

Clinical Genetics SAC

Subspecialty training requirements in Clinical Cancer Genetics

Supervising Committee

Specialist Advisory Committee in Clinical Genetics (SAC)

Definition of subspecialty

A clinical cancer geneticist is a medical practitioner with specific training and experience in the application of genetic counselling and clinical, molecular, and population genetics to the management of familial cancer.

General Principles

1. Clinical Cancer Genetics represents a subspecialty within Clinical Genetics and is not a recognised specialty in its own right. The SAC provides accreditation as a Clinical Geneticist. Certification as a Clinical Cancer Geneticist is provided by the Special Society (Human Genetics Society of Australasia).
2. The general principles that apply to training in Clinical Genetics also apply to trainees in Clinical Cancer Genetics. Trainees should refer to the latest edition of the RACP's *Requirements for Physician Training*.

Components of training

Core training

Trainees must complete 12 months of **Core Training** in Clinical Genetics as detailed in *Requirements for Physician Training*.

Trainees must also complete the **Other Specific Requirements** in Clinical Genetics as detailed in *Requirements for Physician Training* ie

- formal training in human genetics (ie equivalent to third year Science degree course),
- formal training in counselling, and
- a research project equivalent to at least six month's full-time work.

Specific training

Knowledge

In addition to core training, the trainee should acquire a sound understanding of the following:

- genetic and environmental basis of cancer;
- principles of diagnosis, staging and management of common cancers;
- individual and population-based strategies to reduce risk of cancer;
- individual and population-based strategies for cancer surveillance;
- ethnicity and cancer risk;
- statistical models of cancer risk eg Gail versus Claus models of breast cancer;
- ethical issues in genetic testing of affected and unaffected relatives;
- ethical issues in genetic testing of a fetus or child for an adult-onset disorder;
- detailed genetic management and general principles of current non-genetic management of familial cancer syndromes, including
 - ataxia telangiectasia
 - basal cell naevus syndrome (Gorlin syndrome)
 - Cowden syndrome (and related conditions)
 - familial breast/ovarian cancer
 - familial medullary thyroid carcinoma

- familial melanoma
- familial prostate cancer
- FAP
- HNPCC
- juvenile polyposis syndrome
- Li-Fraumeni syndrome
- multiple endocrine neoplasia types 1 & 2
- NF1
- NF2
- paediatric overgrowth syndromes with increased cancer risk
- Peutz-Jehgers syndrome
- retinoblastoma
- von Hippel-Lindau syndrome
- Wilms tumour

Clinical experience

The trainee should complete the equivalent of 6 months training in an accredited oncology, haematology or palliative care post, during either basic or advanced training.

The trainee should gain the equivalent of at least 18 months full-time experience in clinical cancer genetics. This clinical exposure should include the following activities (or equivalent experience):

- three familial cancer clinics per week;
- weekly attendance at multidisciplinary cancer management meeting/s;
- weekly journal club;
- weekly laboratory liaison (primarily in molecular genetics, but including three months' liaison in cancer cytogenetics).

Laboratory experience

The trainee should understand the theoretical and practical aspects of genetic studies in familial cancer, including the following:

- methods to screen for mutations;
- methods to test for an identified mutation;
- accuracy of mutation assays;
- interpretation of negative or equivocal findings;
- linkage analysis;
- loss of heterozygosity studies;
- assays for loss of mismatch repair functions;
- laboratory quality control and accreditation;
- costs of laboratory tests;
- emerging technologies.

The trainee should gain the equivalent of three months full-time experience in a diagnostic molecular genetics laboratory.

Genetic Registers

The trainee should have a close working knowledge of familial cancer registers, including

- aims of familial cancer registers;
- role of the register c/f genetic counselling service or cancer surveillance program;
- legal and ethical issues regarding privacy and confidentiality;
- cost-effectiveness of registers.

Electives

A trainee may elect to spend the equivalent of six months full-time in clinical oncology (medical or surgical). Other elective may be acceptable, and trainees should discuss their proposal with the SAC.

Assessment

The process of assessment is the same as specified for Clinical Genetics in *Requirements for Physician Training*.

CME & teaching

Trainees are expected to be involved in furthering their knowledge in this field by attendance at hospital meetings, journal clubs, and conferences.

Supervised experience in teaching undergraduate and post-graduate students in medical and non-medical disciplines is desirable.

Research Project

The requirements for training in research are the same as specified for Clinical Genetics in *Requirements for Physician Training*.

Training Posts

Training posts in Clinical Cancer Genetics should have the following resources in close proximity or on-site:

- tertiary-level surgical and medical oncology services;
- tertiary-level clinical genetics service (including perinatal and paediatric genetics)
- clinical genetics training program;
- clinical geneticist and oncologist (medical or surgical) as supervisors;
- diagnostic molecular genetics laboratory;
- familial cancer registry.

Special Society

Human Genetics Society of Australasia, as detailed in the RACP's *Requirements for Physician Training*.

Joint accreditation in Clinical Genetics and Clinical Cancer Genetics

1. Trainees may be accredited in both Clinical Cancer Genetics and Clinical Genetics by completing both the Clinical Cancer Genetics requirements and a further six months (minimum) in general genetics. Trainees should seek prospective approval from the SAC for a combined program of training.
2. It may be possible to train in Clinical Cancer Genetics (satisfying the requirements of the SAC in Clinical Genetics) and to satisfy the requirements of the SAC in Medical Oncology in a four year advanced training program. The FRACP would be available at the end of the third year. This is not a joint program and there is no joint SAC. Before embarking on such a program, trainees are urged to seek guidance from both SACs.
3. The Clinical Genetics SAC does not provide accreditation for partial completion of these requirements. However, SACs in other disciplines may accredit periods of training in cancer genetics as partial completion of the requirements for that discipline.