

It little in common  
with each other.  
radiotherapy



**ASSIGN  
BUSTER**

It provides, along with pathology, a vital diagnostic backup to all the specialties which cannot practice effectively without their support. Hence, the service becomes an integral part of all hospitals, with the exception of very small hospitals and nursing homes. Radiology has expanded vastly in the recent decades. The term imaging now incorporates: i. X-ray ii. Sonography iii.

CT scan iv. Magnetic resonance imaging (MRI) v. Digital subtraction angiography (DSA). Both radio diagnosis and radiotherapy have advanced to such a degree that it is not possible for one person to master both these specialities, which have little in common with each other. Radiotherapy has become a highly specialised service needing very expensive and sophisticated equipment. Such a department can only function in specialist centres, because they need specially constructed buildings, expensive equipment and highly trained radiotherapists, surgeons, physicists and technicians who have experience in cancer therapy and surgery.

Oncology has become a separate discipline requiring team effort of pathologists, cell cytologists, surgeons, physician's expert in radiation medicine and chemotherapy, needing joint consultations between all these specialities. The new wonder gadgets of radiological or imaging technology are radionuclide scanning (gamma camera), ultrasonography (USG), digital subtraction angiography (DSA), computerised axial tomography (CAT), and magnetic resonance imaging (MRI). The term "imaging" which has lately been introduced is replacing the old "X-ray" or "radio diagnosis". We now have imaging departments in hospitals in place of the old X-ray departments. With the introduction of CT scanning, ultrasonography and now MRI, the

scope of the erstwhile radiology department in the hospital has very much widened. However, CT scanning is generally a part of a very bigger hospital or an independent stand-alone facility serving a large group of hospitals.

Economy of scale does not permit it to be a part of the general hospital.

Because of its special requirement of structural planning, the MRI services have not been covered under this section except as a passing reference. In comparison, the current use of radiographic examination in India is far below than that of the advanced countries. While there is one radiography unit for 1800 population in Western countries, the ratio falls to 1: 13, 000 populations in Latin America, and to 1: 70, 000 in South Asia including India. The figure, however, may be misleading as the ratio conceals two important factors, viz. (i) most X-ray units are concentrated in large towns and cities, and (ii) up to 30 per cent of these are out of order at any one time in our public hospitals.

Based on the film consumption data, almost 90 per cent of all radiological procedures are performed in capital cities, reflecting the unequal distribution of personnel, equipment and facilities. However, the mainstay of radio diagnostic services is the medium-sized hospitals. Planning for a good design for the X-ray department is a complex process, one which calls for much thought and knowledge. Association of a competent radiologist at the planning stage can help in this matter. Equipment for radio diagnosis department is expensive, requires a great deal of care and maintenance and appropriate space central to the users.

Therefore, it is important to understand clearly at the outset, as to what are we aiming at.