

Curriculum for
Post-Doctoral Certificate Course
in
Intervention Radiology



SRI AUROBINDO UNIVERSITY

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PDCC in Intervention Radiology

SYLLABUS

The goal of the intervention radiology training is to familiarise the trainee with

- A) Performing diagnostic procedures (USG and CT guided)
- B) Performing interventional procedures (Neurovascular, Vascular and non-vascular)
- C) Interpreting relating studies such as CT Angiography, MR Angiography
- D) Performing and interpreting Doppler.
- E) The Fellow is expected to complete a project and recommended at least one publication per year.

TRAINING SCHEDULE:

State-of-the-art equipment includes 64-slice CT, 1.5-T MRI, PET/CT, Gamma Imaging, digital radiography, US, Digital Mammography, Perfusion MRI , MR Spectroscopy, DSA.

DSA	8 months	
Critical Care (Neuro+ Surgical + Medical ICU)		1 months
CT, CTA and CT guided procedures		1 months
MRI and MRA	1 months	
Ultrasound guided procedures and Doppler		1 months

Total: one yearSupervision:

Initially, the fellow will be fully supervised by the Faculty posted in the area. In the course of training, the level of supervision will be tapered according to the experience and confidence gained.

On-Call:

The Fellow will be “ Intervention on call ” during the DSA posting.

Overview of training

Clinical knowledge will be acquired by a variety of means, including close liaison with appropriate medical and surgical and radiological meetings.

The trainee should be encouraged and given the opportunity to attend and lead appropriate clinico-radiological and multidisciplinary meetings.

1. The trainee should be encouraged to attend appropriate educational meetings and courses.
2. The trainee should participate in and initiate relevant clinical audit.
3. Trainees will be expected to be familiar with current interventional radiology literature.

4. The trainee should be encouraged to participate in research, and to pursue one or more projects up to and including publication. An understanding of the principles and techniques used in research, including the value of clinical trials and basic biostatistics, should be acquired
5. The trainee should be knowledgeable in basics of angiographic equipment and radiation safety along with ICRP and AERB regulations
6. The trainee should continue to participate in the on-call rota, with appropriate consultant back up.
7. Acquisition of specific skills to enable:
 - The conduct, supervision and accurate interpretation of all imaging techniques used to a high professional standard
 - The safe and effective practice of interventional techniques in the appropriate body system(s)
 - Good communication with patients and professional colleagues
 - Accurate informed consent to be obtained
 - Appropriate decisions about terminating the procedure for technical reasons
or grounds of safety / comfort to the patient.
8. A clear understanding of the role of multidisciplinary meetings, including:
 - Planning of investigations including the selection of appropriate tests and imaging techniques for a clinical problem
 - Planning and outcomes of treatment
 - Promoting an understanding of relevant pathology
9. Procedural competence will need to be reviewed at intervals, and this regular review should also assess the number of cases required in order to ensure competence.
10. Radiologists who devote essentially all their time to interventional radiology will be expected to undertake a wide range of complex procedures. Acquisition of the necessary expertise requires such trainees to undertake a proportionately larger number of interventional procedures.
11. All interventional radiologists must have a thorough knowledge of the techniques required to perform sedation and analgesia procedures, as well as patient monitoring throughout and following the procedures, and should be familiar with existing guidelines.
12. The trainee should be aware of local and national guidelines on consent, and be capable of obtaining informed patient consent for practical procedures.
 - Diagnostic arteriography
 - Percutaneous angioplasty
 - Percutaneous central venous access

Thrombolysis
Embolisation
Vascular stent insertion
Foreign body retrieval
Aspiration thrombectomy
Peripheral aneurysm exclusion
Transjugular intrahepatic portosystemic shunt
Chemoembolisation
Aortic stent grafting (thoraco-abdominal)
Cerebral AVM – embolisation Intracranial
aneurysmal coiling
Uroradiological intervention
Renal tract access, eg nephrostomy
Ureteric dilatation/stent insertion
Renal biopsy/cyst aspiration
Drainage of collections
Varicocele embolisation
Fallopian tube recanalisation
Transrectal prostate biopsy
Gastrointestinal interventions
GI dilatations and stents
Percutaneous gastrostomy
Transjugular/plugged liver biopsy
Radiofrequency ablation
Percutaneous biliary drainage procedures and/or stent insertion

Trainees should acquire experience in the practical procedures listed above, and the number of cases undertaken should be recorded in their log book.

Regardless of the technique, the consultant trainer must be satisfied that the trainee is clinically competent, as determined by an in-training performance assessment, and can consistently interpret the results of investigations accurately and reliably and can safely perform interventional techniques.

The academic activities of the program in the hospital would include:-

1. Regular academic sessions
2. Case discussion and seminars
3. Paper presentation
4. Audit, Project, Research
5. Conferences / CMEs / Live workshops

Recommended reading

Author Name	Name of the Books	Publishing Company
Alrbert L. Abrams	Abrams Angiography, Vascular and Interventional Radiology V- I	Medical Education and Research Inc.
Alrbert L. Abrams	Abrams Angiography, Vascular and Interventional Radiology V- II	Medical Education and Research Inc.
Alrbert L. Abrams	Abrams Angiography, Vascular and Interventional Radiology V- III	Medical Education and Research Inc.
Paul Ross	An Atlas of Normal Vertebral Angiograms.	Butter worth Group
Paul Ross	An Atlas of Normal Vertebral Angiograms.	Butter worth Group
Kazuhiko	Cerebral Angio – CT	Raven Press
G. Ansel	Complications in Diagnostic Imaging	Black well scientific Pub
G. Ansell	Complications in diagnostic radiology.	Blackwell scientific
Joseph K. Lee	Computed Body Tomography. Vol - I	Raven Press Books Ltd.
Joseph K. Lee	Computed Body Tomography. Vol – II	Raven Press Books Ltd.
Charles F. Lanzleri	Computed Tomography and Magnetic Resonance Imaging of the whole body Vol - I	Mosby – Year book Inc.
Charles F. Lanzleri	Computed Tomography and Magnetic Resonance Imaging of the whole body Vol – II	Mosby – Year book Inc.
T. A. Lie	Congenital Anomalies of the Carotid Arteries	Williams & Wilkins
Malcolm	Core Text of Neuro Anatomy	Williams and Wilkins