

**PEOPLE'S COLLEGE OF MEDICAL SCIENCES & RESEARCH
CENTRE, BHANPUR, BHOPAL**

UNDERGRADUATE COURSE

MBBS: RADIODIAGNOSIS

Program outcomes	The undergraduate medical students in the field of Radio-diagnosis should be aimed at making the students realise the basic need of various radio-diagnostic tools in medical practice. They should be aware of the techniques required to be undertaken in different situations for the diagnosis of various ailments as well as during prognostic estimations. they should be able to identify common diseases on chest and abdominal x-rays.
Program specific outcomes	<ul style="list-style-type: none">➤ understand basics of X-ray production, its uses and hazards.➤ appreciate and diagnose changes in bones - like fractures, infections, tumours and metabolic bone diseases.➤ identify and diagnose various radiological changes in disease conditions of chest and mediastinum, skeletal system, G.I. Tract, Hepatobiliary system and G.U. system.➤ learn about basics of various imaging techniques, including C.T., Ultrasound, M.R.I. and D.S.A.
Course outcomes	At the end of the course the student shall be able to: <ul style="list-style-type: none">➤ use basic protective techniques during various imaging procedures.➤ Interpret common X-ray, radio-diagnostic techniques in various common situations.➤ advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.

Course Name: M.D. RADIODIAGNOSIS

<p>Program outcomes</p>	<p>A Resident on completing his / her MD (Radio Diagnosis)</p> <ul style="list-style-type: none">➤ Acquire good basic knowledge in the various sub – specialties of Radiology such as Neuroradiology, GI radiology, Uroradiology, Vascular Radiology, Musculoskeletal, Interventional Radiology, Emergency Radiology, Paediatric Radiology and Imaging of breast➤ Independently conduct and interpret all routine and special radiological imaging investigations.➤ Provide radiological services in acute emergency and trauma including its medicolegal aspects.➤ Elicit indications, diagnostic features and limitations of applications of ultrasound, CT ,MRI and should be able to describe proper cost effective algorithm of various imaging techniques in a given problem setting.
<p>Program specific outcomes</p>	<p><u>ULTRASOUND (INCLUDING GYNAE/OBSTETRICS)</u></p> <ul style="list-style-type: none">➤ Determine or select the appropriate diagnostic procedure for the clinical problem.➤ Demonstrate proficiency in patient scanning using appropriate techniques and instrumentation.➤ Modify the procedure, if required, based upon the observed abnormalities (pathology).➤ Analyze the results of the diagnostic procedure, make diagnosis and record the findings.➤ Communicate findings, diagnosis and other relevant information to the referring physician.➤ Present interesting ultrasound cases in the departmental conferences/meetings. <p><u>CT</u></p> <ul style="list-style-type: none">➤ The resident will review the daily body CT schedule and based upon the known clinical information and review of other radiologic studies of the same patient done earlier, select the most appropriate CT imaging protocol for the each patient. This may include altering an existing CT protocol to provide the most appropriate examination for an individual patient.➤ Develop a working knowledge of the actual performance of the CT examinations. This includes starting intravenous lines, amount and timing of injecting i.v. contrast, and actual operation of CT machine➤ Review and report all the completed body CT examinations. Initially this will be under the supervision of the seniors but later independently – but all reports will be signed by the faculty incharge.➤ Participate and present CT cases in departmental and inter departmental meets. <p><u>M.R.I</u></p>

	<ul style="list-style-type: none"> ➤ The resident will review the daily body MRI schedule and based upon the known clinical information and review of other radiological studies of the same patient done earlier, select the most appropriate MRI imaging protocol for the each patient. This may include altering an existing MRI protocol to provide the most appropriate examination for an individual patient. ➤ Develop a working knowledge of the actual performance of the MRI examinations. This includes starting intravenous lines, amount and timing of injecting I.V. contrast and actual operation of MRI machine. ➤ Review and report all the completed body MRI examinations, initially this will be under the supervision of the seniors but later independently – but all reports will be signed by the faculty in charge. ➤ Participate and present MRI cases in departmental and inter departmental meet <p style="text-align: center;"><u>ANGIOGRAPHY AND INTERVENTIONAL RADIOLOGY</u></p> <ul style="list-style-type: none"> ➤ Evaluate the requisition for appropriate clinical information to determine if additional information is needed. ➤ Determine or select appropriate diagnostic procedure for the clinical problem. ➤ Assist and perform appropriate procedures under supervision and modify procedures based on observed abnormalities (pathology). ➤ Know the potential risks and complications of procedures performed. ➤ Know normal vascular anatomy applicable to angiographic procedures performed and know normal anatomy and landmarks to perform other non-vascular procedures. ➤ Present interesting cases in the departmental meets.
<p>Course outcomes</p>	<ul style="list-style-type: none"> ➤ To review and report all the imaging investigations. ➤ In addition to acquire skills in diagnosing the diseases, to acquire life saving support services in emergency situations. ➤ To perform interventional procedure. ➤ Developing skills in the art of discussing the case with clinicians and to maintain cordial relationship with other departments ➤ Radiology principles in legal medicine and trauma care.

Course Name: M.D. RADIO DIAGNOSIS

<p>Program outcomes</p>	<p>At the end of the course the students should be able</p> <ul style="list-style-type: none"> • To acquire thorough knowledge of principles of medicine, surgery, OG and allied Subjects. • Knowledge of basic sciences relevant to this speciality. • Update on self study, attending seminars, conference and workshops, for radio diagnosis. • Research oriented work with the aim of publishing papers in national & international forums. • Special emphasis will be of imaging in cancer. • In addition to acquire skills in diagnosing the diseases, to acquire life saving support services in emergency situations. • To perform interventional procedures. • Developing skills in the art of discussing the case with clinicians and to maintain cordial relationship with other departments. • Radiology principles in legal medicine and trauma care. • Professional honesty and integrity to be fostered. • Respect patient’s right to information and right to seek second opinion. • To apply radiation safe techniques to the patient. • To take into account social and economic, environmental aspects while planning diagnostic procedures
<p>Programme specific outcome</p>	<p>To orient and train student in different aspects of diagnosis and intervention in radiology.</p> <ul style="list-style-type: none"> • Special emphasis will be on new imaging techniques like USG, CT, MRI and interventional radiology. • Training will be oriented for technical aspects of clinical radiology and applied radiology and post treatment follow up in disease. • Ultimate goal will be to provide quality education for the post graduates and quality diagnostic and relevant therapeutic care for different sections of the society
<p>Course outcome</p>	<p>At the end of the course the students should be able to</p> <ul style="list-style-type: none"> • Independently conduct and interpret all routine and special radiological and imaging investigations. Provide radiological services in acute emergency and trauma including its medico legal aspects. Elicit indications, diagnostic features and limitation of application of ultrasonography, CT and MRI and should be able to describe proper cost-effective algorithm of various imaging techniques in a given problem setting. Perform (under supervision) basic image guided interventional procedures for diagnosis and therapeutic management. Formulate basic research protocols and carry out research in the field of radiology related clinical problems. Undertake further specialization in any of the above mentioned branches in Radio-diagnosis such as Gastrointestinal radiology, Uro- radiology, Neuroradiology, Vascular radiology, Musculoskeletal

	radiology, Interventional radiology etc. To interact with other specialists and super-specialists so that maximum benefit to the patient accrues. Work as a Senior Resident/consultant in Radiodiagnosis and conduct the teaching programme for undergraduates, postgraduates as well as paramedical and technical personnel. Organize CME in the specialty utilizing modern methods of teaching and evaluation..
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PCMS & RC**

**Dean
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