



**Radiation Oncology**

**YOUR CHOICE SAVE LIVES**

[www.acareerinradiationoncology.com.au](http://www.acareerinradiationoncology.com.au)

# TARGET YOUR FUTURE

## RADIATION ONCOLOGY



# Video

<http://www.youtube.com/watch?v=5E5ssMKEBHs>

# Overview

- Radiation Oncology - a world class cancer treatment
- Career choices that Help Save Lives
  - Radiation oncologists (RANZCR)
  - Radiation therapists (AIR)
  - Medical physicists (ACPSEM)
- More information and feedback

# Cancer Affects Thousands of Families

- Risk of being diagnosed with cancer before age of 85yrs: 1 in 2 for males and 1 in 3 for females
- Incidence of cancer rose 27% between 1982 and 2007, from 383 to 485 per 100,000
- Growth due mainly to ageing population
- A small increase in the underlying cancer incidence rate is projected
- Different types of cancer

Source: "Cancer in Australia: an overview, 2010" – AIHW/AACR

# Towards a World Class System of Cancer Care

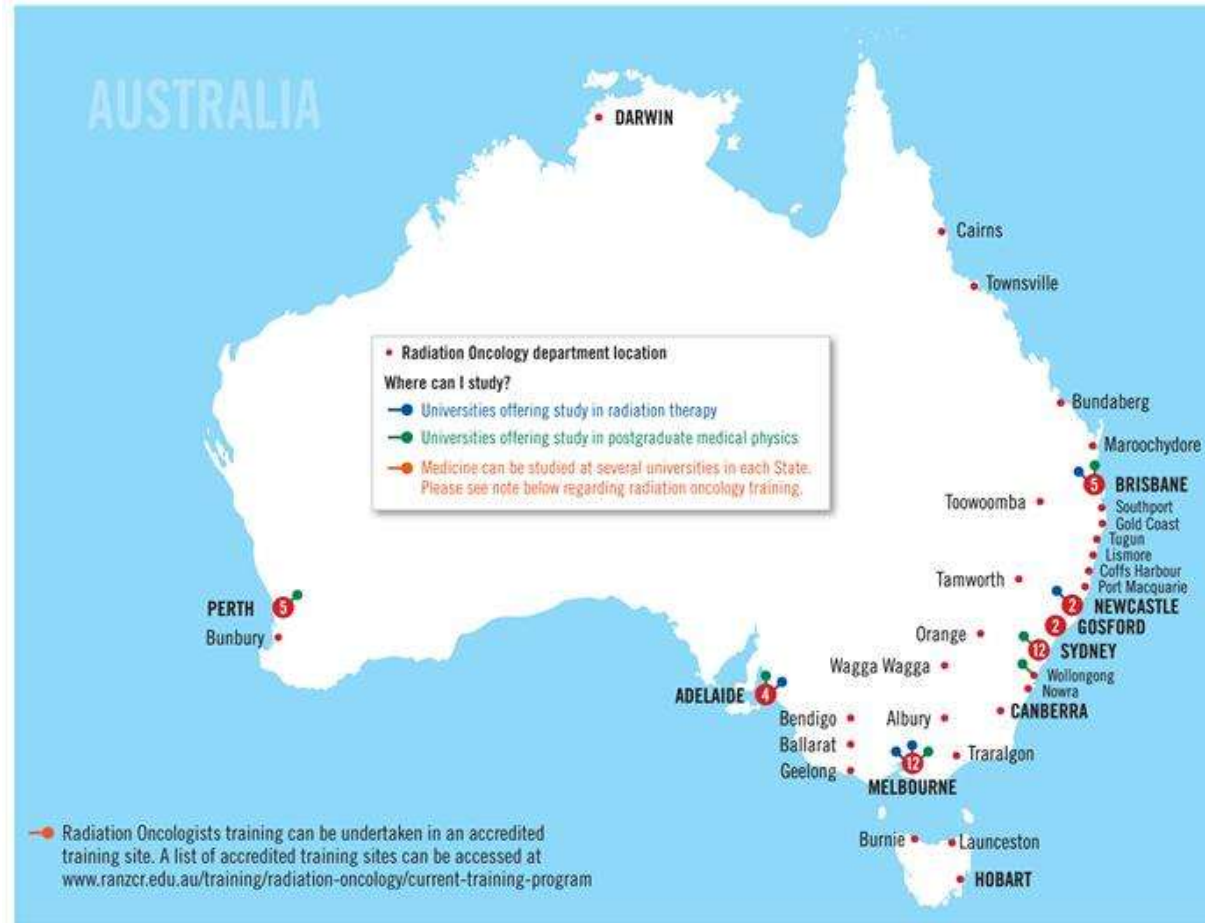
- Australian government: investing over \$2 billion in Cancer Services
- Significant investment by state/territory governments
- Working in partnership with the professions
- Training for cancer professionals
- Radiation Oncology (Tripartite)
  - Planning for future Radiation Oncology services



# Improving Access in Regional Areas

## REGIONAL CANCER CENTRES

- Cairns (QLD)
- Toowoomba (QLD)
- Townsville (QLD)
- Bundaberg (QLD)
- Orange (NSW)
- Lismore (NSW)
- Shoalhaven (NSW)
- Tamworth (NSW)
- Darwin (NT)
- Launceston (TAS)
- Bunbury (WA)
- Burnie (TAS)



# What is Radiation Oncology?

- Treatment of cancer patients with radiation therapy treatment
- Multi-disciplinary teams work together to deliver care
- Rapidly changing technology
- State-of-the-art technology used by trained professionals
- Exciting and changing field of medicine



# What is Radiation Oncology?

## Radiation Therapy

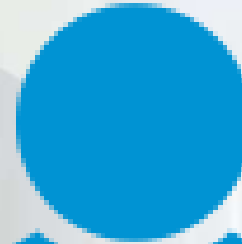
- An essential part of cancer treatment and care
- Involves accurate and precise delivery of high doses of radiation to damage or destroy cancer cells
- Delivered in controlled measures usually over a number of weeks
- Personalised treatment for each patient
- Strict quality control measures



# Radiation Oncology Professions



**Radiation  
Oncologists**



**Radiation  
Therapists**



**Radiation Oncology  
Medical Physicists**

# Radiation Oncologists

The Faculty of Radiation Oncology (FRO), The Royal Australian and New Zealand College of Radiologists (RANZCR)

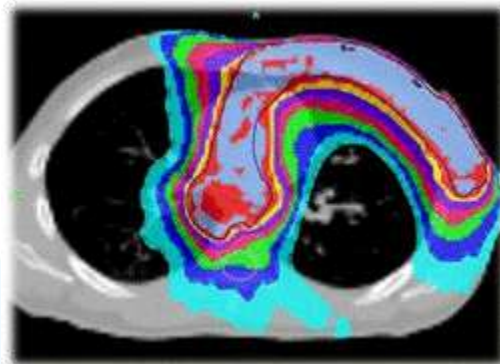
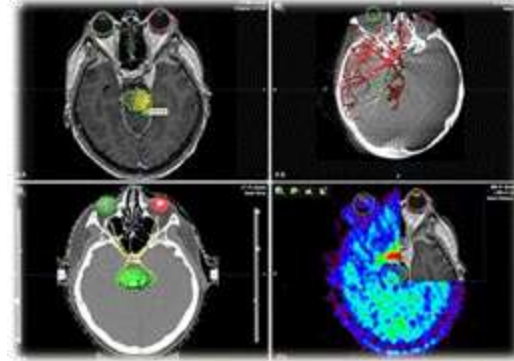


# Radiation Oncologists

(FRO, RANZCR)

## Role of the Radiation Oncologist

- A doctor who has post-graduate training in managing patients with cancer, in particular, using radiation therapy
- Works closely with other medical specialists, radiation therapists and radiation oncology medical physicists as part of a multi-disciplinary team caring for patients with cancer
- Determine the prescription for radiation therapy treatment

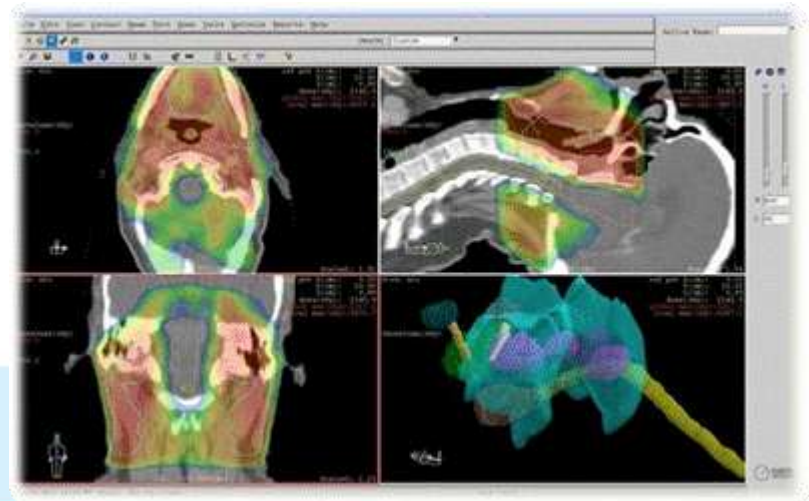


# Radiation Oncologists

(FRO, RANZCR)

## Skills Required to be a Radiation Oncologist

- High level inter-personal and communication skills
- Ability to work as part of team
- Compassion
- Interest in practical application of science and technology





## Educational pre-requisites

- Medical degree
- Two years general medical training as an intern or resident in the hospital setting
- Medical Registration



## Training required to be a Radiation Oncologist

### ■ RANZCR Training Program

- 5 year training program undertaken while employed in a registrar position in an accredited Radiation Oncology department
- Phase I (18 – 24 months)
  - In-training (formative) assessment
  - Summative assessment
- Phase II
  - Exit Exam



# Radiation Therapists

Australian Institute of Radiography (AIR)

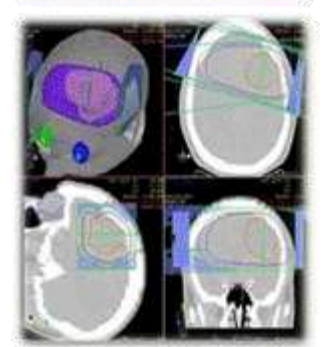


# Radiation Therapists

(AIR)

## Role of the Radiation Therapist

- Responsible for the design, calculation (planning) and delivery of a prescribed radiation dose over a course of treatment to the patient
- Create a treatment plan to deliver optimum dose to the tumour, specific to each patient and their diagnosis whilst minimising dose delivered to healthy tissue
- Accurately deliver the planned treatment to the patient



# Radiation Therapists

## (AIR)

### Skills required to be a Radiation Therapist

- Compassion
- Strong interpersonal skills
- Excellent communication skills
- Very hands-on teamwork approach
- Technology





# Radiation Therapists

(AIR)

## Educational Pre-requisites

- ***Undergraduate degree*** - Current Year 12 prerequisite
  - Chemistry or biology
  - English and
  - Mathematical methods and
  - Physics or specialist mathematics
- ***Postgraduate degree***
  - Bachelor degree – type depends on University





# Radiation Therapists

## (AIR)

Radiation Therapy university courses fall under the category of Medical Radiations Science offered at;

- Queensland University of Technology (QLD)
- University of Newcastle (NSW)
- RMIT University (Victoria)
- Monash University (Victoria)
- University of South Australia (SA)

# Radiation Therapists

(AIR)

## Training required to become a Radiation Therapist

- Training includes both Academic & Clinical components
- Some courses also conclude with one year of paid structured supervised practice under the NPDP (National Professional Development Programme)



# RO Medical Physicists

Australasian College of Physical Scientists  
and Engineers in Medicine (ACPSEM)



## Role of the Radiation Oncology Medical Physicist

- Responsible for implementation, safe operation and quality of systems used for treating patients
- Provides advice for the best use of medical radiation for treatment and also radiation protection
- Ensures that all equipment meets international and national standards





# RO Medical Physicists

(ACPSEM)

## Skills required to be a Radiation Oncology Medical Physicist

- High level inter-personal and communication skills
- Ability to work as part of team
- Logical thinking
- Problem solving
- Interest in practical application of science and technology





# RO Medical Physicists

## (ACPSEM)

### Educational pre-requisites

- Undergraduate degree in Science with majors in;
  - Physics or
  - Medical Physics or
  - Engineering (with large component of physics)
- A strong base of maths and computer science
- Some study within biomedical science, including anatomy and physiology is an advantage
- An Honours degree in Physics is a definite advantage



# RO Medical Physicists

## (ACPSEM)

Postgraduate study is undertaken after completion of a degree:

- a Masters degree in Medical Physics (coursework and/or research) OR
- a PhD in Medical Physics

Medical Physics postgraduate courses:

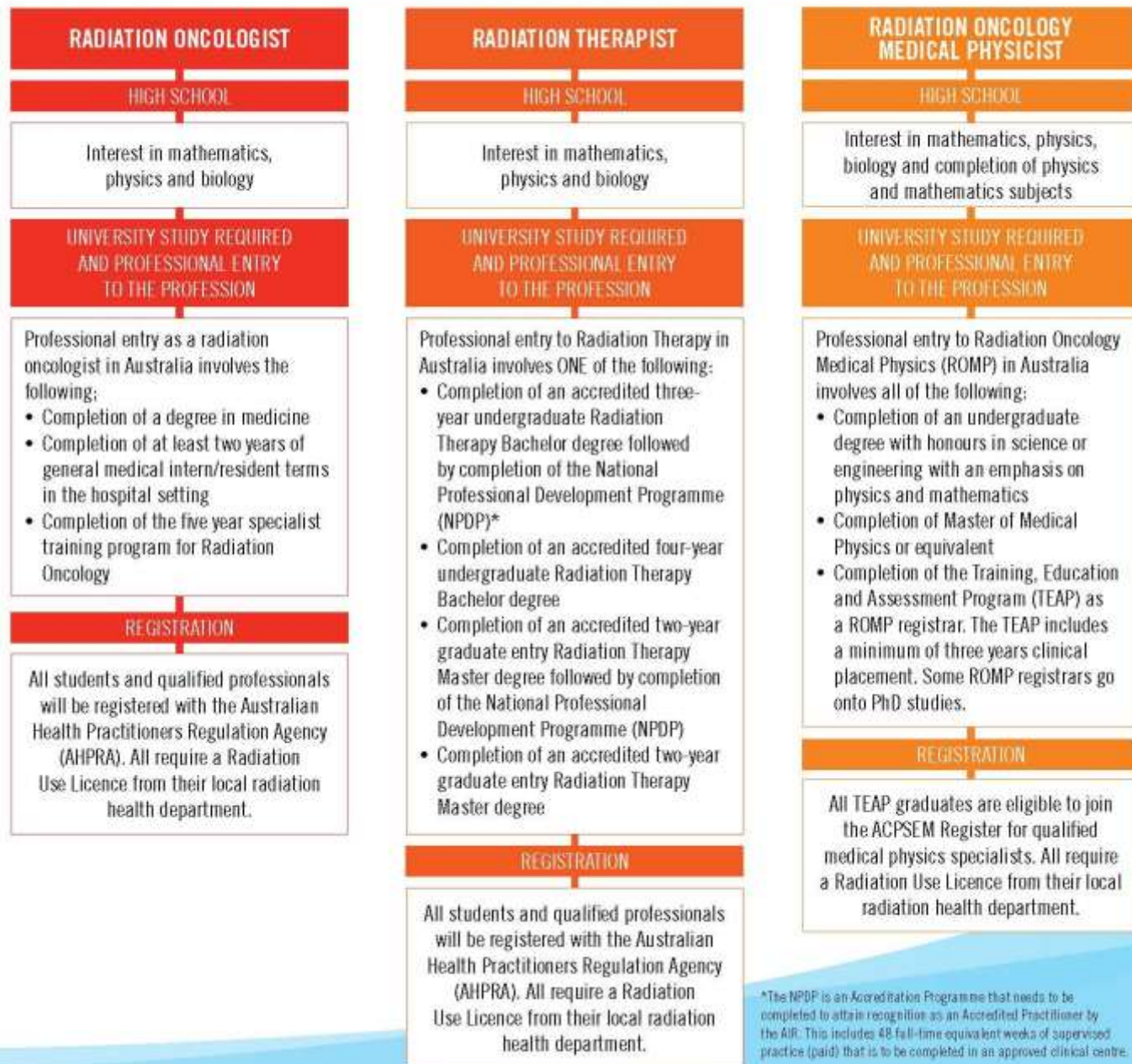
- Queensland University of Technology (QLD)
- University of Newcastle (NSW)
- University of Sydney (NSW)
- Wollongong University (NSW)
- RMIT (Victoria)
- University of Adelaide (SA)
- University of Western Australia (WA)



## Training required to be a Radiation Oncology Medical Physicist

- ACPSEM Training Program (TEAP)
  - 3-5 years paid training within an accredited training hospital
  - Postgraduate study is completed during this time if not undertaken prior
  - Attendance at training days and national/international conferences
  - Final process is to undertake a certification exam

# What is required to become a Radiation Oncology professional?





# Is a career in Radiation Oncology Safe?



- Safe environment
- Controlled and monitored safety measures
- Radiation safety training
- Monitor patient from outside the room







# Patient Journey

(Radiation Oncology)

Patient

RO

RT

ROMP

Decision to treat using radiation therapy



Simulation



Planning



Quality Assurance



Treatment



Follow Up



# Workplace Benefits/Perks

- Stimulating and at times adrenaline filled working environment
- Meet and assist people on their road to recovery
- Cutting edge technology and high standards for optimal patient care
- Travel opportunities interstate and overseas
- Variety of work settings, tasks and challenges
- Teamwork and Leadership skills
- Variable working hours e.g. Part time

# Is a Career in Radiation Oncology for me?

- A Radiation Oncology professional will generally have:
- An interest and ability for sciences – biology and/or physics
  - An interest in healthcare
  - Logical thinking
  - Problem solving skills
  - Good communication skills
  - A focus on patient care in both children and adults
  - Enjoy working in a teamwork environment
  - An interest in using state of the art technology



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# My Career Story



# How do you find out more?

- Jobs Guide (for Years 10,11 & 12)
- Good Universities Guide (for students to inform choice of university courses)
- National workforce training projects
- Career information brochures through the professions – RANZCR, AIR and ACPSEM
- Website [www.acareerinradiationoncology.com.au](http://www.acareerinradiationoncology.com.au)
- Visit a department
- Visit a university
- Work experience

# More Information and Feedback

**For more information, visit:**

**[www.acareerinradiationoncology.com.au](http://www.acareerinradiationoncology.com.au)**

**For general information and feedback, please email:**

**[info@acareerinradiationoncology.com.au](mailto:info@acareerinradiationoncology.com.au)**



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