good communication skills are essential. A high percentage of time is spent working with consoles (patient information systems, Picture Archiving Systems, voice recognition) so familiarity with computers is an advantage.

## Career pathway

Entry into radiology is challenging with a high number of applicants per place, so it is important to build up a competitive CV. There are only limited opportunities to formally experience radiology as part of foundation training. Some rotations do have specific radiological attachments; other ways to gain radiological experience are to apply for 'taster weeks' and to talk to different members of staff in the radiology department on the daily post ward round visits. Audits and presentations in radiology are also important.

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Entry into the 5-year speciality registrar training programme has changed. Prospective candidates can now apply for radiology at the foundation year 2 stage, as part of a national selection process in open competition for run-through training.

Training in radiology is extremely well structured. From the outset there will be plenty of involvement in the everyday procedures of the department such as intravenous urograms, barium work and plain radiographs. This will continue with training in ultrasound, computed tomography and magnetic resonance imaging.

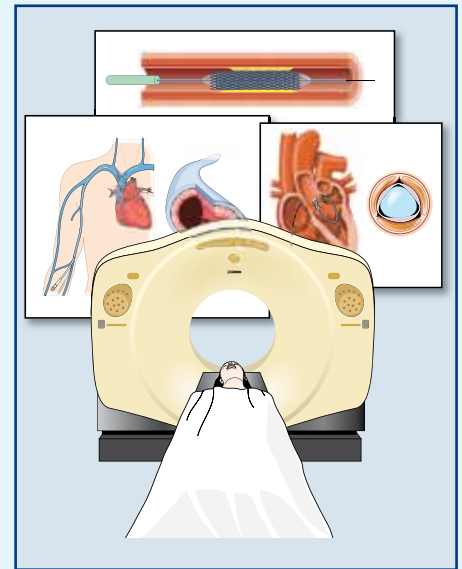
In the first year of training trainees take part 1 of the Fellowship of the Royal College of Radiologists (FRCR) exam – a written exam testing knowledge in physics, procedures and anatomy. Part 2A of the exam consists of six multiple choice exam modules covering different anatomical systems. Basic training culminates with the part 2B exam, normally taken at the beginning of the 4th year. This is a viva voce and will test the trainee's diagnostic and analytical skills with different imaging modalities; passing the exam confers the FRCR. Once this exam is completed subspecialization in interventional radiology can begin.

## Subspecialization

Interventional radiology can be used to treat pathology in a multitude of systems.

Vascular intervention involves using vessels to guide instruments to a diseased area where the treatment procedures can then be performed. The more basic work includes the insertion of peripherally inserted central catheters and Hickman lines, while more complex work includes widening a stenosis (balloon angioplasty), placing an intravascular tube or stent (endovascular aortic repair for an aortic aneurysm) or placing an occluding coil in a vessel to stop haemorrhage or shrink a tumour.

Non-vascular intervention encompasses a wide variety of procedures. This commonly involves computed tomography and ultrasound-guided biopsies and drainages. More technical work includes using a thermal probe (radiofrequency ablation)



to burn a tumour, placing stents, e.g. oesophageal stents to maintain its patency in the presence of a constricting tumour, or vertebroplasty involving injecting cement into a collapsed vertebrae.

Most trainees will spread their interventional training over a 2-year period in order to get enough numbers 'under their belt' before applying for a consultant post, and an interventional fellowship can be integrated into this time.

In 2007 a joint statement from the Royal College of Radiologists and the Royal College of Surgeons (England, Glasgow and Edinburgh) was released, suggesting a common training pathway for radiologists and vascular surgeons wishing to pursue a career in vascular interventional radiology. This has still to be formalized into a structured pathway.

## And finally...

If you enjoy investigation as well as practical procedures, in a rapidly advancing field, you should definitely consider this speciality. Anyone wishing to find out more about a career in this speciality should visit the Royal College of Radiologists ([www.rcr.ac.uk](http://www.rcr.ac.uk)) and British Society of Interventional Radiology ([www.bsir.org](http://www.bsir.org)) websites. **BJHM**

*Conflict of interest: none.*

## KEY POINTS

- The training pathway for interventional radiology is tough with plenty of exams.
- Radiologists and surgeons may have a joint training pathway for interventional radiology in future.
- Good hand-eye coordination is essential.