VASCULAR AND INTERVENTIONAL RADIOLOGY: Goals and Objectives:

ROTATION 1 (Radiology Year 1)

MEDICAL KNOWLEDGE

• To learn normal and variant venous, arterial and nonvascular anatomy

PRACTICE BASED LEARNING

• To learn basic necessary catheter and guide wire techniques

ROTATION 2 (Radiology Year 2):

MEDICAL KNOWLEDGE

• To develop skills in recognizing pathologic appearance of disease processes in vascular and nonvascular organ systems on various imaging studies. This includes basic interpretation skills for diagnostic angiography, venography, cholangiography and pyelography

PATIENT CARE AND INTERPERSONAL SKILLS

• Residents will learn pre-procedure patient evaluation and post-procedure patient care
• Consult with referring clinicians on indications and clinical findings
• Follow-up on patients after procedure to learn usual post-procedure situation

ROTATION 3 (Radiology Year 3):

MEDICAL KNOWLEDGE

• Residents will become familiar with filming sequence and contrast injections in various Interventional Radiology procedures
• Continue to develop skills in recognizing pathologic appearance of disease processes
PRACTICE BASED LEARNING

• Continue to develop their skills in selective vascular catheterization.

PATIENT CARE AND INTERPERSONAL SKILLS

• Daily evaluation and progress notes for inpatients with drainage catheter

ROTATION 4 (Radiology Year 4):

MEDICAL KNOWLEDGE

• They are expected to have developed skills in interpreting the full range of normal and pathologic imaging findings in interventional radiology

PRACTICE BASED LEARNING

• The residents are expected to assume the role of primary operator under supervision of attending physician

PATIENT CARE

• Residents are expected to have full knowledge of indications and contraindications for interventional procedures

PROFESSIONALISM

• The residents are expected to understand the importance of continuity of care.

RESIDENT RESPONSIBILITIES

• In addition, they are required to attend monthly interventional radiology conferences
• The residents are required to attend vascular surgery and general surgery conferences with their attending. They are also required to attend all resident interventional radiology conferences at Columbia University College of Physicians and Surgeons. The monthly conference schedule at Columbia University is provided through radiology office.
• Each resident is required to maintain a case log during his/her rotation that will be reviewed by the attending at the end of rotation. The type of case, any complications and dated of procedure should be recorded in the case log.
• The residents are encouraged to review the ACR teaching files located in the department.
ADDITIONAL RESIDENT RESPONSIBILITIES

- See all patients the day or night before their procedure and review chart, check labs* and EKG, obtain consent, write pre-procedure note and place orders
- See all same day admitted patients for workup as above
- Obtain consent for outpatient procedures and check labs if applicable
- Residents should arrive by 8:30 AM if not in general radiology conference case review
  Be ready to perform cases by 9:00
- A physician or nurse must be present in the procedure room at all times
- Review your cases with an attending
- See in-house patients after all diagnostic procedures for follow-up and note in chart later
  that same day
- Complete two angio teaching files per rotation and review with an attending
- *If labs are pending the evening before the procedure, find the results before 8:00 AM the day of the procedure.
RESIDENT CURRICULUM SERIES:

AORTOGRAPHY

- Trauma
- Aneurysms
- Dissection
- ASVD

PULMONARY ARTERIOGRAPHY

- Emboli
- Neoplasms
- AVM
- Bronchial Angiography

EXTREMITIES FOR PERIPHERAL VASCULAR DISEASE

- Pelvis
- Lower extremities
- Thoracic outlet
- Upper extremities

RENAL ARTERIOGRAPHY

- Renal masses, other diagnostic in interventional
- Neoplasms, cysts, and infection
- Venography
- Transplant
- Anomalies and malformations HTN renal PTA
- Angiography for HTN

LIVER, SPLEEN AND PANCREAS ARTERIOGRAPHY

- Adrenal
- Pancreatic
- Pituitary
- Ovarian
- Parathyroid
- Extremity, Arteriography in Trauma & Neoplasms
- Lower Extremity Venography
- Artherectomy, PTA and Stents
- AV Fistulas, Upper Extremity Venography and Venous
EMBOLIZATION

- Splenic Embolization
- Renal
- Hepatic Embolization
- Trauma
- Musculoskeletal

GASTROINTESTINAL VASCULAR INTERVENTION

- Vasoactive infusions
- Embolization for bleeding
- TIPS

VENOUS INTERVENTION

- Foreign body retrieval
- IVC filters

VENOUS ACCESS

- Thrombolysis

UROLOGIC NON-VASCULAR INTERVENTION

- Contract lithotripsy
- Urethral strictures
- Stone retrieval
- Ureteral occlusion

PTC AND BILIARY INTERVENTION

- Biliary duct dilation
- Stents
- Chemodissolution of stones
- Percutaneous stone removal

GASTROINTESTINAL NON-VASCULAR INTERVENTION

- Percutaneous Cholecystostomy
- Gastrojejunostomy
- Foreign Body retrieval
- Strictures of bowel
REPRODUCTIVE INTERVENTION

• Fallopian Recanalization
• Impotence
• Testicular venous Embolization

VASCULAR IMAGING

• MRA
• CTA
• US

CONTRAST AGENTS

• Co²
• Gadolinium
• Iodinated

REFERENCES

• Kadir S, Diagnostic Angiography W.B. Saunders, 1986
• Kadir S, Teaching Atlas of Interventional Radiology Thieme, 1999
• SCVIR Syllabi
• Kaufman J, Lee M, Vascular and Interventional Radiology the respiques Mosby, 2004
RESIDENT LECTURES

Monthly interventional radiology conferences are scheduled at noon. The topics covered in the conferences include, but are not limited to:

1. Aortography: normal intervention
2. Aortography: abnormal intervention
3. Peripheral arteriography: normal appearance
4. Peripheral arteriography: pathologic appearance
5. Arterial Intervention: angioplasty, stenting
6. Arterial Intervention: thrombectomy, thrombolysis
7. Arterial Embolization
8. Pulmonary Angiography
9. Venography, venous sampling and IVC filters
10. Venous Interventions: angioplasty, stenting
11. Venous Interventions: thrombectomy, thrombolysis
12. Venous Embolization
13. Renal Vascular Intervention
14. GI Vascular Interventions
15. Biliary and GI Interventions, TIPS
16. Hemodialysis interventions: AV shunts
17. Hemodialysis Interventions: Venous Access
18. Percutaneous Drainage and Biopsy: Indications, contraindications and complications