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ORGANIZATION OF CANCER CONTROL SERVICES

by

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TRAINING IN RADIOLOGY, RADIOTHERAPY AND NUCLEAR MEDICINE (Postgraduates, graduates and paramedical personnel)

The training of personnel for work in radiation medicine needs specialized training at each level. There is a common core of knowledge that is necessary for them all but the depth of specialized knowledge necessary for the medical specialist, the physicist and the radiological technician is so different that quite separate curricula and methods of training have to be organized for each category.

Again the branches of radiation medicine are distinguished by many differences in the conditions for which they are used and the work in which they are employed and it is necessary to have different types of training for the medical specialists in diagnostic radiology, radiotherapy and nuclear medicine. There may well be a common course of initial basic instruction in the physical properties, the use and hazards of ionizing radiation and protection problems but thereafter the curricula are bound to diverge into separate courses and certificates at the completion of training will be specific to the particular disciplines.

In the case of physicists specially trained for medical radiation work there is much more common ground and more overlap in the work that they do although each of the three disciplines has particular problems which need detailed study.

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In the training of technicians for radiation medicine there is again an initial basic common stem but there are marked differences in the detailed training necessary for radiotherapy and for diagnostic radiology. The training requirements for technicians working in radiotherapy are more closely allied to those for nuclear medicine and radiotherapy technicians with little further instruction may make admirable technicians in nuclear medicine.

There is a shortage of trained personnel, in almost all countries of the world, for all levels and all the branches of radiation medicine and this shortage may be the limiting factor in the desirable more widespread development of medical radiation facilities. It is therefore necessary to pay particular attention to all the problems involved from recruitment, to training requirements and facilities, the supply of teachers and the conditions of employment of trained personnel.

In most of the countries with well developed medical services the recruitment of potential medical specialists in diagnostic radiology, radiotherapy and nuclear medicine lags well behind requirements though there are many users of nuclear medicine who are practicing in some other disciplines of medicine and havd had some basic instruction. It must be emphasized that such instruction is absolutely necessary to avoid perhaps grievous mistakes. Recruitment to the two older established branches needs encouragement. It may be helped by the establishment of more academic departments and greater attention to the instruction of undergraduate students in the potentialities of diagnostic radiology, of radiotherapy and also of nuclear medicine.

In developing countries the shortage of recruits may be more difficult to overcome because of the necessary demands from other disciplines. Diagnostic radiology should have high priority in all circumstances and radiotherapy is necessary if a

cancer control scheme is to be developed. Priority for the development of nuclear medicine should be related to the development of other specialties in medicine.

In diagnostic radiology and in radiotherapy there are now well recognized curricula for the training of specialists. A quite usual pattern is for some initial common training to be given followed by specialized theoretical instruction concurrent with attendance in the practice of the relevant specialist department over a period of two to three years. The course is completed by an examination and certification. The completion of such a course does not mean that the certificated candidate is an experienced diagnostic radiologist or radiotherapist and he should have, if possible, a further period working with some responsibility but under the supervision and guidance of a senior teacher.

In diagnostic radiology it may be advisable to alleviate the shortage by the recruitment of some practitioners to carry out basic diagnostic examinations in peripheral areas without them being fully trained as specialist radiologists. They will need an abbreviated form of training.

It is undesirable to start any radiotherapy unless a minimal sized organization can be established and this should be staffed at the radiotherapist level by fully trained personnel. There is no plan for the independent radiotherapist with less than full training.

Specialists in nuclear medicine are at present few in number and regular training facilities are in process of being organized. Apart from those using nuclear medicine methods and practicing in other disciplines there are some recruits who are trained in large established departments and there are some recognized curricula leading to certification.

The intending specialist in all three branches should have had such clinical experience of general medicine and surgery that they are able to consult on a basis of equality with their colleagues in other disciplines.

The training of the medical physicist demands specialized instruction, partly theoretical but largely in service practical training and this should last for at least two years after he has had a basic training in physics. It is desirable that he also should have certification of competence after suitable assessment.

The training of technicians should be in part theoretical but mainly in service practical work. They should spend a period of two years in training before appointment to the staff of a department. Again certification of competence is desirable.

In countries with well developed medical services these various training courses are established and provide no particular problem but in some countries training facilities may be difficult. The organization of regional training schools for technicians may go a long way to solving the initial problems. When an experienced staff have been built up they will be able to organize their own training programmes. In the initial stages experienced teachers may be able to come to such schools on short-term contracts and particularly talented individuals may be sent abroad to larger centres for specific training as teachers.

In the case of medical specialists and of medical physicists it will generally be necessary to attend for training at one of the larger centres abroad but here again there may be some value in arranging for a regional school to serve several countries and to employ the services of one or more senior teachers from abroad on short-term contracts.

In all cases it is important to give trained personnel conditions of employment with proper status and salaries on their return from abroad. Full-term employment is necessary if they are to be retained against fierce competition caused by a world-wide shortage of trained personnel.