

Title of Course - Interventional Radiological Techniques

Course Code: NPIAS-VAC-111

Course objective:

- To define role of radiotherapy, its planning and procedures. Define kilo voltage and ortho voltage techniques of radiotherapy.
- Interpret design and construction of various different Radiotherapy machines associated with Radiotherapy techniques
- Examine different types of Radio frequency generators can be used in radiotherapy.
- Illustrate clinical applications of internal radiation therapy

Syllabi of Course:

Interventional Radiology

8 Hrs.

Definition of interventional radiology, Basic of Interventional radiology, Interventional radiology suite: machine handling, imaging detector, patient positioning, pulsed fluoroscopy, fluoroscopy mode. DSA, Name of different interventional radiology procedure and the modality (CT, C-arm, USG, and DSA/ Cath Lab Guidance). Differentiation between lines, tubes and drain in imaging correct or not.

Equipment used in various interventional radiology procedures

8 Hrs.

Cath Lab / DSA equipment and machine, C-arm equipment: instrumentation and working procedure, Tools of the trade:-Type of needles, Type of vascular sheath, Type of guide wires, Type of catheters, Type of balloon, Type of stent, Sterilization of interventional radiology equipment, Type of biopsy guns, Type of drains.

General principles of interventional radiology procedures

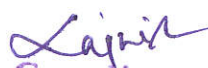
8 Hrs.

History, Pre procedure tasks:-Consent, Patient evaluation and management ,Safety consideration, Medications, Tools, Contrast agents, Intra procedure tasks;- Sedation, Antibiotic prophylaxis, Blood pressure control, Anticoagulation, Fluid management, Vascular access, Imaging, Treatment of adverse events and reaction, Post procedure patient care;-Sheath removal, Patient shifting, Patient monitoring, Images storage and transfers, Orders, Discharge criteria

Clinical application

8 Hrs.

Disease diagnosis, severity interpretation, case follow up, Sterile techniques in angiography procedures, Common interventional radiology procedures, Types of interventional radiology procedure: vascular and non vascular, Definition, indication contraindication, Patient preparation and technique, Needle puncture: direct and guided, Catheter angiography (cerebral, peripheral, visceral)


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Anesthesia and emergency drugs used in interventional radiology

8 Hrs.

Anesthesia equipment handling, Facilities regarding general anesthesia in the interventional radiology department, Anesthetic problems associated with specific technique: Vascular studies, Non vascular studies, Carotid angiography, Venography, Embolization agents, Radiation safety in interventional radiology department

Suggested Reading:

Jimenez YA, Lewis SJ. Infection prevention and control in the medical imaging environment: a scoping review. Insights Imaging. 2023 Jul 14;14(1):121. doi: 10.1186/s13244-023-01470-1. PMID: 37450068; PMCID: PMC10348968.

Ilyas F, Burbridge B, Babyn P. Health Care-Associated Infections and the Radiology Department. J Med Imaging Radiat Sci. 2019 Dec;50(4):596-606.e1. doi: 10.1016/j.jmir.2019.07.011. Epub 2019 Oct 14. PMID: 31623975; PMCID: PMC7104925.


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