

# Medical Physicist



Health  
South Western Sydney  
Local Health District

## What is an Medical Physicist?

- Medical Physics is the application of physical concepts and thinking to the prevention, diagnosis and treatment of human disease.
- In practice in the health system this can involve working in radiation oncology (treatment of cancer involving high energy radiation), nuclear medicine (diagnostic tests and some treatment involving isotopes), radiology (diagnostic imaging, involving lower energy radiation, the X-rays that most people are familiar with) and radiation safety (ensuring the safe use of radiation in all aspects of it's use).

## Roles of a Medical Physicist

- Calibrating and commissioning of linear accelerators, treatment planning systems, X-ray units, CTs, MRIs
- Providing advice and support for radiotherapy treatments-planning and delivery
- Ensuring minimal radiation exposure for patients, staff and the general public
- Research - developing improved methods for delivering radiation and imaging
- Teaching - other physicists and other hospital staff, both specific and general teaching

## Career Opportunities

You will be initially employed in a position where you will be given time and resources to undertake a postgraduate degree and receive extensive on the job training. Progression to a senior position where significant independence and responsibility are involved will occur following accreditation. When you have significant experience in the field you will be able to apply for director or chief physicist positions.

## Qualifications Required

To obtain an initial position in the field, a bachelor's degree (preferably with honours) in physics is required. This is then followed by on the job training in your particular field. Most physicists will then also complete postgraduate qualifications (PhD or Masters) part time while working. The Australasian College of Physical Scientists and Engineers in Medicine also offers 'accreditation' which can be undertaken by those who have had sufficient on the job training and experience, approximately 5 years after initial employment. The accreditation is recognition that you have enough knowledge and experience to take on significant responsibility in a department.

## Supervision Provided

Extensive supervision and training is provided in the initial years to ensure that you have the required skills and knowledge. As these skills and knowledge are developed independence in the completion of set tasks is expected, although always with appropriate peer verification. You will also participate in supervising others in the completion of projects.

## What sort of person should I be?

- A logical thinker
- Interested in physics and mathematics
- Enjoy working with computers and sophisticated pieces of equipment
- Good at problem solving

## Personal Skills required of an Audiologist

- Able to interact well with others
- Able to work independently
- Able to make decisions in an appropriate and efficient manner
- Well organised