TRAINEE HANDBOOK 2019

RCPA
The Royal College of Pathologists of Australasia

Immunopathology

It is essential to read this Handbook in conjunction with the ***Trainee Handbook – Administrative Requirements*** (on the website) which is relevant to all trainees. This has information about the College's structure and policies, together with details of requirements for registration, training and examination applications.

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GLOSSARY

ANA	Anti-nuclear antibody
ASCIA	Australasian Society for Immunology and Allergy
BEA	Board of Education and Assessment of the RCPA
BPS	Basic Pathological Sciences
CbD	Case-based discussion
CJCT	Committee for Joint College Training
CPDP	Continuing Professional Development Program
DOCS	Direct Observation of Communication Skills
DOPS	Direct Observation of Practical Skills
ELISA	Enzyme-Linked Immunosorbent Assay
HIC	Health Insurance Commission
IANZ	International Accreditation New Zealand
ICPMR	Institute for Clinical Pathology and Medical Research
ISO	International Organization for Standardization
LIS	Laboratory information system
MOU	Measurement of uncertainty
NATA	National Association of Testing Authorities
NPAAC	National Pathology Accreditation Advisory Council
OHS	Occupational Health and Safety
PhD	Doctor of Philosophy
PSTC	Pathology Services Table Committee
QA	Quality assurance
QC	Quality control
RACP	Royal Australasian College of Physicians
RCPA	Royal College of Pathologists of Australasia
TGA	Therapeutic Goods Administration
WPBA	Workplace-based Assessment
WHS	Workplace Health and Safety

SECTION 1

INTRODUCTION

Immunopathology training under the auspices of the Royal College of Pathologists of Australasia (RCPA) is designed to prepare medical graduates to provide expert diagnostic support for patients with immune disorders in their capacity as pathologists, and who can serve as consultants, educators, and pathology scientists in the diagnosis and investigation of such conditions.

Fellows of the RCPA trained in Immunopathology will be able to direct services specialising in the diagnosis and monitoring of diseases of the immune system, including immunodeficiency, autoimmunity, lymphoid malignancy and allergy, and in the diagnosis and monitoring of other medical conditions that depend on identification of abnormalities of immune function or on the results of tests based on immunological methodology.

PERSONAL CHARACTERISTICS NEEDED

The immunopathologist needs to have:

- scientific curiosity and an interest in keeping up to date with advances in basic science
- good observation, interpretation and report-writing skills
- ability to make sound judgments
- good oral and written communication skills
- ability to work autonomously, ability to lead and also to work as part of a team of medical, nursing and laboratory staff, as well as the wider discipline of Pathology

GENERAL AIMS OF THE TRAINING PROGRAM

The general aims of the training program are set out below and are elaborated as specific training outcomes and activities in **Section 2**.

By the time trainees complete the requirements for Fellowship they should be able to:

- Demonstrate detailed knowledge of the structure and function of the normal immune system and the pathogenesis of abnormal immune responses;
- Demonstrate expertise in the selection of investigations (including evaluation, costs, benefits, risks) interpretation of generated data and provision of advice on patient management;
- Demonstrate expertise in the tests outlined in the syllabus and elaborated in the learning objectives, including their performance, interpretation, analysis, validation, investigation and resolution of discrepancies and quality control;
- Be able to independently report immunopathology results;
- Recognise their own limitations and know when and from whom to seek expert opinion;
- Provide advice to medical practitioners and patients about the selection, interpretation and clinical utility of relevant tests;
- Demonstrate a working knowledge of the management of an immunopathology service, including understanding financial, legislative and ethical requirements, resource allocation and equipment maintenance;
- Demonstrate a working knowledge of policies and procedures for managing human resources and use effective methods for resolving conflict and dealing with staff problems;
- Demonstrate competence in guiding and teaching trainees in immunopathology;
- Demonstrate a capacity for continued learning and a commitment to participation in the Continuing Professional Development Program (CPDP);
- Take opportunities to participate in research and scholarly activities in immunology and immunopathology;
- Demonstrate the ability to generate and interpret new data, and an ability to apply new developments in the field as appropriate in the improved diagnosis and management of immune diseases;
- Demonstrate commitment to professional and ethical values in the workplace and in clinical practice.

Furthermore, the RCPA policy on patient expectations of pathologists specifies that pathologists will:

- Demonstrate and maintain competence
- Be respectful of patients
- Treat specimens respectfully
- Foster constructive collegiality and teamwork within the laboratory
- Be part of the medical team looking after patients
- Provide accurate and timely results
- Be professional in their approach
- Be involved in appropriate accreditation and quality activities
- Provide value for public and private expenditure.

TRAINING REQUIREMENTS

The general aims of the training program are to be met by the trainee's participation in the work of the diagnostic immunopathology laboratory, with involvement in the total cycle of testing offered by the laboratory, from specimen receipt to release of results and including selection and validation of test methods, performance of assays, interpretation of results, investigation and resolution of assay problems, reporting of results, quality management, laboratory audits, teaching and consumer liaison.

Two pathways are available for training in immunopathology: (a) RCPA Fellowship alone or (b) a dual Fellowship program offered conjointly with the Royal Australasian College of Physicians (RACP) (see below) for trainees who wish to provide patient care as well as laboratory services.

Training is monitored via annual (prospective) approval of the training program and (retrospective) accreditation of each completed year based on a satisfactory supervisor's report. Please refer to the ***RCPA Trainee Handbook – Administrative Requirements*** regarding the submission of forms to the RACP and the RCPA.

To gain the FRCPA in immunopathology requires five (5) years of accredited training and satisfactory completion of the assessment program detailed below. Training can be undertaken only in laboratories approved by the RCPA which provide a suitable immunopathological diagnostic service. Trainees must spend at least one year of the five-year program in a separate institution.

Please refer to the *Trainee Handbook - Administrative Requirements for e*ssential information regarding training limitation, retrospective accreditation of training and temporary suspension of training.

RCPA Fellowship alone

This is a five-year training program supervised by a senior immunopathologist in a laboratory accredited by the RCPA Board of Education and Assessment. The trainee is required to seek prospective approval for every year of training, with accreditation being granted on receipt of a satisfactory supervisor's report towards the end of that year.

Training requires at least four 'core' immunopathology training years in a laboratory providing comprehensive immunopathology services but may include an 'elective' year in one of the other pathology disciplines, including General Pathology, or a research project in immunology or immunopathology (e.g. PhD, Masters etc).

Joint Immunology and Allergy

The joint Fellowship program is for those who wish to provide direct patient care as a clinical immunologist/allergist, as well as provide immunopathology laboratory services.

Trainees may enter the joint program when they have successfully completed their Basic Physician training with the RACP and are granted one-year retrospective training credit towards their FRCPA. The FRCPA and FRACP are awarded jointly on completion of the joint program.

The four years of jointly supervised training requires 24 months (FTE) of immunopathology laboratory training in an accredited laboratory training position under the supervision of a Fellow of the RCPA, 18 months (FTE) clinical training in accredited clinical training positions under the supervision of a Fellow of the RACP and a maximum of 6 months of non-core clinical training in a related area. Training will also include all aspects of laboratory medicine such as safety, quality assurance, and management**. It is expected that only a small proportion of time (up to 20%) will be spent in clinical duties during laboratory training time.**

Educational activities such as case presentations, preparation of case reports or subject reviews, participation in utilisation review studies, quality and audit activities and attendance at intra- and extra-mural scientific meetings are regarded as essential components of the program. The examinations in laboratory practice are solely under the control of the RCPA Board of Education and Assessment.

Examination requirements are under the jurisdiction of the RCPA Board of Education and Assessment and are the same as for trainees following the single discipline RCPA Fellowship pathway.

Research Project

The immunopathology component of joint Fellowship training ordinarily requires two (2) years of supervised training in a diagnostic immunopathology laboratory. However, in exceptional circumstances, candidates may apply for a full-time research project to count for up to 12 months of immunopathology training. The project may be part of a PhD or Masters by Research, but this is not a requirement. The following conditions apply:

- The research project may only be done in the final year of training;
- The trainee must have completed all requirements of Part I before commencing the research project;
- During the research project, the trainee must have an appropriate RCPA accredited immunopathologist as supervisor. The supervisor must be able to link the research environment to the Part II training requirements. The trainee will be required to provide a logbook of their work to their supervisor, demonstrating that they are working towards completion of their Part II requirements. The logbook may be subject to audit.
- The laboratory must fulfil the accreditation standards as an RCPA training site.
- The trainee must apply prospectively with a research proposal that must include immunology bench research. The proposal must be submitted in the year before the research project is to be undertaken. The suitability of the proposal will be assessed by the immunopathology CEX and the CJCT in Clinical Immunology and Allergy.
- Major changes to the research direction during the allocated period must be notified to the immunopathology CEX.
- At the end of the research period, the trainee's application for certification must include a 300-500 word report on the research project. In order for the period to be accredited, the immunopathology CEX and the CJCT Coordinator of Advanced Training must be satisfied with the report.
- The CEX and CJCT retain discretion to deal with exceptional circumstances
- These guidelines apply to new trainees starting their training from 2016 onwards.

The joint training program is managed by a Committee for Joint College Training (CJCT) comprising representatives of the RCPA and RACP and representatives of relevant special societies relevant to the discipline. Training is monitored through annual training program approval and accreditation after submission of the supervisor reports each year. Please refer to the section on Forms and Submissions in the *RCPA Training Handbook – Administrative Requirements* regarding the submission of forms to the CJCT and the RCPA.

The laboratory component must be undertaken in an RCPA accredited laboratory, supervised or co-supervised by a Fellow of the RCPA or equivalent. Training in other institutions, including university departments headed by a senior Fellow of either College, will be considered on application.

Trainees may not complete their laboratory and clinical training entirely within one institution except under extraordinary circumstances and any exception required approval of the CJCT. At least one year of the four-year program must be spent in a separate institution and may occur in either the laboratory or the clinical component. Change of supervisor to another member of an integrated clinical/laboratory service will not qualify, nor will a change to a different geographical site of an integrated service. Periods of training overseas may fulfil some requirements but prior approval of the CJCT is essential.

Prospective trainees should refer to the RCPA Trainee Handbook – Administrative Requirements regarding registration with the RCPA and to the RACP website for regulations applying to training with the RACP.

SUPERVISION

All training must be supervised. It is recommended that any one supervisor be responsible for no more than two trainees.

- **Single discipline trainees:** It is recommended (but not mandated) that a second supervisor be appointed where available, but the primary supervisor should take overall responsibility. The supervisor/s will normally be Fellows of the RCPA however non–Fellows may be approved by the Board of Education and Assessment if no Fellow is available. If a trainee divides the year between two or more unrelated laboratories, more than one supervisor should be appointed.

- **Joint trainees:** It is mandatory for two supervisors to be appointed. The primary supervisor during the laboratory component of training must be a Fellow of the RCPA. The primary supervisor during clinical training must be Fellow of the RACP.

The following conditions apply to both single discipline and joint trainees:

The primary supervisor must certify that suitable supervision is arranged in their absence and/or if the trainee spends significant periods working in an area where the supervisor has no personal involvement

Trainees working towards higher academic degrees (e.g. PhD), with a research supervisor who is not an RCPA fellow, should nominate an RCPA Fellow as co-supervisor.

It is expected that there will be teaching and other contributions (e.g. project or research supervision) from senior members of the department other than the supervisor.

While it is not appropriate for supervision to be delegated largely to a non-pathologist, it may be appropriate for senior staff with relevant experience to sign off some workplace-based assessment forms.

The training programs

Supervisors should devise a prospective training program in collaboration with the trainee on initial registration and annually. Supervisors should ensure that the trainee has sufficient time and opportunities to carry out the required training activities.

- **Single discipline trainees:** The training program is included with the initial and annual registration documentation.

- **Joint trainees**: The RCPA accesses the training program via the RACP website for Joint trainees.

Supervisors and others to whom aspects of training have been delegated are expected to monitor and provide regular feedback on the development of the trainee's competence. Regular, formal, documented meetings with the trainee should occur at least every three months, at which time the training program can be reviewed. In addition, supervisors should regularly observe the trainee's laboratory performance and interactions with scientists, peers and clinicians; and review reporting of results. This may be delegated to other trainers where appropriate, e.g., when the trainee is on secondment to another laboratory for a segment of training.

The formal duties of RCPA supervisors, such as requirements to report the trainee's progress to the Board of Education and Assessment, are described in the *RCPA Induction Manual for Supervisors* and the RCPA policy on the *Role of the Supervisor*. Please refer to these documents for detailed information.

ASSESSMENT

Assessment is by formal examination, dissertation/research project, a portfolio of evidence of the trainee's achievements in the workplace during training and the annual supervisors' reports. The requirements are summarised below. Please refer to the Appendices for detailed requirements.

Formal examinations

Basic Pathological Sciences

This is usually taken before or during the first year of training. All trainees are required to undertake (or apply for exemption from) the Basic Pathological Sciences examination. From 2020, joint trainees will not be automatically exempt from the Basic Pathological Sciences examination. See **Appendix 1** for detailed requirements.

Immunopathology Part I

This examination has written and practical components. RCPA single discipline trainees may sit during or after the third year of training in an approved immunopathology laboratory. Joint trainees must have completed a minimum aggregate 12 months full-time or equivalent part-time training in an approved immunopathology laboratory by the time of the examination. If it is found that after the submission of an examination application form, a trainee has not met the eligibility criteria for sitting an examination/s, eg, insufficient accredited training time, the trainee will be withdrawn from the examination/s. The trainee will be eligible for a full refund of the examination fee. See **Appendix 2** for detailed requirements.

Immunopathology Part II

This is ordinarily taken in the final 12 months of training and is considered an exit examination. See **Appendix 3** for detailed requirements.

Part I and II examinations cannot be ordinarily undertaken in the same year except under exceptional circumstances, after application to the Board of Education and Assessment via the Registrar.

Dissertation (Research Project)

Both RCPA single discipline and joint trainees are required to submit the dissertation or research project in the penultimate year of training. See **Appendix 3** for detailed requirements.

The Portfolio and Workplace-based Assessment (WPBA)

The portfolio is a physical collection of assessment forms and other documents that provide evidence that trainees have successfully completed a range of activities that form part of their daily work in the laboratory. The portfolio records the trainee's progress in developing technical skills and professional values, attitudes and behaviours that are not readily assessed by formal examinations.

Trainees have the responsibility of initiating the workplace-based assessments and ensuring that they have completed the required number by the due dates. They should identify suitable opportunities to have their competence assessed, negotiate a convenient time for the assessment with a suitably qualified assessor and provide the appropriate form. Assessments should be able to be done regularly without significant disruption to workplace productivity. It is important to refer to the detailed portfolio requirements in **Appendix 5.**

Supervisor reports

Trainees must submit to the College a supervisor report for each year of training, including periods of rotation. A copy of each report should be kept in the portfolio.

LEARNING RESOURCES

Texts, journals and weblinks are in the Immunopathology section of the RCPA website. Other peer-reviewed resources should be consulted as necessary for comprehensive coverage, especially contemporary reviews and key papers in the general immunopathology pathology literature.

SECTION 2 LEARNING OUTCOMES & RECOMMENDED TRAINING ACTIVITIES

In Section 2 the four functional roles of immunopathologists are elaborated as a list of training outcomes and activities.

Where possible, learning outcomes are denoted as needing to be achieved early in training [E] or at a more advanced stage [A]. Competence in outcomes achieved early in training should be maintained throughout.

Trainees are not expected to do everything in the training activities lists. They should use their judgement to select those that are most likely to achieve the outcomes, being mindful of the range of learning opportunities offered by their particular laboratory. Familiarity with new and emerging topics that may not appear in the Handbook is also expected.

1 DISCIPLINE-SPECIFIC FUNCTIONS AS MEDICAL SPECIALIST IN THE LABORATORY

Immunopathologists supervise and take responsibility for all aspects of the workings of the immunopathology laboratory and provide clinical liaison and interpretation of tests performed therein. Key liaisons are with laboratory scientists who process samples and clinicians who request the test. Experienced immunopathologists demonstrate a range of knowledge, skills and abilities, including the ability to:

- Synthesise laboratory and immunopathological knowledge with clinical information to formulate and convey a plan of specimen management, reporting and result interpretation;
- Apply technical expertise in processing and reporting of sample results involving immunological diseases and test methodologies;
- Devise and conduct an effective system of laboratory management to ensure quality processing and reporting of samples;
- Coordinate laboratory and clinical information including the appropriate and cost effective processing of samples for further investigation and management of immunological diagnoses;
- Advise clinicians regarding test selection, interpretation and clinical application of immunopathology results;
- Facilitate and initiate clinic pathological research activities.

By the end of training, trainees are not expected to have developed expertise in all these areas. However, they should be technically fully knowledgeable and competent in the routine aspects of the investigation and management of Immunopathology-related problems. They should also have observed and reflected on the way senior immunopathologists fulfil the role of medical specialist in the laboratory and have participated in the more demanding aspects of the role as appropriate for the stage of training, assuming increasing levels of responsibility as they progress. They also should know how to access experts in all these areas and consider where their own interests lie and need to be developed to provide a value-added clinical service in their areas of practice

The following lists of learning outcomes and activities indicate what trainees should have achieved by the end of training.

The numbers in brackets are cross references to the detailed lists of immunopathology topics. These topics can be found on the Curriculum and Trainee Handbook page of the RCPA website

Trainees are advised to consult these lists.

1.1 Core knowledge of immunobiology

Outcomes

[E] Describe the organisation of the immune system (1.1.1)
[E] Explain immune mechanisms (1.1.2)

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Attend relevant lectures, conferences, training sessions;
- Study authoritative texts, journals, web-based resources, laboratory manuals;
- Develop training notes in conjunction with supervisors and other experts in the field;
- Do self-tests and discuss answers with supervisors and other experts in the field.

1.2 Core knowledge of immunologic disorders and disorders relevant for the breadth of immunopathological testing

Outcomes

[E] Describe the characteristics of a range of autoimmune diseases (1.2.1);
[E] Recognise clinical presentations and diagnose malignancies of the immune system (1.2.2).

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Attend relevant lectures, conferences, training sessions;
- Study authoritative texts, journals, web-based resources, laboratory manuals;
- Develop training notes in conjunction with supervisors and other experts in the field;
- Do self-tests and discuss answers with supervisors and other experts in the field.

1.3 Diagnostic laboratory assays

Outcomes

[E] Explain the underlying principles and roles and be able to interpret the following diagnostic laboratory assays and be able to perform such assays where appropriate:

- Polyclonal antisera (1.3.1);
- Monoclonal antibodies (1.3.2);
- Labelling of antibodies (1.3.3);
- Immune-complex-based immunoassay (1.3.4);
- Enzyme-Linked ImmunoSorbent assay (ELISA) (1.3.5);
- Radioimmunoassay (RIA) (1.3.6);
- Agglutination (1.3.7);
- Luminex technology (1.3.8);
- Western Blot (WB) (1.3.9);
- Miscellaneous reporter methods chemiluminescence and fluorescent immunoassay (1.3.10);
- Immunoprecipitation in gels (1.3.11);
- Gel electrophoresis (1.3.12);
- Immunoelectrophoresis (IEPG) and immunofixation (IFE) (1.3.13);
- Isoelectric focussing (IEF) (1.3.14);
- Capillary zone electrophoresis (CZE) (1.3.15);
- Cryoglobulinaemia (1.3.16);
- Complement (1.3.17);
- Immunoglobulin levels and function (1.3.18);
- Light chain disorders (1.3.19);
- Miscellaneous serum proteins: C reactive protein, procalcitonin, alpha-1-alpha-trypsin, serum amyloid A (1.3.20);
- Specific antibodies, when assessing dynamic humoral immune response 1.3.21);
- Rheumatoid factor (RF) (1.3.22);
- Indications for autoimmune serology testing (1.3.23);
- General techniques in autoimmune serology - explain principles, practice, application of techniques, troubleshooting, pros and cons (1.3.24);
- Antinuclear antibodies – discuss advantages and disadvantages of substrates and interpret ANA results (1.3.25);
- Extractable Nuclear Antigens (ENA) – explain principles and relative merits of different assays, interpret results (1.3.26);
- Double-stranded DNA (dsDNA) and related autoantibodies - explain principles and relative merits of different assays, interpret results (1.3.27);
- Antineutrophil cytoplasmic antibody (ANCA) - explain principles and relative merits of different assays, interpret results (1.3.28);
- Autoimmune liver disease (AILD) – in relation to the three main categories of AILD, explain the clinical and laboratory features, list the relevant antibodies and explain methods for detection and their relative merits. (1.3.29);

- Antiphospholipid antibodies – explain principles, practical application, relative merits of assays for these antibodies (1.3.30);
- Coeliac disease – explain immunopathogenesis, list relevant antibodies and explain methods for detection and their relative merits, evaluate role of HLA typing in the diagnosis of coeliac disease (1.3.31);
- Autoantibodies in endocrine diseases - list relevant antibodies and explain methods for detection and their relative merits for Type 1 diabetes, autoimmune thyroid diseases, Addison's disease, pernicious anaemia/atrophic gastritis (1.3.32);
- Autoantibodies in bullous skin disorders - list autoantigens associated with these skin disorders, explain principles behind assays, their relative diagnostic merits, interpret results in clinical context (1.3.33);
- Autoantibodies in renal disease and renal transplantation (1.3.34);
- Autoantibodies in myositis and scleroderma (1.3.35);
- Autoantibodies in neurological diseases (1.3.36);
- Autoantibodies in inflammatory bowel disease (1.3.37);
- Autoantibodies associated with miscellaneous rheumatic conditions (1.3.38);
- General techniques in flow cytometry (1.3.39);
- Lymphocyte enumeration (1.3.40);
- Immunophenotyping of B-cell lymphoproliferative disorders (1.3.41);
- Immunophenotyping of T-cell lymphoproliferative disorders (1.3.42);
- Immunophenotyping of NK-cell lymphoproliferative disorders (1.3.43);
- Immunophenotyping of myeloid disorders and malignancies (1.3.44);
- Assessment of minimial residual disease by flow cytometry (1.3.45);
- Diagnosis of paryxosmal nocturnal haemaglobinuria (1.3.46).
- Detection of mast cells (1.3.47);
- Indications for HLA typing (1.3.48);
- HLA typing methodologies (1.3.49);
- HLA in immunological disease (1.3.50);
- Indications for allergy testing (1.3.51);
- Total IgE measurement (1.3.52);
- Specific IgE measurement (1.3.53);
- Mast cell and eosinophil products (1.3.54);
- Investigation and interpretation of tests in patients with suspected immunodeficiency (1.3.55);
- B-cell immunodeficiency disorders (1.3.56);
- T-cell immunodeficiency disorders (1.3.57);
- Complement disorders (1.3.58);
- Neutrophil disorders (1.3.59);
- NK cell disorders (1.3.60);
- Immunodeficiencies with other major defects (1.3.61);
- Miscellaneous immunodeficiency disorders (1.3.62);
- Diagnosis of HIV infection (1.3.63);
- Monitoring of HIV infection (1.3.64).

In addition to this list, other assays and procedures that become recognised as part of immunopathology laboratory testing including **genetics** testing**,** may be included.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Review documentation and best practice regarding the listed assays;
- Consult laboratory methods manuals;
- Perform the diagnostic assays listed above as part of daily laboratory and training activities and at other laboratories where appropriate.

1.4 General laboratory skills

Outcomes

[E] State principles and procedures of washing, sterilisation and care of glassware and other equipment in accordance with laboratory manuals (1.4.1);
[E] Make up solutions accurately from written formulae, including use of electronic balance and methods for adjustment of pH (1.4.2);
[E] Demonstrate the correct use and maintenance of microscopes including inverted, standard and fluorescent microscopes (1.4.3);
[E] Aliquot, dilute and store appropriately reagents for use in the laboratory (1.4.4);
[E] Explain the calibration, operation and maintenance of the equipment used in the performance of immunological assays (1.4.5).

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Participate in laboratory orientation program;
- Consult laboratory manuals with regard to the use of laboratory equipment;
- Calibrate, maintain and operate instruments and equipment as above;
- Handle reagents according to laboratory protocols;
- Recognise and rectify causes of error in the laboratory.

1.5 Collection, receipt, storage, management and processing of specimens

Outcomes

[E] Collect samples, eg, by venesection (1.5.1);
[E] Use laboratory procedures to assess specimens received by the laboratory (1.5.2);
[E] Process samples for analysis (1.5.3);
[E] Use laboratory information systems in recording patient and request information, including a storage and retrieval system for specimens, results, comments and final reporting.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Work in the reception area;
- Store specimens according to NATA/RCPA, IANZ, ISO guidelines and local practice;
- Use the laboratory information system (LIS) to index and retrieve specimens and their records;
- Read and discuss reports on storage systems;
- Evaluate turn-around times in time critical tests, identifying any sources of non-compliance;
- Participate in the evaluation of laboratory tests.

1.6 Validation, recording and reporting of laboratory data

Outcomes

[E] Use the laboratory information system to validate, record and report laboratory data;
[E] Use the laboratory information system to develop and apply algorithms and rules for the production of results, interpretative comments and recommendations for further tests and alerts for non-routine action;

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- record and verify results in accordance with laboratory procedures;
- Identify potential causes of variation in results;
- Develop and use action limits as they apply to the tests in the laboratory and the rules for notification of abnormal results to pathologists and/or requesting clinicians;
- Use algorithms, action limits etc, to identify results which need non-routine action;
- Prepare algorithms for investigation of different clinical scenarios.

1.7 Provide clinical liaison in the clinical interpretation of diagnostic immunopathology test results

Outcomes

[E] Explain and justify an appropriate approach to communication of abnormal test results to the ordering clinician (1.7.1);
[E] Provide interpretive information on all immunopathology testing within the clinical context (1.7.2);
[E] Recommend and use standardised information structures, terminology and units for requesting and reporting, e.g. use of formal terminologies;
[E] Explain evidence-based advice, guideline development, prediction and research and describe the knowledge and information tools that can be used to help with this;
[A] Promote timely and appropriate use of immunopathology investigations.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Recognise important results that need to be conveyed to appropriate clinicians;
- Be able to explain test limitations when reporting results.

2 Functions as a manager in the laboratory

Frequently there will be a staff of a dozen or more people working under the control of an immunopathologist. Besides managing these people, the immunopathologist must be fully conversant with topics as disparate as budgeting, safety, privacy, certification and quality, as well as having to represent the department to higher authorities.

By the end of training, trainees are not expected to have the management responsibilities of senior pathologists, however they are expected to have become familiar with managerial tasks by observing and reflecting on managerial duties and by participating in activities that are appropriate to their stage of training, assuming increased levels of responsibility as they progress. It should be possible to develop this knowledge by participation in regular department management meetings, observing laboratory preparation for NATA inspections, and so on.

The following lists of learning outcomes and activities are a guide as to what trainees should have achieved by the end of training.

The numbers in brackets are cross references to the detailed lists of immunopathology management topics in **Appendix 8.** Trainees are advised to consult these lists.

2.1 Quality management

Outcomes

[E] Explain and apply the use of calibrators and controls in immunoassay (2.1.1);
[E] Explain the contribution of interference in immunoassays, including methods for detection and minimization (2.1.2);
[E] Be familiar with quality control in flow cytometry (2.1.3);
[A] Interpret quality assurance (QA) reports and discuss sources of variation in the results of assays in different laboratories (2.1.4);
[A] Apply, review and plan quality assurance strategies for monitoring processes and outputs in the laboratory.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Apply laboratory-specified work flow procedures and participate in evaluations to determine whether they are optimal;
- Recognise, report and analyse quality problems when they arise in the laboratory;
- Apply pre-analytical quality control procedures to sample handling, including collection, identification, acceptance, storage and disposal;
- Apply internal quality control procedures, including:
    - reference ranges and applications- principles and usage of SI units;
    - basic statistics as applied to quality control;
    - measurement of uncertainty;
- Apply external quality assurance procedures, including:
    - laboratory accreditation as specified by NATA/RCPA, IANZ, ISO or other relevant body;
    - adverse reaction reporting;
    - audit and quality improvement;
- Review summaries of requirements for laboratory accreditation and performance, eg, the NATA Checklist for Laboratory Accreditation and requirements of IANZ, ISO and other bodies;
- Participate in the implementation of plans for testing and evaluating new technology or advances that may improve the quality of laboratory practice and patient care;
- Participate in discussions regarding governance requirements in relation to quality systems.
- Complete the Quality Management eLearning module in RCPA Education Online and print the certificate of completion for your portfolio

2.2 Trouble-shooting

Outcomes

[E] Recognise and rectify causes of error in immunopathology assays;
[E] Document, notify and apply corrective actions, employing laboratory information systems where appropriate, in the event of incidents, errors and adverse events.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Evaluate turn-around times in time-critical tests, identifying any source of non-compliance.

2.3 Selection of methodology

Outcomes

[E] Select appropriate test methods and instruments, taking into account a variety of factors such as
  - potential for automation;
  - performance characteristics of test methods;
  - quality control;
  - calibration;
  - training;
  - reagent usage;
  - waste disposal;
  - costs and remuneration;
  - service issues;
  - maintenance;
  - record keeping;
  - ability to compare performance of different methods;
  - statistical analysis;
  - ability to assess test usage and clinical utility.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Participate in and reflect on all aspects of laboratory testing as part of normal duties;
- Discuss test procedures and consider recommendations for future local usage based on literature review and analysis of all methods and data including specificity, sensitivity and other performance characteristics.

2.4 Application of statistics to diagnostic testing

Outcomes

[E] Define and explain terminology used in assessing assay performance (2.4.1);
[E] Define and explain standard statistical terminology associated with reference ranges (2.4.2);
[E] With regard to the measurement of uncertainty (MOU), explain principles, determine MOU in assays and explain clinical relevance in specific assays with regard to patient monitoring (2.4.3);
[E] Understand statistical concepts, methods and tools used to assess the accuracy, uncertainty, variation and reproducibility of test results, including data for both individual patients and populations, and to be able to determine confidence levels, reference or expected values and the clinical significance of testing.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Discuss statistical aspects of diagnostic testing with personnel with expertise in the area;
- Read reference material on relevant statistical concepts.

2.5 Laboratory safety

Outcomes

[E] Explain the concepts of risk management in the laboratory (2.5.2);
[E] Explain basic laboratory safety principles regarding universal precautions (2.5.3);
[E] Explain specific aspects of maintaining a safe working environment (2.5.4);
[E] Explain basic aspects of ergonomics in the workplace (2.5.5);
[A] Describe the employer's obligations under the WHS act (2.5.1);
[A] Demonstrate knowledge of local, national and international regulatory frameworks surrounding the collection, packaging, transport, storage and disposal of laboratory specimens.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Participate in orientation program for new staff members;
- Participate in drills and meetings where occupational health and safety issues are addressed;
- Locate and ensure ability to use equipment for biological, chemical and fire safety, first aid and resuscitation;
- Apply laboratory safety procedures, to protect self and staff against hazards;
- Be familiar with and act in accordance with internal and external disaster management plans;
- Be familiar with laboratory safety documentation;
- Review incident reports if available;
- Notify, document, analyse and act on incidents, errors and adverse events.
- Complete the Laboratory Safety eLearning module in RCPA Education Online and print the certificate of completion for your portfolio.

2.6 Compliance with regulatory requirements and legislation

Outcomes

[E] State the regulatory requirements for retention of results and storage of samples (2.6.2);
[E] Explain the roles of critical regulatory bodies in Australian Pathology, including RCPA, NATA, TGA, NPAAC and PSTC (2.6.3);
[A] Describe the employer's obligations under the WHS Act (2.5.1);
[A] State the principles of NATA ISO15189 (2.6.1);
[A] Demonstrate basic knowledge of requirements of Approved Pathology Provider (Australia) legislation or relevant undertakings in other jurisdictions;
[A] Demonstrate basic knowledge of funding mechanisms in the public and private sectors in the jurisdiction of practice;
[A] Recognise the basic legal aspects of medical litigation and the potential role of immunologists as defendants or consultants in such action.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Comply with regulatory requirements of laboratory management, with regard to NATA, HIC or other relevant authorities;
- Identify acceptable standards of billing practice appropriate to the work setting;
- Participate in quality audits and critically review audit assessment reports of your laboratory and identify any contentious issues;
- Attend unit management meetings;
- Discuss with senior colleagues any incidents that may have medicolegal implications.

2.7 Managing people

Outcomes

[E] Review and use orientation and training protocols for new staff;
[E] Be familiar with the RCPA policy on bullying and harassment. Refer to Appendix 1 of the *RCPA Trainee Handbook - Administrative Requirements;*
[E] Identify techniques to provide constructive feedback to staff
[A] Participate in discussions regarding organising laboratory staff, including rosters, training and continuing education (2.7.1).

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Review and use orientation and training protocols for new staff;
- Become familiar with HR policies in your organisation;
- Observe administrative procedures in relation to selection and appointment of staff;
- Participate in laboratory management meetings;
- Participate in organising staff, rosters, training and continuing education;
- As a senior trainee, assist in the orientation and mentoring of junior trainees;
- Reflect on observations of interactions in the workplace;
- Identify techniques to provide constructive feedback to staff;
- Identify principles of conflict resolution in the workplace and participate in a conflict resolution course and read material on the subject.
- Complete the 6 Ethics eLearning modules in RCPA Education Online (mandatory). Complete relevant activities from the Monash University Clinical Ethics Resource (optional).

2.8 Managing resources

Outcomes

[A] Explain factors which determine the cost of a test, considering costs and budget planning (2.8.1);
[A] Participate in discussions of budget issues pertaining to the management of the laboratory (2.8.2);
[A] Be aware of sources of funding for laboratory testing;
[A] Describe issues concerned with the assessment, procurement, installation, maintenance and use of laboratory equipment and electronic information systems in the laboratory environment, and evaluate cost-effectiveness.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Discuss with senior colleagues the cost-effectiveness of current and proposed laboratory procedures and equipment in the context of limited resources;
- Identify sources of pathology financing information, e.g. Medicare Benefits Schedule;
- Participate in drawing up an annual department budget and identifying the fixed, variable and discretionary costs;
- Participate in ongoing monitoring of the budget;
- Educate yourself regarding budgeting and reading financial statements, eg, through discussions with experienced colleagues or attending courses.
- Complete the Quality Management eLearning module in RCPA Education Online and print the certificate of completion for your portfolio.

2.9 Information fundamentals

Outcomes

[E] Understand the role and scope of informatics in laboratory medicine, including concepts of information architecture, quality and analysis, systems design, and specialised sub-domains such as bioinformatics, imaging and statistics
[E] Explain the basics of laboratory systems architecture and the movement of data for communication of requests, reports and instrument interfacing

[E] Identify the information technology environment in which the laboratory information system operates, including integrated systems (i.e. hospital information systems, back-ups, reporting and network structure)

[E] Conform to specimen indexation conventions of the laboratory and use laboratory information systems to retrieve reports/specimens for examination and review to satisfy clinical audit and/or research purposes

[E] Describe meaningful and secure use of electronic health records in pathology practice

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Access and read documents and view video presentations relating to informatics to be found in RCPA Education Online
- Participate in departmental and clinical meetings;
- Network and share information with colleagues;
- Plan, organise and review teaching activities, together with supervisor, peers and laboratory staff;
- Participate in College activities and meetings.

3 RESEARCH AND SCHOLARSHIP

Immunopathologists have a sound understanding of research methodology and an ability to critically evaluate research findings. This enables them to critically appraise the benefits and deficiencies in the new medical and scientific tests and procedures that are continually being developed. They contribute to the body of knowledge and/or enhancement of practice in immunopathology, maintain professional competence throughout their and career and contribute to the immunopathology education of colleagues, trainees and the wider public.

By the end of training, trainees should be sufficiently skilled in the methods of scientific inquiry to be able to critically appraise scientific literature and to conduct a small scale laboratory investigation or participate in a larger-scale study. It is only by undertaking research projects that trainees can come to understand the difficulties in formulating and answering even apparently simple questions. Trainees should have developed the self-discipline to support the habit of lifelong self-education. They should make efforts to acquire sufficient understanding of teaching and learning to be able to mentor and supervise junior staff and to conduct educational sessions for students, colleagues and for the general community.

The following lists of learning outcomes and activities are a guide as to what trainees should have achieved by the end of training.

3.1 Research and critical appraisal

Outcomes

[E] Critically appraise sources of medical information, discriminating between them in terms of their currency, format, authority and relevance;
[E] Demonstrate skill in developing a research proposal, formulating research questions, planning and conducting research activities, carrying out data analysis and writing up for peer review/publication;
[E] Develop a personal strategy to discover, store, access and share information resources;
[E] Apply and interpret basic statistical and epidemiological concepts and data;
[E] Be aware of and comply with the requirements of relevant bodies concerned with ethics in human and animal research;
[E] Be aware of and comply with the conventions applicable to reporting biomedical research.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Undertake projects under supervision and write up for submission for publication
- Participate in and present cases, reviews and original work to peers at grand rounds, multidisciplinary meetings, journal club, etc;
- Participate in research meetings;
- Contribute to writing research proposals and ethics submissions;
- Contribute to data analysis and publication in the department;
- Use clinical and laboratory databases to collect, organise and analyse data;
- Use a standard bibliographic application (e.g. EndNote) to download citations from a search and organise them into a personal database;
- Read reference material on basic statistical concepts
- Use the research and scholarship resources in RCPA Education Online.

3.2 Self-Education & Continuing Professional Development

Outcomes

[E] Perform literature searches using on-line databases or library facilities;
[E] Interpret publications and apply new information to the diagnostic laboratory;
[E] Demonstrate up-to-date knowledge and the ability to appraise medical and pathological literature.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Plan, implement and monitor a personal continuing education strategy, including self-assessment activities;
- Participate in clinical and pathology educational meetings and journal clubs;
- Use a wide variety of instructional resources to confirm or update knowledge and skills;
- Review RCPA CPDP documentation to identify and apply activities and recording strategies that may be applicable,

3.3 Educating colleagues and others

Outcomes

[E] Be familiar with and employ effective oral, visual or written modes as appropriate to convey technical concepts;
[A] Understand principles of adult learning;
[A] Translate and convey technical information to non-pathologists;
[A] Promote understanding of health and disease, including relevant epidemiology and public; health issues, to patients, clinicians and the community.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Participate in teaching, clinicopathological meetings and conference presentations;
- Contribute to continuing professional development programs for pathologists and scientists;
- Review or develop educational materials for non-pathologists, eg, Lab Tests Online;
- Attend training on effective educational methods;
- Prepare posters and articles and present to peers and other health professionals,
- Facilitate patient education, if relevant.
- Contribute to staff development activities

3.4 Providing Data for Planning and Evaluation

Outcomes

[A] Identify requirements for reporting clinical and laboratory information (e.g. pathology laboratory reporting to registries) and the provision of new services.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Assemble clinical information to assist in health care service delivery

4 PROFESSIONAL QUALITIES

Immunopathologists work effectively with the laboratory and clinical team to ensure timely, appropriate and accurate patient diagnosis. They also perform tests and procedures that require them to ensure patient safety, comfort, confidentiality and privacy. They respect patient confidentiality and rights and conduct themselves in a professional manner at all times, being responsible and accountable to colleagues and the community.

During training, trainees should reflect on and strive to adopt the attitudes and values that underpin professional practice and take advantage of opportunities to extend themselves in these areas, so that by the end of training they are fully able to assume their professional responsibilities.

The following lists of learning outcomes and activities are a guide as to what trainees should have achieved by the end of training.

4.1 Ethics and Confidentiality

Outcomes

[E] Practice ethically, which includes:
- promptness in reporting;
- interacting appropriately with clinicians, laboratory staff and other health professionals;
- knowing when to seek opinion from others;
- financial probity;

[E] Comply with legal, ethical and medical requirements relating to patient records and documentation, including confidentiality, informed consent and data security;

[E] Differentiate between ethically appropriate and ethically inappropriate procedures and actions;

[E] Identify appropriate courses of action in regard to unprofessional conduct by or ill health in a colleague;

[E] Comply with copyright and intellectual property rules;

[E] Advocate for and protect patient rights, within the boundaries of their roles as pathology professionals.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Access and read appropriate literature and guidelines including the National Patient Safety Education Framework;
- Read the most recent version of the Australian Medical Association Code of Ethics;
- Access and read documents relating to cultural competence, including those concerning indigenous peoples such as Aboriginal and Torres Strait Islanders and Maori people;
- Reflect on the professional behaviour of yourself and others, identifying potential for ethical dilemmas and strategies to deal with them;
- Complete the 6 Ethics eLearning modules in RCPA Education Online (mandatory). Complete relevant activities from the Monash University Clinical Ethics Resource (optional).

4.2 Communication

Outcomes

[E] Use appropriate language in all communications, showing awareness of cultural and linguistic diversity;

[E] Produce concise, grammatically correct written reports;

[E] Demonstrate respectful interpersonal communication skills such as active listening and accepting and offering appraisal;

[E] Comply with guidelines for handling sensitive information;

[E] Consult with clinical specialists and pathologists on issues of patient care and professional practice and in seeking and providing referral opinion on difficult cases;

[E] Advise clinicians on the appropriate selection of investigations, tests and samples and their relative diagnostic strengths and limitations in relation to patients with:
primary and secondary immunodeficiency, autoimmune/rheumatic disease and systemic vasculitides, allergic symptoms, myeloproliferative disorders;
tissue typing for disease risk assessment and transplantation;

[E] Advise laboratory staff about testing methodologies, quality assurance techniques and delineating protocols for the issuing of results;

[E] Pay prompt attention to communicating urgent and critical results.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Participate in training sessions on communications, cross-cultural communications, presentation skills, etc;
- Compose written reports at an appropriate level of responsibility and seek feedback from supervisor, colleagues and clinicians;
- Document telephone communication of pathological findings, interpretations, clarification of requests and complaints where appropriate, seeking feedback on the quality of your communication from supervisors and colleagues;
- Ring out urgent results;
- Conform to conventions regarding the proper use of electronic communications such as email;
- Consult style guides for correct use of grammar and terminology for written communications;
- Become familiar with policies and procedures relating to printing of results, including incomplete requests and site of printing (e.g. the ward).

4.3 Collaboration and teamwork

Outcomes

[E] Demonstrate effective participation as a member of health care teams within the laboratory and the wider clinical setting;

[E] Consult with laboratory colleagues, other medical practitioners and health care professionals;

[E] Contribute effectively to other inter-disciplinary team activities, such as peer review sessions and other education and quality activities.

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Identify the roles of health care team members;
- Identify the elements of an effective team and reflect on whether these elements exist in your team;
- Apply available technologies to share information and to network with colleagues.

4.4 Cultural competence

Outcomes

[E] Demonstrate an awareness of cultural diversity and the ability to function effectively, and respectfully, when working with and treating people of different cultural backgrounds. Diversity includes but is not limited to ethnicity, gender, spiritual beliefs, sexual orientation, lifestyle, beliefs, age, social status or perceived economic worth;

[E] Apply knowledge of population health, including issues relating to health inequities and inequalities; diversity of cultural, spiritual and community values; and socio-economic and physical environment factors; to specialist pathology practice

[E] Apply knowledge of the culture, spirituality and relationship to land of Aboriginal, Torres Strait Islander and/or Māori peoples to specialist pathology practice and advocacy

Activities

With the advice of your supervisor, select activities that are appropriate to your training environment and stage of training and keep a record for your portfolio, eg,

- Access and read documents relating to cultural competence, including those concerning indigenous people, such as Aboriginal and Torres Strait Islander and Maori people
- Participate in departmental and clinical meetings;
- Network and share information with colleagues;
- Plan, organise and review teaching activities, together with supervisor, peers and laboratory staff;
- Participate in mentoring programs;
- Participate in College activities and meetings;
- Complete the Cultural Competence eLearning modules in RCPA Education Online and print the email confirming satisfactory completion of the relevant module/s for your portfolio OR provide evidence of completion of cultural competence training provided by your employer, if a registered health services provider.

SECTION 3

APPENDICES

Appendix 1

Basic Pathological Sciences Examination

All trainees must pass or be exempted from the Basic Pathological Sciences examination. The examination may be taken before commencement of training and is open to registered trainees as well as any medical graduate or medical student Joint trainees who register from 2020 will not be automatically exempt from the RCPA Basic Pathological Sciences examination. This will include joint New Zealand trainees who register in December 2019 and any joint trainees who have delayed registering with the RCPA until 2020.

Although a pass in Basic Pathological Sciences is not a prerequisite for attempting Part I examination, a pass or exemption must be achieved before proceeding to sit the Part II examination.

The purpose of the Basic Pathological Sciences Examination is to assess familiarity with the most important pathological processes and biological principles of disease that form essential knowledge for any medical graduate who considers a career in the pathological disciplines.

The examination has become necessary because pathology may no longer taught as a “core” discipline in some Australasian medical schools, hence an understanding of basic patho-biological processes is no longer guaranteed in many medical graduates. Such knowledge is essential for a successful start and satisfactory progress in the training program.

Examination Format and Content

The examination is a single 2.5 hour paper of 100 one-best-answer multiple choice questions, based on the BPS syllabus on the RCPA website.

The syllabus reflects knowledge that appears in current, authoritative texts as well as newer knowledge that may not yet appear in textbooks.

The topics cover the basic mechanisms of disease that trainees need to understand so they are equipped to train in their chosen discipline and to understand pathology disciplines other their own chosen field. To cite just a few examples, the microbiology trainee needs to know what a septic infarct looks like; the chemical pathology trainee needs to know about the anatomical pathology changes seen in metabolic syndrome; the anatomical pathology trainee needs to understand why certain antibodies are used in routine diagnosis and the genetic pathology trainee needs to understand how enzyme deficiencies may lead to morphological changes.

The syllabus is primarily based on Chapters 1-11 of the Professional Edition of Robbins and Cotran Pathologic Basis of Disease (9th ed. 2015. Elsevier) by Abul K. Abbas, Vinay Kumar and Jon C. Aster. References to supplementary materials are also given, which explain details more clearly than the textbook or contain helpful diagrams. As much as possible these references are from Open Access journals, but for copyright reasons the actual articles are not able to be placed on the College website.

Appendix 2

Part I assessment

Assessment in Part I is by

- Formal examinations
- A portfolio of evidence of having participated in a sufficient number and type of activities
- Satisfactory supervisors' reports

See Assessment Matrix in Appendix 7,

Examinations are prepared in accordance with RCPA Guideline 3/2015 Quality Framework for RCPA Examinations – Written, Practical and Oral.

The same requirements apply to trainees in the RCPA single discipline and Joint Training Program pathways.

Part I formal examinations

The Part I examination may be taken by RCPA single discipline trainees after having completed at least 24 months full-time or equivalent part time training in an approved immunopathology laboratory. Joint trainees must have completed a minimum aggregate of 12 months accredited fulltime or equivalent part time training in an approved immunopathology laboratory at the time of the examination.

The Part I examination has written and practical components. Each is an integral part of the total examination and cannot be taken alone except under unusual circumstance.

Success at the Phase 1 written examination is a pre-requisite for sitting the Phase 2 practical and test interpretation examinations. Candidates who fail one of the Phase 2 examinations but pass the other will not be required to re-sit the passed Phase 1 examination and/or the passed Phase 2 examination if these exams were passed at a sufficiently high standard and if the failed examination is undertaken in the following year.

Phase 1

Written examination
The 3 hour and 15 minute written examination paper comprises 30 short answer questions that are designed to test theoretical knowledge of basic immunology, including questions on fundamental principles in genetics, genomics and molecular biology, and applied clinical and diagnostic immunopathology.

Phase2

Practical examination
The practical examination tests proficiency in laboratory procedures, the ability to solve clinical case problems and problem-solving capacity in laboratory practice. Trainees are expected to demonstrate knowledge of laboratory procedures in immunopathology and interpretation of results. The examination typically comprises 6 stations each of 30 minutes duration, although this may vary depending on the number of candidates.

Test Interpretation examination
The interpretation of immunology test results in the clinical context is an important aspect of immunopathology. The examination is a one-hour, written examination normally comprising 4 clinical cases. Questions may be in a modified examination question format, which involves submitting answers to each part of a question before receiving the next part.

Portfolio for Part I

The portfolio is a record of activities undertaken by the trainee associated with their daily work during the entire period of training.

The hard copy portfolio must be made available to the supervisor to check periodically. A print copy of the portfolio summary spreadsheet must be included as the front page of the portfolio. The hard copy portfolio and summary spread sheet will be checked for completeness by the supervisor before the Part I examination. It is strongly recommended that trainees commence these activities at the earliest possible time after commencing training.

Please refer to the portfolio requirements which are set out in Appendix 5.

Detailed instructions are included on the forms that must be used to record the activities. The forms and logbook pages are in **Appendix 6**. The portfolio spread sheet (Excel file) may be downloaded from the RCPA website.

The portfolio and summary spreadsheet must be provided to the supervisor to review when they are preparing the supervisor report. A print copy of the summary spreadsheet should be appended to the annual report and to the pre-exam supervisor report which is sent to the College prior to the Part I practical examination. The summary spreadsheet will be reviewed by the Chief Examiner and the Registrar of the Board of Education and Assessment. The signatories and trainee may be contacted to confirm evidence of satisfactory completion.

The portfolio itself should not be sent to the College unless requested for audit.

Supervisor reports

Trainees must submit a supervisor report for each year of training, including periods of rotation. Trainees who are sitting the Part I examination must submit an additional supervisor report before the practical exam. A print copy of the portfolio summary spreadsheet must be appended to annual and pre-exam reports.

It is the trainee's responsibility to ensure that the pre-examination supervisor report is completed and submitted by the due date. Failure to do so may jeopardise the accreditation of training time or finalisation of examination results. The report form can be downloaded from the website.

Summary of assessment requirements for Part I

Item	*Completion*	*Assessed by*	*Comments*
Written examination consisting of short answer questions	Joint trainees: After at least 12 months' (FTE) laboratory experience. Single discipline trainees: After at least 24 months' (FTE) laboratory experience.	Short answer questions marked independently by three examiners.	Questions set by the examinations committee
Practical examination on clinical and laboratory practice	After passing the written exam	Marked independently by two examiners.	Questions set by the examinations committee
Test interpretation examination on clinical cases	After passing the written exam	Marked independently by two examiners.	Questions set by the examinations committee
Portfolio Items to be signed off by the supervisor or delegate	At the time of the pre-examination supervisor report.	Portfolio summary spreadsheet is checked for completeness by BEA Registrar. If not satisfactory, the Candidate may be required to undertake further portfolio activities	Supervisor reviews the hard copy portfolio when preparing the pre-examination supervisor report. Random audit of the portfolio may be conducted by Chief Examiner or delegate.
Supervisor reports End of rotation, annual and pre-exam reports with attached portfolio summary spreadsheet.	End of rotation, annual and pre-exam reports. See RCPA web site for submission dates	Reviewed by BEA Registrar or Deputy Registrar and CJCT Coordinator of Advanced Training.	Referral to Chief Examiner if necessary. See Appendix 4.

Assessment calendar

Please refer to the *RCPA* Trainee *Handbook – Administrative Requirements* (on the RCPA website) for key assessment dates.

Appendix 3

Part II assessment

This more advanced training encourages diversity, specialisation and investigation within the field of immunopathology.

Assessment in Part II is by:

- Structured oral examination
- Test interpretation examination (from 2015 only for candidates who have not sat this examination previously)
- Dissertation (Research Project)
- A portfolio of evidence of having participated in a sufficient number and type of activities
- Satisfactory supervisor reports

See Assessment Matrix in Appendix 7.

Examinations are prepared in accordance with RCPA Guideline 3/2015 Quality Framework for RCPA Examinations – Written, Practical and Oral.

The same requirements apply to trainees in the RCPA single discipline and Joint Training Program pathways.

The Part II examinations are ordinarily sat in the final year of immunopathology training.
A pass (or exemption) in both the Basic Pathological Sciences examination and the Part I immunopathology assessment are required before enrolling for the Part II examination.

Test Interpretation examination

The interpretation of immunology test results in the clinical context is an important aspect of immunopathology. The examination is a one-hour, paper-based written examination normally comprising 4 clinical cases. Questions may be in a modified examination question format, which involves submitting answers to each part of a question before receiving the next part.

Candidates who sit Part II immunology in 2015 and candidates who passed Part I before 2015 and sit Part II after 2015 will be required to sit this examination. It will be held at the same time as the Part 1 test interpretation examination.

Oral examination

The **structured oral examination** is conducted at an RCPA-nominated venue in the final 12 months of training. This is considered an exit examination, except under extraordinary circumstances. There are two 20 minute stations, each with a standardised set of questions. Topics include quality assurance, safety, management, medico-legal issues, communication and teamwork and technical aspects of immunopathology, ie, the role expected of a recent Fellow who directs a routine immunopathology laboratory and acts as a consultant in a major hospital or regional health service.

A pass is required in both stations. A repeat examination later in the same year may be offered to unsuccessful candidates, at the discretion of the Chief Examiner.

Dissertation (Research Project)

Trainees are required to submit a dissertation (research project) to the BEA (for RCPA single discipline trainees) or to the CJCT (for Joint trainees) in their penultimate year of training. Please refer to the *RCPA Trainee Handbook – Administrative Requirements* (on the RCPA website) for

project submission dates. Three copies are required to be submitted. Late submission may delay conferring of Fellowship and may prolong the period of advanced training.

The objective is to give the trainee experience in clinical or laboratory research, scientific methodology and scientific writing, thereby setting the foundation for the application of these skills to future research endeavours. A substantial piece of work is required and it is recommended that the project be planned in collaboration with the supervisor early in advanced training,

Ideally the project should be undertaken during advanced training, although earlier studies may be deemed satisfactory if the objective stated above is fulfilled. The project may form part of a higher research degree undertaken during or prior to commencement of advanced training. The project findings should be presented at national meetings of relevant colleges or societies.

The project must be presented in a format suitable for a high quality scientific publication. An article in a peer-reviewed journal is most suitable. If the trainee is not the first author of the publication, the trainee's contribution should be detailed. The project must meet the following criteria:

- It must make a contribution to established medical knowledge;
- It must constitute a significant body of work, either as a publication in a peer-reviewed medical journal or as a scientific report of publishable quality;
- It must be presented in scientific format with sections for abstract, introduction, aim, methods, results, discussion and conclusion with appropriate comprehensive references to published literature;
- It must be original work. Material not directly arising from the work of the trainee may be included (eg as an Appendix) or form part of the publication but will not be considered when determining whether the trainee's contribution meets a satisfactory standard;
- It will ordinarily constitute between 5,000 and 10,000 words although shorter, concise submissions may be deemed satisfactory if they meet the other criteria;
- Project work should ordinarily constitute the equivalent of 2-4 hours per week for one year

Projects may take one of the following forms:

- A quality assurance activity or clinical/laboratory audit that refines or attempts to refine standards in patient management within clinical immunology or immunopathology, with recommendations for improvement in patient care or laboratory practice;
- Analysis of a clinical or laboratory test of an immunological condition;
- A case series to identify a novel aspect of an immunological condition;
- A case report with detailed laboratory assessment beyond routinely available diagnostic assays. A simple case report is not satisfactory unless used as an introduction to an extensive literature review;
- A basic research project within the discipline of clinical immunology or immunopathology;
- A detailed review of the literature on an immunologic topic;
- A small clinical study of a novel therapeutic or, more likely, an established therapeutic for a novel condition (option for Joint RCPA/RACP trainees only)

While all these formats apply for joint RCPA/RACP trainees, projects by single discipline RCPA trainees are expected to pertain to laboratory research rather than pure clinical studies.

Projects in other categories may be acceptable as long as they meet the objective specified earlier. Exceptions must be discussed prior to commencement with the Coordinator of Advanced Training in Immunology (Joint trainees) or the Chief Examiner in Immunopathology (RCPA trainees).

Prior to submission, the project report should be deemed satisfactory by the supervisor. A statement detailing the supervisor's assessment of the merits of the study and verifying the efforts made by the trainee should be attached to the project report when submitted. The cover sheet is in **Appendix 6**.

Keep your own copy of the, Project/Dissertation because the copies you send to the College will not be returned to you

Portfolio for Part II

The portfolio is a record of activities undertaken by the trainee associated with their daily work during the entire period of training. The hard copy portfolio must be made available to the supervisor to check periodically. A print copy of the portfolio summary spreadsheet must be included as the front page of the portfolio. The hard copy portfolio and summary spread sheet will be checked for completeness by the supervisor before the Part II examination. It is strongly recommended that trainees commence these activities at the earliest possible time after commencing training.

Please refer to the portfolio requirements which are set out in Appendix 5.

Detailed instructions are included on the forms that must be used to record the activities. The forms and logbook pages are in **Appendix 6**. The portfolio spread sheet (Excel file) may be downloaded from the RCPA website.

The portfolio and summary spreadsheet must be provided to the supervisor to review when they are preparing the supervisor report. A print copy of the summary spreadsheet should be appended to annual reports and to the pre-exam supervisor report which is sent to the College prior to the Part II oral examination. The summary spreadsheet will be reviewed by the Chief Examiner and the Registrar of the Board of Education and Assessment. The signatories and trainee may be contacted to confirm evidence of satisfactory completion.

The portfolio itself should not be sent to the College unless requested for audit.

NOTE: Trainees who commenced training before 2014 may have reduced portfolio requirements and should refer to the document outlining transition requirements on the RCPA website.

Supervisor Reports

Trainees must submit a supervisor report for each year of training, including periods of rotation. Trainees who are sitting the Part II examination must submit an additional pre-examination supervisor report. A print copy of the portfolio summary spreadsheet must be appended to annual and pre-exam reports.

It is the trainee's responsibility to ensure that the pre-examination supervisor report is completed and submitted by the due date. Failure to do so may jeopardise the accreditation of training time or finalisation of examination results. The report form can be downloaded from the RCPA website.

Summary of assessment requirements for Part II

Item	*Completion*	*Assessed by*	*Comments*
Test interpretation examination	After passing Part I	Marked independently by two examiners.	From 2015 for candidates who have not sat this examination previously
Oral examination	In the final year of training	Examiners' panel.	Each question marked by two examiners.
Dissertation (research project)	In penultimate year of training Due date: see key dates section of the *Trainee Handbook – Administrative Requirements.*	Two immunopathologists nominated by the Chief Examiner, based on the nature of the submitted project	Single discipline trainees should submit copies to the RCPA. Trainee and supervisor declarations to be completed. 3 copies to be submitted to RCPA for examination Joint trainees should submit copies to RACP

Item	Completion	Assessed by	Comments
Portfolio Items to be signed off by the supervisor or delegate	At the time of the pre-examination supervisor report.	Portfolio summary spreadsheet is checked for completeness by BEA Registrar. If not satisfactory, the Candidate may be required to undertake further portfolio activities	Supervisor reviews the hard copy portfolio when preparing the pre-examination supervisor report. Random audit of the portfolio may be conducted by Chief Examiner or delegate.
Supervisor reports: End of rotation, annual and pre-exam reports with attached portfolio summary spreadsheet	See RCPA web site for submission dates	Reviewed by BEA Registrar or Deputy Registrar and CJCT Coordinator of Advanced Training.	Referral to Chief Examiner if necessary. See Appendix 4.

Assessment requirements for Research Stream candidates

Research stream candidates must satisfy the portfolio and supervisor report requirements in the Table above and submit formal confirmation of acceptance of the PhD or MD thesis.

Assessment calendar

Please refer to the *RCPA Trainee Handbook – Administrative Requirements* (on the RCPA website) for key assessment dates.

Appendix 4

Guidelines for Completing the Supervisor Report Form

Please refer to the following documents:

- Information about the role and responsibilities of supervisors and resources to support supervision
- The RCPA policy on the Supervision of Training and Accreditation of Supervisors

The supervisor report form should be completed by the supervisor in consultation with other pathologists and laboratory staff with a significant role in the trainee's training program and with reference to the trainee's portfolio.

Supervisors should be mindful that scoring trainee performance is of critical importance in early notification of underperforming trainees so that remedial action can be initiated early in training, if appropriate. Experience tells us that most trainees score 3, which indicates that they are performing at the expected level of training. A score of 1 or 2 identifies to the College/CJCT an underperforming trainee and flags the need for evaluation for trainee support pathways.

Trainees must make their up-to-date portfolio and logbooks available to the supervisor for the annual, rotation and pre-examination reviews. For the pre-examination review, a print-out of the portfolio summary spread sheet must also be made available.

The portfolio should include completed forms for:

- Laboratory safety checklist
- Directly Observed Communication Skills (DOCS)
- Directly Observed Practical Skills (DOPS)
- Case-based discussions (CbD)
- Teaching sessions
- All previous supervisor reports

Submitting the supervisor report

It is the trainee's responsibility to ensure that the form is completed and submitted by the due date. At least one supervisor report is due annually for all trainees and may be submitted with the annual registration for the subsequent year. For trainees who participate in rotational programs, one report is required on completion of each period of rotation at a different institution.

For trainees sitting for Part I and Part II examinations, the additional pre-examination supervisor report is due by the date specified in the *RCPA Trainee Handbook – Administrative Requirements* (on the RCPA website). A print-out of the portfolio summary spread sheet must be appended to this report and to the annual reports.

Please post this form by the due date to
The Royal College of Pathologists of Australasia
207 Albion Street
Surry Hills NSW 2010 AUSTRALIA

Faxed reports will not be accepted.

Appendix 5

Portfolio Requirements

The table below sets out guidelines to assist trainees to compile the portfolio and the portfolio summary.

Portfolio activities to are carried out in the workplace and provide evidence that the trainee is developing technical skills and professional values, attitudes and behaviours that are not readily assessed by formal examinations.

Trainees should start accumulating evidence as early as possible in training and aim to have half of them underway or complete by the time they present for the Part I examination. Some activities must be completed every year; others must be completed by the due dates for the pre-Part I or Part II examination supervisor reports.

Appendix 6 contains the forms and logbook pages for recording the portfolio activities. Please file the hard copy forms in a **portfolio folder** with separate sections numbered as in the table.

A soft copy **portfolio summary** (Excel) **spreadsheet** should also be compiled so that trainees can keep track of what they have completed. The spreadsheet can be downloaded from the RCPA website. It is the trainee's responsibility to keep both hard and soft copy records **up-to-date**.

The supervisor should review and sign off completed portfolio forms and logbook on the annual, rotation and pre-exam supervisor report.

A print copy of the portfolio summary spreadsheet should be appended to the annual and pre-exam supervisor report and submitted to the RCPA prior to the oral examination at a time determined by the RCPA. The summary will be reviewed by the Registrar, Board of Education and Assessment and the Chief Examiner. The signatories may be contacted to confirm evidence of satisfactory completion.

Note: The actual portfolio should not be sent unless requested for audit.

	Item	**Part I**	**Part II**	**Evidence**
1	**Laboratory safety**	Checklist to be completed within 3 months of starting training. Laboratory safety eLearning module to be completed during training		**Safety Checklist -** one only required during training. **Certificate of completion** of eLearning safety module (see point 8 below)
2	**Supervisor report/s;** Portfolio summary spreadsheet to accompany annual and pre-exam reports	End-of-rotation and annual reports. An additional pre-exam report is required in the year of the Part II assessment See RCPA website for submission dates.		**Supervisor Report Guidelines** Appendix 4
3	**DOPS** A total of six (6) to be completed satisfactorily during training	Four (4) different instruments and or techniques to be completed satisfactorily before Part I	An additional two (2) different instruments and/or techniques before Part II	**DOPS forms** Signed as satisfactory by supervisor or other appropriately qualified person. Appendix 6
4	**DOCS**	One telephone DOCS every 3 months during full-time training. One (1) oral presentation DOCS per year of full-time training.		**DOCS forms** for • **Telephone** • **Oral presentations** Signed as satisfactory by supervisor or other appropriately qualified person. Appendix 6

	Item	Part I	Part II	Evidence
5	**CbD** A minimum of 2 per year throughout training	Minimum two (2) per year for different types of cases before Part I exams	Minimum two (2) per year for different types of cases before Part II exams	**CbD forms** Signed as satisfactory by supervisor or other appropriately qualified person. Appendix 6
6	**Laboratory investigations**	Investigations in all of these areas are to be carried out as opportunities arise during training: • Autoimmune serology • Flow cytometry • Immunochemistry • Tissue typing • Lymphocyte function tests • Allergy tests As trainees in some laboratories may not have access to the full range of these tests, no minimum number is required,		**Log book** Trainees should record all investigations in a logbook. Trainees should acquire a suitable logbook. It is **not** supplied by the College. Signed as satisfactory by supervisor or other appropriately qualified person
7	**Teaching sessions** Minimum attendance of 12 per year and presentation at 3 per year during training.	Organise and attend small-group tutorials consisting of their peers, established immunopathologists, optimally including the supervisor(s). Trainees should log sessions that they attend and record sessions that they present on the DOCS form (see above).		**Teaching sessions form** Teaching sessions that the trainee has attended and at which she/he has presented should be recorded in the form in Appendix 6 The supervisor should sight and sign off t logged sessions at supervisor's meetings and end-of-year formal review.
8	**Professional qualities eLearning modules** Refer to Section 2 Learning outcomes and recommended training activities for weblinks	The following RCPA e-learning modules are required to be completed during training: Quality Management Laboratory Safety Ethics (6 modules) Cultural Competence		A **certificate or email verifying completion** can be printed when the module has been completed (a workbook is required for the Ethics module). Note: A cultural competence certificate issued by a recognised health service provider can substitute for the RCPA cultural competence module certificate.

Appendix 6

Forms and logbook

Appendix 6 contains master copies of forms and logbook pages to be used to record activities for the portfolio. Please make as many copies as you need and file the completed forms safely in the portfolio folder.

The forms are

- Laboratory safety checklist
- Directly Observed Communication Skills (DOCS)
- Directly Observed Practical Skills (DOPS)
- Case-based discussions (CbD)
- Dissertation cover page
- Teaching sessions form

Note

A log book for recording laboratory investigations:

The logbook is **not** supplied by the College. Trainees should acquire a suitable book for logging laboratory investigations performed throughout training and periodically transfer summary information about the number of type of investigations to the portfolio summary spreadsheet.

Laboratory Safety Checklist

This form is designed to confirm that trainees have understood and are able to apply laboratory safety instruction provided by the employer as it relates to the RCPA curriculum. It covers the essentials for new trainees and is the basis for subsequent learning that will be assessed and eventually leads to the ability to function in a laboratory management role as a pathologist.

- ☐ I have participated in a laboratory safety induction program or educational session
- ☐ I have reviewed the laboratory safety manual
- ☐ I know where to find the laboratory safety equipment and how to use it
- ☐ I have known immunity to hepatitis B (natural or vaccine)
- ☐ I have been vaccinated and/or screened for other infectious diseases as required by my laboratory
- ☐ I know how and when to wash my hands and carry this out
- ☐ I wear enclosed shoes in the laboratory and tie back long hair if applicable
- ☐ I wear appropriate protective clothing (gown, gloves, goggles, mask as needed) and always remove it before leaving the laboratory
- ☐ I cover any cuts or wounds before working in the laboratory
- ☐ I never eat or put anything in my mouth whilst in the laboratory
- ☐ I know how to handle blood and other body substances and tissues to avoid transmission of infection to myself and others
- ☐ I know how to prevent sharps injury
- ☐ I am aware of electrical, chemical, radiation and biological hazards and how to prevent them
- ☐ I know what to do in an emergency
- ☐ I know the procedure for reporting safety-related incidents
- ☐ I know where to find information about legislative requirements for laboratory safety
- ☐ I know where to find detailed information about laboratory hazards such as dangerous chemicals
- ☐ I always clean up after myself
- ☐ I set up my workspace and ensure correct posture and lifting technique so as to avoid strain and injury

Name:

Sign:

Witness (supervisor or senior pathologist):

Date:

DOCS (Direct Observation of Communication Skills) Assessment Form

Instructions for Trainees and Supervisors

There is an emphasis in this workplace assessment on communication skills. Trainees should demonstrate that they are able to communicate clearly and distinctly in English, are able to respond to questions pertaining to laboratory immunopathology, answer in a clear and logical manner and be confident that the communication has been understood.

Trainees are required to complete two different types of DOCS forms during training:

- **Phone through of results**: the DOCS form is used to assess one-to-one communication over the telephone. The supervisor observes the trainee ringing out an important laboratory result (using a speaker phone) and assesses the trainee's ability to communicate the result and provide interpretative discussion. At the beginning of the call the trainee should disclose to the clinician that the supervisor is listening on speaker phone. One DOCS form should be completed every three months of full-time training in immunopathology. This will be a two-year period for joint trainees and a five-year period for RCPA single discipline trainees.

- **Oral presentation:** the DOCS form is used to assess presentation skills at grand rounds or a clinicopathological case discussion meeting. The trainee presents the pathology results for particular cases to a predominantly clinical audience and is assessed on ability to discuss the pathology and the diagnostic implications. This should be done once per year of full-time training in immunopathology and be assessed by the supervisor or appropriate delegate.

Trainees should initiate the DOCS assessment by requesting an appropriate assessor to observe them when they are confident they can complete the DOCS satisfactorily. It is important for the assessor to observe the trainee doing the entire activity. Observations can be made by the supervisor and also by other suitably qualified staff. Assessors who are RCPA Fellows can note this as a quality activity in their annual CPDP submission.

The assessor should complete the DOCS form while the trainee is present and spend 5-10 minutes providing immediate feedback.

Grading, standards and outcome of assessment

Each aspect of the trainee's performance should be graded. The "n/a" option should be used if the assessor has not observed that aspect or is otherwise unable to comment.

The trainee's strengths as well as areas for improvement should be discussed with the trainee. Feedback should be given sensitively, in a suitable environment. Areas for development should be identified, agreed and recorded on the DOCS form.

The final outcome should be graded according to whether the standard of performance is as expected for the level of training. A trainee whose performance falls below the level will be able to repeat the assessment with no penalty.

Record keeping

The DOCS forms must be fully completed, signed and dated by the trainee and the assessor. Only DOCS forms that have been satisfactorily completed need to be recorded in the portfolio.

Immunopathology
DOCS form: phoning through results

(DOCS = Directly Observed Communication Skill)
This form is to be completed by the observer

How to use this form

The supervisor should be present when the trainee rings through an important laboratory result (eg on speaker phone) and assess the trainee's ability to communicate the result and provide interpretative discussion. At the beginning of the call the trainee should disclose to the clinician that the supervisor is listening on speaker phone.

One form should be completed every three months of full-time training in immunopathology (this will be a two-year period for joint trainees and a five-year period for RCPA-only trainees).

Completed forms for are to be retained in the portfolio and should be sighted by the supervisor and signed off on the annual supervisor report.

Trainee name	**Trainee ID**	**Stage of training** (***laboratory*** **year for Joint trainees)** Y1 Y2 Y3 Y4 Y5 if >Y5 please specify
Observer/Assessor name	**Observer/Assessor position** ☐ consultant immunopathologist ☐ other (please specify):	

Case description and number

Please indicate whether these aspects of the trainee's performance are as expected (or better than expected) for the stage of training	**Yes**	**No**	**n/a**
Opening State name, laboratory, verify identity of clinician, state reason for calling, allow time for clinician to find patient records.			
Information sharing - quality of communication Speak clearly at an appropriate pace for comprehension. Invite additional clinical information. Invite questions. Invite opinions. Confirms (directly or indirectly) that the clinician has understood the information shared			
Information sharing - quality of information Accurate synthesis of clinicopathological findings Suggest appropriate further investigations Discuss appropriate management plan			
Closing Explain what can be done if problem is not resolved. Give contact details for follow-up, including offering clinical consultation if needed.			

Please comment on areas of strength and on areas for improvement.

Final outcome (please circle) As expected for the stage of training Below expected for the stage of training	Date of assessment	Time taken for assessment	Time taken for feedback
Name (print) and signature of assessor		Signature of trainee	
Laboratory			

Immunopathology
DOCS form for oral presentations

(DOCS = Directly Observed Communication Skill)
This form is to be completed by the observer

How to use this form

The trainee should present the pathology results for particular cases to a predominantly clinical audience. The supervisor or delegate should assess the trainee's ability to discuss the pathology and the diagnostic implications. Trainees should have a DOCS form completed for one presentation each year of training.

Completed forms for are to be retained in the portfolio and should be sighted by the supervisor and signed off on the annual supervisor report.

Trainee name	**Trainee ID**	**Stage of training** (***laboratory*** **year for joint trainees)** Y1 Y2 Y3 Y4 Y5 if >Y5 please specify
Observer/Assessor name	**Observer/Assessor position** ☐ consultant pathologist ☐ senior registrar ☐ other (please specify)	

Case description and number

Please indicate whether these aspects of the trainee's performance are as expected (or better than expected) for the stage of training	**Yes**	**No**	**n/a**
Planning and organisation Ideas organized into clear, concise, logical order Uses transitions and repetition to keep audience on track Content indicates effective prior planning			
Content Clearly defined and explained subject and main messages Stayed focused on main messages throughout Supplied appropriate amount of detail, examples, evidence Effective visual aids – visible to audience			
Delivery Language is clear, appropriate to purpose and audience Enunciates clearly, audibly, at appropriate pace Responsive to audience reaction – adapts delivery to meet their needs Responsive to audience questions, comments Uses the chosen technology competently			

Please comment on areas of strength and on areas for improvement.

Final outcome (please circle) As expected for the stage of training Below expected for the stage of training	Date of assessment	Time taken for assessment	Time taken for feedback
Name (print) and signature of assessor		Signature of trainee	
Laboratory			

DOPS (Direct Observation of Practical Skills) Assessment

Instructions for Trainees and Supervisors

The purpose of the Direct Observation of Practical Skills (DOPS) assessment is to indicate trainees' acquisition of practical laboratory skills; to show that they can work safely in the laboratory; and to provide feedback to trainees about their progress by highlighting strengths and areas for improvement, thereby encouraging their professional development.

Trainees are required to complete DOPS forms demonstrating competence in six (6) different instruments or techniques during the training period. This period will differ for joint versus RCPA single discipline trainees. DOPS for at least four (4) techniques should be completed by the time of the Part I practical examination. Trainees should initiate the DOPS assessment by requesting an appropriate assessor to observe them when they are confident they can complete it satisfactorily.

It is important for the assessor to observe the trainee doing the entire activity. Observations can be made by the supervisor and also by suitably qualified scientific staff. Assessors who are RCPA Fellows can note this as a quality activity in their annual CPDP submission.

The assessor should complete the DOPS form while the trainee is present and spend 5-10 minutes providing immediate feedback.

Grading, standards and outcome of assessment

Each aspect of the trainee's performance should be graded as consistent (or not) with expectations for the stage of training. The "n/a" option should be used if the assessor has not observed that aspect or is otherwise unable to comment.

The trainee's strengths as well as areas for improvement should be discussed with the trainee. Feedback should be given sensitively, in a suitable environment. Areas for development should be identified, agreed and recorded on the form.

The final outcome should only be graded as consistent with the level of training if all aspects have been performed to the expected standard, ie, the trainee would be able to perform the task safely without supervision, usually at the level of a competent junior scientist. A trainee whose performance falls below this level will be able to repeat the assessment with no penalty.

Record keeping

The DOPS forms must be fully completed, signed and dated by the trainee and the assessor. Only satisfactory DOPS need to be recorded in the portfolio.

Immunopathology DOPS (Direct Observation of Practical Skills) Assessment Form

The Royal College of Pathologists of Australasia

Trainee name	Trainee ID (RCPA)	Stage of training Y1 Y2 Y3 Y4 Y5 if >Y5, please specify
Assessor name	Assessor position ☐ Pathologist ☐ Scientist ☐ Snr Trainee ☐ Other (pls specify)	

Instrument or technique (*tick the box that applies).* Techniques 1-4 should be done before the Part I practical exam. Techniques 5-6 can be done before Part II. All should be performed on suitable patient samples and not blood from a trainee.

☐ 1. Stain a peripheral blood sample for flow cytometry for the major lymphocyte subsets (CD4 T cells, CD8 T cells, B cells NK cells), understanding colour compensation and controls.

☐ 2 Stain a peripheral blood or tissue sample for flow cytometry for a complex indication such as investigation of leukaemia or lymphoma, or B cell subsets. Preparation of mononuclear cells by Ficoll density gradient prior to staining is encouraged if this technique is available in the laboratory.

☐ 3. Stain an ANA slide manually using a range of positive samples, and report using the fluorescence microscope.

☐ 4. Perform an ELISA manually, construct a standard curve using the OD readings, and generate patient results.

☐ 5. Perform a manual assay based on gel precipitation (eg EPG/immunofixation manually, RID, Ouchterlony double-diffusion etc) and interpret the result.

☐ 6. Analyse the listmode (raw flow cytometry) data from 1 or 2 above, using appropriate software.

Number of hours spent performing the method prior to DOPS assessment	Has the trainee completed the laboratory's usual training process for this method? ☐ yes ☐ no

Please indicate whether these aspects of the trainee's performance are as expected or better than expected for the stage of training	Yes	No	n/a
Understands the principles of the method			
Understands and complies with the laboratory documentation, package inserts, manuals, etc			
Completes assay successfully and produces a valid result that is able to be reported			
Able to explain the QC procedures for this method, including internal and external QA			
Able to discuss anomalies and resolve uncertainties for the method			
Able to explain maintenance and trouble-shooting requirements for the method			

Please comment on other relevant aspects, especially on aspects for improvement (use the reverse side if insufficient room)

Final outcome (circle one) As expected for the stage of training Below expected for the stage of training	Date of assessment	Time taken for DOPS	Time taken for feedback
Name (print) and signature of assessor		Signature of trainee	
Laboratory			

CbD (Case-based Discussion) Assessment Form

Instructions for Trainees and Supervisors

Throughout training, trainees should seek opportunities to present and discuss cases with experienced colleagues and receive feedback. The CbD form should be used to formally record at least 2 of these sessions per year. At least 2 per year CbD forms should have been signed off as satisfactory before the Part I examination (total of at least 6 forms) and a further 4 forms before the Part II examination.

CbD assessments indicate the development of the ability to interpret and relate pathological results to clinical findings; to plan appropriate investigations, and make decisions in relation to patient care, including decisions with ethical and legal dimensions. The purpose of the CbD assessment is also to provide feedback to trainees about their progress by highlighting strengths and areas for improvement.

CbDs before Part I should be for routine situations and those with frequently occurring, manageable complications. Between the Part I and Part II examinations, the cases should be of high complexity, with difficult or unusual situations. Examples might include:

- An interesting or unusual autoantibody result (eg positive ANA with multiple ENAs, a positive anti-neuronal antibody);
- An interesting or unusual fluorescence biopsy result;
- An interesting or unusual immunophenotype;
- A series of different positive results in the laboratory (eg cryoglobulinaemia, with a RF and paraprotein);
- Others that the trainees can assess.

The trainee should initiate each CbD assessment and should select two (2) recent cases in which s/he has been involved clinically or through laboratory tests. The assessor should select one (1) of these for the trainee to present and discuss. The assessor should be an RCPA Fellow but does not need to be the listed supervisor.

The trainee should request a mutually convenient time to meet for about 30 minutes. The presentation/discussion should take 15-20 minutes. A further 5-10 minutes should be allowed for feedback and completion of the CbD form. In addition to the formal CbD assessment, supervisors are encouraged to have an informal discussion of the second case prepared by the trainee.

Grading, standards and outcome of assessment

Each aspect of the trainee's performance should be graded as consistent (or not) with expectations for the stage of training. The "n/a" option should be used if the assessor has not observed that aspect or is otherwise unable to comment.

The trainee's strengths as well as areas for improvement should be discussed with the trainee. Feedback should be given sensitively, in a suitable environment. Areas for development should be identified, agreed and recorded on the form.

The final outcome should only be graded as consistent with the level of training if all aspects have been performed to the standard expected of a trainee at that stage. A trainee whose performance falls below this level will be able to repeat the assessment with no penalty.

Record keeping

The CbD forms must be fully completed, signed and dated by the trainee and the assessor. The forms must be retained by the trainee in the portfolio. Only CbD forms with a satisfactory outcome need to be recorded in the portfolio.

Immunopathology Case-based Discussion (CbD) Assessment Form

Trainee name	Trainee ID (RCPA)	Stage of training Y1 Y2 Y3 Y4 Y5 if more than Yr5, please specify

Assessor name and position

Focus of discussion

- ☐ An interesting or unusual autoantibody result (eg positive ANA with multiple ENAs, a positive anti-neuronal antibody);
- ☐ An interesting or unusual fluorescence biopsy result;
- ☐ An interesting or unusual immunophenotype;
- ☐ A series of different positive results in the laboratory (eg cryoglobulinaemia, with a RF and paraprotein);
- ☐ Other (please specify)……..

Complexity of case (tick box) ☐low ☐medium ☐high

Brief description of case presented, discussed and assessed

Why was this case selected for discussion?

Does this case broaden the trainee's experience by being different from previous cases that have been discussed? ☐yes ☐no ☐n/a

Please indicate whether these aspects of the trainee's performance are as expected or better than expected for the stage of training	Yes	No	n/a
Ability to present case clearly and concisely			
Understanding of clinical issues relating to the case			
Understanding of laboratory issues relating to the case			
Understanding and awareness of current literature relevant to this case			
Ability to interpret results in a balanced and rational way			
Ability to provide and clearly communicate well reasoned professional advice			
Ability to correlate the laboratory test results with the patient's clinical presentation.			
Ability to suggest further relevant or more useful tests towards the management of the patient in relation to diagnosis and monitoring including prognostication.			
Understanding of management and financial aspects of the case			
Overall laboratory and clinical judgment			

Please comment on other relevant aspects, especially on aspects for improvement (use the reverse side if insufficient room)

Final outcome (please circle) As expected for the stage of training Below expected for the stage of training	Date of assessment	Time taken for presentation	Time taken for feedback
Name (print) and signature of assessor		Signature of trainee	
Laboratory			

Immunopathology Teaching sessions

How to use this form

Each year trainees should record attendance at 12 teaching sessions and conduct at least 3 of these sessions. The teaching can be for students, laboratory colleagues or other audiences.

The form should be sighted and signed off by the supervisor periodically and also signed off on the annual supervisor report.

Please indicate whether you attended only (A) or conducted the session (C)

Please START A NEW FORM AT THE BEGINNING OF EACH YEAR OF TRAINING

Trainee name	**Trainee ID**	**Stage of training** Y1 Y2 Y3 Y4 Y5 If > Y5 please specify

	Date	**A or C**	**Audience**	**Topic**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

RCPA The Royal College of Pathologists of Australasia	**Immunopathology Part II Cover page for the Project /Dissertation**

Attach this cover page to the project (dissertation) when submitting for examination.

Section A To be completed by the trainee

Name of trainee.....

Name of project/dissertation supervisor .....

Laboratory.....Date submitted.....

Title of project (dissertation).....

.....

Who conceived of this project? If not you alone, please describe your involvement.

Was ethical approval required for the project? ☐ No ☐ Yes

Give details

Were patient samples used in this project? ☐ No ☐ Yes

If yes, who collected the samples?

Who stored the samples?

Who tested the samples?

Who entered the data?

Who analysed the data?

How was the project funded? (eg laboratory budget, research grant, commercial grant, other?)

Please state any potential or actual conflict of interest associated with the project

Has the work been, or will it be, submitted for publication? ☐ No ☐ Yes

Who assisted you with the project? (name, position)

Declaration by trainee

I certify that I undertook this project/dissertation during my accredited laboratory training in immunopathology. The dissertation is original and the work upon which it is based has not been used by any other trainee in this laboratory. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Trainee signature **date**

Please see over for Section B

Section B to be completed by the project/dissertation supervisor

☐ I was supervisor on this project/dissertation for this trainee

OR

☐ I was not supervisor on this project/dissertation for this trainee. Please explain below why the project supervisor is unable to sign.

☐ I have **reviewed** this project report/dissertation and **read the RCPA Dissertation Requirements**, and believe it is suitable for submission to the RCPA examiners.

OR

☐ This project report/dissertation is **currently incomplete** but has been submitted to demonstrate significant progress.

(Note that in this circumstance, the dissertation will not be formally assessed until a final complete version has been received, and further that applications for fellowship of the RCPA will NOT be processed until a complete dissertation has been received and assessed as satisfactory).

Supervisor signature and date..... date ...../...../.....

Appendix 7

Assessment matrix

Competency to be assessed Competencies are organised according to the RCPA common curriculum framework		**Assessment method** (see key below)									
		Part 1			Part 2		Portfolio				Sup
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
1.1 -1.3	Foundation knowledge and skills	X	X	X	X	X	X	X	X		X
1.4	General laboratory skills	X	X			X	X		X	X	X
1.5	Collection, receipt, storage, m'gment, processing specimens	X	X	X		X	X		X	X	X
1.6	Validation, recording, reporting of laboratory data	X	X	X	X	X	X		X	X	X
1.7	Clinical liaison in interpretation of diagnostic test results			X		X	X	X	X	X	X
2.1	Quality management: assurance & control				X	X			X	X	X
2.2	Trouble shooting	X	X	X	X	X	X		X	X	X
2.3	Selection of methodology	X	X	X	X	X	X		X	X	X
2.4	Application of statistics to diagnostic testing	X	X	X		X	X		X		X
2.5	Laboratory safety				X	X	X		X		X
2.6	Compliance with regulatory requirements /legislation	X	X	X	X	X	X	X	X		X
2.7	Managing people				X						X
2.8	Managing resources				X	X					X
2.9	Information fundamentals			X	X	X	X		X	X	X
3.1	Research and critical appraisal					X				X	X
3.2	Self-education and CPD					X					X
3.3	Educating colleagues and others							X		X	X
3.4	Providing data for planning and evaluation										X
4.1	Ethics and confidentiality			X		X			X	X	X
4.2	Communication	X	X	X	X	X		X	X	X	X
4.3	Collaboration and teamwork					X		X			X
4.4	Cultural competence			X	X			X	X	X	X

Key	**Assessment methods**
A	Part 1 written exam: SAQ
B	Part 1 practical exam
C	Part 1 test interpretation exam
D	Part 2 oral examination
E	Part 2 dissertation or PhD
F	DOPS: directly observed practical skills
G	DOCS: directly observed communication skills
H	CbD: case-based discussion
I	Portfolio evidence of activity in the following categories Safety checklist, online safety education module Laboratory investigations RCPA Education Online modules in management, ethics, cultural competence Teaching Dissertation proposal
J	Supervisor report

Appendix 8

Topics in Immunopathology

Please see the companion document on the RCPA website titled **Topics in Immunopathology**, which contains lists of specific topics associated with the outcomes listed in Section 2 of this Handbook.