HANDBOOK 2019

RCPA

The Royal College of Pathologists of Australasia

Post Fellowship Diploma in Neuropathology

It is essential to read this Handbook in conjunction with the ***Trainee Handbook – Administrative requirements*** which is relevant to all candidates. 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

ANZNP	Australian and New Zealand Society of Neuropathology
CADASIL	Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy
CbD	Case-based Discussion
CPDP	RCPA Continuing Professional Development Program
CSF	Cerebrospinal fluid
DOPS	Directly Observed Practical Skills
FISH	Fluorescence in-situ hybridization
HIV	Human immunodeficiency virus
IANZ	International Accreditation New Zealand
ISN	International Society of Neuropathology
MDT	Multidisciplinary team
MELAS	Mitochondrial encephalopathy, lactic acidosis, and stroke-like episodes
NATA	National Association of Testing Authorities
NPAAC	National Pathology Accreditation Advisory Council
PPD	Personal and professional development
QA	Quality assurance
QAP	RCPA Quality Assurance Programs Pty Ltd
RCPA	Royal College of Pathologists of Australasia
SIDS	Sudden infant death syndrome
SOP	Standard Operating Procedure
WHS	Workplace health and safety

SECTION 1

INTRODUCTION

The College offers a post-Fellowship Diploma in Neuropathology (Dip. Neuropath) for Fellows who have completed Fellowship in the disciplines of anatomical pathology, forensic pathology and general pathology.

GENERAL AIMS OF THE TRAINING PROGRAM

The aims of the Diploma in Neuropathology are to:

- Certify professional expertise in neuropathology;
- Allow Fellows whose practice includes a substantial component of neuropathology to demonstrate further expertise in neuropathology

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.

REGISTRATION

Fellows intending to train for the Diploma should write to the Registrar of the Board of Education and Assessment with details of their training position (full time or part time) and training program. This should be accompanied by a confirmatory letter from the supervisor(s) of the planned program.

Training fees will be notified. In addition, Fellows will be expected to continue payment of annual membership fees. Examination fees are payable at the time of the examination application.

TRAINING REQUIREMENTS

The Diploma course of training includes the following:

- Twelve months' equivalent full time experience in laboratories or institutes approved by the RCPA Board of Education and Assessment for training in neuropathology. These would include anatomical pathology laboratories or institutes in which there is exposure to neuropathology incorporating; central nervous system tumours, neurodegenerative diseases, muscle and nerve diseases, paediatric neuropathology, forensic neuropathology, molecular pathology applicable to brain, nerve or muscle. Candidates may choose to incorporate fetal neuropathology into their program at the expense of a component of other mandatory requirements upon negotiation with the Chief Examiner;

- Consideration may be given to a period of post-Fellowship training specifically in neuropathology before commencing the Diploma.

Fellows who have completed the required twelve (12) months' experience are eligible for immediate award of the Diploma on successful completion of the examinations and all portfolio requirements, including logbook requirements. Please refer to Appendix 1 for details of assessment. For those who take the examination part-way during this period, award of the Diploma is deferred until the requisite 12 months' experience is complete.

SUPERVISION

All training must be supervised. Candidates may nominate their own supervisor. More than one supervisor can be nominated, eg, if candidates divide the year between two or more unrelated laboratories. The College recommends that any one supervisor be responsible for no more than two candidates.

Who can be a supervisor?

The supervisor will normally be a Fellow of the RCPA; however non–Fellows may be approved by the Board of Education and Assessment if no Fellow is available. If the candidate spends significant periods working in an area where the supervisor has no personal involvement, the supervisor must certify that suitable supervision is being provided. The supervisor must also ensure that adequate supervision is arranged in their absence.

In some circumstances shared supervision may be necessary, but there must be a nominated primary supervisor with overall responsibility. Candidates working towards higher academic degrees (e.g. PhD), who find that their research supervisor is not suitable to be the RCPA training supervisor, should have a FRCPA co-supervisor.

The role of the supervisor

Supervisors should devise a prospective training (or research) program, on initial registration and annually. This should be devised in collaboration with the candidate and submitted to the Registrar of the Board of Education and Assessment. Supervisors should also ensure that the candidate has sufficient time and opportunities to carry out the required training activities.

Supervisors, and others to whom aspects of training have been delegated, are expected to monitor and provide regular feedback on the development of the candidate's competence. They should meet regularly with the candidate; observe their laboratory performance and interaction with scientists, peers and clinicians; and review result reporting. This may be delegated to other trainers where appropriate, eg. when the candidate is seconded to another laboratory for a segment of training.

The duties of supervisors, such as requirements to report the candidate'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 examination, project work and workplace-based assessment. Records of workplace-based achievements during training should be collected in a portfolio and submitted as evidence of competence.

Examinations

- A **structured oral examination** encompassing all areas of neuropathology, including: CNS tumours, neurodegenerative diseases, diseases of nerve and muscle, molecular pathology, forensic neuropathology, laboratory management and an option in fetal neuropathology.

- A **slide (practical) examination** comprising up to 20 neuropathology cases to be marked as for the Part 2 slides practical examination in anatomical pathology.

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

Evidence of personal and professional development

Three examples of personal and professional development in research/scholarship are assessed. These must be bound as a single volume and submitted by the specified date.

Portfolio and workplace-based assessment

A variety of activities are to be completed to provide evidence of technical competence as well as broader professional development. Evidence of achievement is to be assembled in the portfolio

In summary these include the following:

- brain and spinal cord autopsy examinations
- cytology of brain smears and CSF
- neurosurgical cases
- nerve reports
- muscle reports
- frozen sections
- histochemical and immunohistochemical methods
- understanding of the applications of molecular pathology
- presentations at clinico-pathological meetings
- laboratory workplace health and safety, quality Issues and management issues

Please refer to the Portfolio Guidelines (Appendix 3) for specific requirements.

LIMITED EXAMINATION FOR NEUROPATHOLOGY DIPLOMA

At its discretion, with the exception of the oral examination, the Board of Education and Assessment may waive any component of the assessment, depending on the candidate's qualifications and experience.

Applicants for an oral examination only should be nominated by a College Fellow, or the Head of the Department or another pathologist of equivalent status from the department in which they work.

The applicant should:

- be a Fellow of the RCPA; and
- Have substantial full time experience as a specialist in neuropathology (eg full or part-time experience as a specialist in anatomical, forensic or general pathology and neuropathology amounting to more than 10 years in aggregate, of which more than 5 years shall be in neuropathology); or
- Have significant experience in a senior administrative or academic post with a substantial professional component in neuropathology (e.g. full or part-time experience as a specialist in anatomical, forensic or general pathology, and neuropathology amounting to more than 10 years in aggregate, of which more than 5 years shall be in neuropathology).

Fellows with less than a total of ten (10) years' specialty, senior academic or administrative experience are unlikely to be approved unless there are exceptional circumstances. In this situation, the applicant and sponsor should detail why they believe an exception may be justifiable.

Approval for the oral only form of examination is most likely for those Fellows who fulfill at least one and preferably several of the following criteria:

- Have a national and international reputation among peers for excellence in neuropathology;
- Are a major contributor to neuropathology through publications (books; book chapters; or papers published in peer-refereed journals); or have presented or given invited lectures at national and international scientific meetings. Candidates with fewer than 20-30 publications or presentations are unlikely to be successful;
- Are members of national or international committees related to neuropathology ;
- Substantially contribute to professional organisations such as learned Colleges in neuropathology;
- Consult or advise government, academic or professional bodies in neuropathology;
- Have national or international awards recognising research achievements or professional excellence, or for other contributions in neuropathology.

Applicants and their sponsors should address these selection criteria in their applications, and may request for one or more of these criteria to be weighted.

The RCPA Board of Education and Assessment should receive the application including the applicant's curriculum vitae, and any supporting documents and reports from a maximum of three referees. Because referee reports may take time, the Fellows and their sponsors should send applications well in advance of the examination application closing date, which is the last working day in February each year.

At its discretion, the Board of Education and Assessment may vary any of the above guidelines depending on the circumstances and merits of a particular case.

RESOURCES

- WHO Classification of Tumours of the Central Nervous System, W.K. Cavenee, D.N. Louise, H.Ohgaki, O.D. Wiestler, ISBN13: 9789283224303, Publication Date: 20/01/2006, Edition: 4.
- Greenfields Neuropathology, Joseph Godwin Greenfield, Seth Love, David W. Ellison, David, N. Louise, Hodder Education, ISBN13: 9780340906811, Publication Date: 29/02/2008, 8th ed.
- Smears and Frozen Sections in Surgical Neuropathology, Peter Burger, ISBN13: 9780692003169, Burger Medical Publishing, LLC, Publication Date: 12/10/2009, Latest Edition.
- Diagnostic Neuropathology, Oppenheimer, Blackwell Science Ltd, ISBN13: 9780632019519, Latest edition.
- Diagnostic Pathology of Nervous System Tumours, James W. Ironside, Tim H. Moss, David N. Louise, James S. Lowe, Roy O. Weller, Elsevier Health Sciences, ISBN13: 9780443045585, Publication Date: 28/05/2002
- Forensic Neuropathology, Helen L. Whitwell, Hodder Education, ISBN13: 9780340700044, Publication Date: 25/11/2005, Latest Edition.
- Muscle Pathology, Victor Dubowitz, Caroline A. Sewry, Elsevier Health Sciences, Publication Date: 15/12/2005, Edition: 3.
- Peripheral Neuropathy, Peter James Dyck, P.K. Thomas, Elsevier Health Sciences, ISBN13: 9780721694917, Publication Date: 29/04/2005, Edition: 4.
- Non-Neoplastic Disease Central Nervous System, Louis D N Frosch, M P, ISBN: 9781933477084, Publication Date: 05/03/2010, Edition: 1.
- Neurodegeneration: The molecular Pathology of dementia and movement disorders. Dickson and Weller. ISN Neuropath, publication 2011.
- Cerebrovascular disease. ISN Neuropath 2011 edition.
- Developmental Neuropathology. ISN Neuropath 2011 edition.

SECTION 2

LEARNING OUTCOMES AND RECOMMENDED TRAINING ACTIVITIES

In Section 2 of this Handbook, the discipline-specific functions of a neuropathologist are elaborated as lists of training outcomes and activities that candidates are recommended to perform in order to achieve the outcomes.

1 DISCIPLINE-SPECIFIC FUNCTIONS AS A MEDICAL SPECIALIST IN THE LABORATORY

Experienced neuropathologists demonstrate specialised expertise in all aspects of neuropathology. This includes surgical pathology (non-tumour and tumour biopsies and excision specimens), brain and spinal cord autopsy pathology (coronial and non-coronial), muscle and nerve pathology and cytology. They also demonstrate expertise in neuropathology and clinical correlation and provide a consultative service to clinicians and pathologists in cases requiring a specialist neuropathology opinion.

By the end of training, candidates are expected to demonstrate that they have acquired the experience, specialized skills and knowledge in the above areas to function as a neuropathologist.

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

1.1 Accession, management, processing and analysis of specimens

Outcomes

1.1.1 Knowledge and skills - general

- Understand basic anatomy, embryology, physiology, biochemistry and molecular pathology as applied to brain, spinal cord, muscle and nerve at a level that enables the competent performance of routine duties;
- Understand the pathology and pathogenesis of diseases of the central nervous system, peripheral nervous system and skeletal muscle;
- Demonstrate expertise in selecting, performing and advising on the most appropriate method/technique for the investigation and diagnosis of diseases of brain, spinal cord, muscle and nerve;
- Make accurate correlations with clinical diagnoses;
- Competently perform specialist autopsies that include brain, meninges, skull, nerve roots, spinal cord, peripheral nervous system, autonomic nervous system, skeletal muscle;
- Demonstrate expertise in interpreting post-mortem histological findings and ancillary investigations and recognize the limitations of such investigations;
- Competently perform and report frozen sections;
- Understand principles of histochemical and immunohistochemical methods appropriate to neuropathology and know when to use them;
- Recognise histological features of histochemical and immunohistochemical stains in normal and diseased tissues from a wide range of neuropathological specimens;
- Understand principles of common western blot and molecular pathology techniques and electron microscopy as applied to neuropathology;
- Demonstrate expertise in reporting cytology from neurological patients and understand the use and limitations of cytology in neuropathology.

1.1.2 Intra-operative, frozen sections, smears and biopsy

- Demonstrate expertise in interpretation of histological appearances in a wide range of neurosurgical pathology, including tumour and non-tumour pathology, inherited disorders and infections;
- Competently use techniques such as: photography, radiology, cytogenetics, flow cytometry, immunohistochemistry, immunofluorescence, electron microscopy and FISH as appropriate;
- Competently cover all the following areas:
    - Mass lesions of skull/bone
    - Mass lesions of meninges
    - Mass lesions of sella turcica
    - Mass lesions of the pineal gland
    - Mass lessons of brain and spinal cord

- Mass lesions of nerve roots
- Lesions of temporal lobe epilepsy
- Focal or diffuse cerebral white matter lesions
- Focal or diffuse cerebral lesions in immunosuppressed patients

1.1.3 Diagnosis of dementia including neurodegenerative diseases

- Competently cover the neuropathologic diagnosis of causes of dementia, including:
  - Amyloid
  - CADASIL
  - Vasculitis
  - Paraneoplastic disease
  - Prion diseases
  - HIV
  - Metabolic diseases
  - Alzheimer's disease
  - Lewy body diseases
  - Frontotemporal dementia
  - Tauopathies
  - Synucleinopathies
  - Motor neuron disease

1.1.4 Diagnosis of headache (in absence of a mass lesion) including:

- Competently cover the neuropathologic diagnosis of causes of headache in the absence of a mass lesion:
  - Amyloid angiopathy
  - Cerebral vasculitis
  - Meningeal carcinimatosis
  - Chronic inflammation of the meninges
  - Diffusely infiltrating glial tumour

1.1.5 Diagnosis of stroke (infarction and hemorrhage) including:

- Competently cover the neuropathologic diagnosis of stroke due to infarction or haemorrhage
  - Amyloid angiopathy
  - Cerebral vasculitis
  - Bleed into a tumour
  - MELAS
  - CADASIL

1.1.6 Diagnosis of diseases of skeletal muscle

- Diagnose weakness, muscle pain, muscle wasting in muscle diseases including;
  - Diseases of the extracellular matrix
  - Immune/inflammatory myopathies
  - Toxic myopathies
  - Myofibrillary myopathies
  - Congenital myopathies
  - Dystrophies
- Use ancillary tests: immunofluorescence, immunoperoxidase, biochemical assays, electron microscopic analysis, western blot techniques

1.1.7 Diagnosis of diseases of peripheral nerve

- Competently diagnose
  - Axonal neuropathies
  - Demyelinating neuropathies
- Use standard nerve fixation, nerve tease, nerve montage

1.1.8 CSF cytology

- Conduct diagnostic investigations of CSF for any reason
- Competently perform laboratory techniques for CSF analysis
- Competently perform 14-3-3 protein analysis of CSF

1.1.9 Neuropathology autopsy

- Conduct autopsies that include brain, meninges, skull, nerve roots, spinal cord, peripheral nervous system, autonomic nervous system, skeletal muscle
- Specific areas to include analysis of cases of;
    - Head injury
    - Neurologic complications of medical and surgical cause
- Specific areas to have an overview of and to have observed but not for examination or mandatory reporting;
    - Sudden infant death syndrome (SIDS)
    - Developmental abnormalities
    - Arthrogryposis multiplex

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Report a minimum of 450 biopsy cases. Logbook to be signed off by supervisor. This is a **mandatory** activity. Please refer to Portfolio Guidelines;
- Attend and report to surgeon (if permitted in training institution) a minimum of 50 frozen sections to be documented and signed off by supervisor;
- Report a minimum of 75 brain only autopsies. This is a **mandatory** activity and must include at least 50% as neurodegenerative diseases and at least one from each of the categories outlined in the portfolio;
- Report a minimum of 15 brain and spinal cord autopsies. This is a **mandatory activity;**
- Supply ten (10) de-identified reports, to be signed off by supervisor, indicating correct use and value in diagnosis of each of the following techniques:
    - histochemistry and immunohistochemistr**y (mandatory activity)**
    - common western blot and molecular pathology techniques **(mandatory activity**)
- Perform brain and spinal cord dissections;
- Use ancillary tests including: biochemical assays, electron microscopic analysis;
- Read text books, journals;
- Attend multidisciplinary team meetings in both tumour and muscle/nerve clinical sessions.

1.2 Storage and Retrieval of Laboratory Data

Outcomes

- Use laboratory information systems in recording patient and request information, including a storage and retrieval system for specimens, results, comments and final reporting;
- 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.

Activities

Select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Read laboratory manual;
- Read NATA and NPAAC guidelines;
- Participate in daily laboratory activities.

1.3 Developing and reporting a professional opinion

Outcomes

- Make careful observations, describe accurately, record observations succinctly, with use of photography and video when appropriate;
- Demonstrate respect for the need for accuracy, attention to detail and timeliness in the performance of all duties;
- Understand the limitations of pathological findings in the explanation of some neurodegenerative diseases and diseases of nerve and muscle;
- Understand the limitations of own ability to interpret findings and the need to seek a second opinion;
- Recommend and use standardised information structures, terminology and units for requesting and reporting, e.g. structured cancer reporting and use of formal terminologies;
- Explain evidence-based advice, guideline development, prediction and research, and describe the knowledge and information tools that can be used to help with this.

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Write reports for autopsies, frozen sections, tissue biopsies, muscle and nerve biopsies.
- Discuss diagnoses with clinical colleagues eg, in a multidisciplinary team setting
- Provide evidence of having attended at least 30 clinical meetings (must include neurosurgical and neurology meetings, with incorporation of brain, nerve and muscle biopsy cases) during the training period and prepare and present cases at 15 of these meetings. Sign off by supervisor required.

2 FUNCTIONS OF THE NEUROPATHOLOGIST AS MANAGER IN THE LABORATORY

Experienced neuropathologists have a significant role in safely and effectively managing the laboratory in the context of finite resources. They ensure cost-effective work practices through staffing and by developing policies and procedures based on appropriate use of information and evidence. They ensure that workplace health and safety protocols are observed in all aspects of the accession, management and processing of specimens. They demonstrate leadership in the organisation to promote safe patient care and they identify matters that are reportable to the coroner.

By the end of training, candidates are expected to carry out all these functions. In particular they should understand and be able to apply workplace health and safety protocols to all aspects of accessioning, management and processing of specimen and ensure cost effective work practices

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

2.1 Quality Management

Outcomes

- Apply, review and plan quality assurance strategies for monitoring processes and outputs in the laboratory
- Document, notify and apply corrective actions, employing laboratory information systems where appropriate, in the event of incidents, errors and adverse events;
- Participate in auditor training and practice;
- Promote timely and appropriate use of pathology investigations.

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Review summaries of relevant requirements for laboratory accreditation and performance, for example the NATA Checklist for Laboratory Accreditation.
- Participate in case/slide/laboratory/clinical rounds, peer review meetings, external quality assurance (e.g. RCPA QAP) and continuing professional development activities
- Read current literature on QA strategies, risk management, informatics and evidence based medicine in neuropathology laboratories.
- Participate in workflow checks to ensure effective and efficient laboratory function
- Recognise, report and analyse quality problems when they arise in the laboratory
- Participate in implementing plans for testing and evaluating measures to improve the quality of laboratory practice and patient care.
- Complete the Quality Management eLearning Module in RCPA Education Online and print the certificate for the portfolio.

2.2 Laboratory Safety

Outcomes

- Apply, review and plan laboratory safety procedures, to protect self and staff against infection (particularly prion disease), radiation, toxic materials, electrical and fire hazards.
- Apply and evaluate processes for assessing risk and investigating and reporting hazards, in accordance with legal aspects of investigation and disclosure
- Analyse incident reports and near misses to identify opportunities for improvements in practice
- Contribute to the management of staff needs in the event of an adverse event in the laboratory

Activities
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Participate in orientation program for new staff members
- Schedule meeting with workplace health and safety (WHS) Officer
- Participate in OHS drills and meetings, especially fire safety
- Participate in training to use equipment for biological, chemical and fire safety, first aid and resuscitation
- Review incident reports and explore improvements if relevant
- Follow relevant laboratory safety protocols and report breaches
- Wear appropriate safety (personal protective) equipment when in the laboratory
- Ensure relevant personal vaccinations are completed prior to commencement of duties
- Complete the Laboratory Safety eLearning Module in RCPA Education Online and print the certificate of completion for the portfolio.

2.3 Compliance with Legislation

Outcomes

- Understand legal and ethical aspects of neuropathology.
- Demonstrate basic knowledge of requirements of Approved Pathology Provider (Australia) or other relevant undertakings.
- Operate with awareness of the potential for medical litigation and the role of pathologists as defendants or consultants, and apply appropriate risk management strategies.
- Ensure laboratory compliance with current requirements for notifiable diseases
- Identify acceptable standards of billing practice appropriate to the work setting

Activities
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Review summaries and seek advice from appropriate senior staff.
- Locate sources of pathology financing information, e.g. Medicare Benefits Schedule, Health Insurance Act or other documentation relevant to your jurisdiction
- Document incidents and discussions with medicolegal implications and discuss with supervisor or a senior colleague
- Review laboratory manuals and State/Territory/country legislation regarding notifiable diseases
- Maintain currency with the relevant requirements for notifiable diseases

2.4 Managing People

Outcomes

- Review and use orientation and training protocols for new staff
- Be familiar with the RCPA policy on bullying and harassment. Refer to Appendix 1 of the *RCPA Trainee Handbook - Administrative Requirements;*
- Provide supervision and constructive feedback to staff
- Display skills in conflict resolution in the workplace.
- Behave in accordance with equal opportunity and antidiscrimination practices in the workplace

Activities
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Participate in staff and business meetings in the Department.
- Observe administrative procedures in relation to selection and appointment of staff.
- Reflect on observations of interactions in the workplace.

- Participate in training on giving and receiving feedback and/or read articles on the subject
- Participate in a conflict resolution course and/or read articles on the subject
- Assist in the orientation and mentoring of junior colleagues
- Participate as a representative on College committees

2.5 Managing resources

Outcomes

- Describe budgetary considerations in an established anatomical pathology laboratory
- 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;
- Identify sources of funding for laboratory testing

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Review and discuss with senior staff laboratory budget reports including income, expenditure, salary, overtime, annual leave and sick leave costs, maintenance and consumables costs
- Participate as an observer in committees concerned with resource management
- Teach colleagues to use new laboratory equipment and IT software and hardware.
- Attend training sessions concerned with implementing new technology, noting costs and benefits of the technology
- Access Medicare Benefits Schedule and other documents relevant to your jurisdiction
- Demonstrate judicious use of auxiliary investigations and immunohistochemical stains

2.6 Information fundamentals

Outcomes

- 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.
- 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
- Explain the basics of laboratory systems architecture and the movement of data for communication of requests, reports and instrument interfacing
- 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
- Describe meaningful and secure use of electronic health records in pathology practice

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- 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

Experienced neuropathologists maintain their professional competence through self-education throughout their career. They contribute to the body of knowledge and/or enhancement of practice in their discipline through research and by educating colleagues. They continuously reflect on their practice and demonstrate and promote professional behaviour and attitudes at all times, being responsible and accountable to colleagues and the community.

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

3.1 Research and critical appraisal

Outcomes

- Critically appraise sources of medical information, discriminating between them in terms of their currency, format, authority and relevance.
- Develop a personal strategy, using information technology software where appropriate, to discover, store, access and share information resources.
- Apply and interpret basic statistical and epidemiological concepts and data
- Demonstrate skill in developing a research proposal, conducting appropriate research activities and writing up for peer review/publication
- Comply with the requirements of relevant bodies concerned with ethics in human and animal research
- Prepare reports and papers for publication that comply with the conventions and guidelines for reporting biomedical research
- Contribute to data analysis and publication in the department

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Undertake at least one project under supervision and write up for submission for publication
- Participate in and present cases, reviews and original work, to peers at grand rounds, specialist meetings, journal club, etc
- Attend research meetings
- Contribute to writing research proposals and ethics submissions
- Use clinical and laboratory databases for research for collecting, organizing and analysing 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 including distribution, mean, median, standard deviation, statistical significance, confidence intervals, correlation, sensitivity, specificity, predictive values, incidence and prevalence
- Use the research and scholarship resources in RCPA Education Online
- Consult a medical librarian, statistician or researcher

3.2 Undertaking Self-Education and Continuing Professional Development

Outcomes

- As part of a personal continuing education strategy, practice the habit of identifying and documenting own learning needs, planning educational strategies to meet them, monitoring achievements through self-assessment and reflecting on the outcomes.
- Identify personal learning preferences and reflect on how effective they are in developing competence
- Demonstrate up to date knowledge of and ability to appraise medical and pathological literature and innovations in areas relevant to anatomical neuropathology.

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Formulate a personal learning plan
- Complete an online learning style inventory and explore a variety of ways to learn
- Apply various computer-based instructional tools, such as electronic tutorials for confirming or updating knowledge and skills.
- Review RCPA CPDP documentation to identify and apply activities and recording strategies that may be applicable.
- Select relevant mentors to guide professional activities
- Regularly review journals relevant to anatomical neuropathology and participate in or lead discussions on contemporary issues
- Participate in and present personal work at relevant educational meetings and journal clubs.
- Participate in case/slide/laboratory/clinical rounds, peer review meetings, external quality assurance (e.g. RCPA QAP) and continuing professional development activities

3.3 Educating Colleagues and others

Outcomes

- Prepare and deliver educational sessions, incorporating the principles of adult learning and using effective oral, visual or written modes, and reflect on their effectiveness
- Contribute to the informal education of laboratory personnel, peers, medical students and other health professionals
- Translate and convey technical concepts and information in an understandable manner to people without a background in anatomical neuropathology.

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Participate in and contribute to departmental teaching sessions, clinico-pathological meetings, conference presentations
- Prepare posters or educational articles of scientific investigations in pathology and present to peers and other health professionals.
- Mentor students and other candidates and advise on effective preparation for examinations
- Read journals relevant to anatomical neuropathology, including articles on effective teaching strategies
- Participate in training on the effective teaching and supervision of adult learners in laboratory and clinical settings, such as the “Teaching on the Run” program
- Seek evidence of own teaching effectiveness

4 PROFESSIONAL QUALITIES

Experienced neuropathologists ensure patient safety through timely, accurate, appropriate, ethical use of investigations. They show respect for patient confidentiality and rights. They collaborate and communicate appropriately with others, showing awareness of cultural and linguistic diversity.

By the end of training, candidates are expected to respect patient rights and confidentiality, ensure patient safety and communicate appropriately.

4.1 Ethics and Confidentiality

Outcomes

- Demonstrate respect for parents' points of view and wishes and act with compassion at all times;
- Practice ethically, which includes:
    - promptness of reporting
    - interacting appropriately with clinicians, laboratory staff and other health professionals
    - knowing when to seek opinion from others
    - financial probity
- Comply with legal, ethical and medical requirements relating to patient records and documentation, including confidentiality, informed consent and data security;
- Differentiate between ethically appropriate and ethically inappropriate procedures;
- Identify appropriate courses of action in regard to unprofessional conduct by or ill health in a colleague;
- Comply with copyright and intellectual property rules;
- Describe strategies to ensure equity of access to pathology testing for patients;
- Advocate for and protect patient rights.

Activities

In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Complete the 6 Ethics eLearning modules in RCPA Education Online and get sign-off from your supervisor (mandatory if not completed previously).
- Complete the Monash University Clinical Ethics resource (optional)
- Review appropriate literature and guidelines including the National Patient Safety Education Framework
- Read the most recent Australian Medical Association Code of Ethics
- Read the Australian Medical Council Good Medical Practice Code of Conduct
- Access and read documents relating to cultural competence, including those concerning indigenous people, such as Aboriginal and Torres Strait Islander and Maori people
- Reflect on professional behaviour of self and others, identifying potential for ethical dilemmas and strategies to deal with them

4.2 Communication

Outcomes

- Employ effective oral, written and electronic communication strategies, including the production of concise, grammatically correct written reports.
- Use appropriate language in all communications, showing awareness of cultural and linguistic diversity.
- Demonstrate good interpersonal communication skills such as active listening and accepting and offering appraisal
- Comply with guidelines for handling sensitive information.
- Advise laboratory staff about testing methodologies, quality assurance techniques and delineating protocols for the issuing of results

- Advise clinicians on the choice and performance of laboratory procedures and the interpretation and relevance of pathological findings, taking into account clinicians' and patients' needs.
- Consult with clinical specialists and pathologists on issues of patient care and professional practice and in seeking and providing referral opinion on difficult cases

Activities
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- 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 from supervisors and colleagues
- Read documents relating to etiquette and proper use of electronic communications such as email
- Consult style guides for correct use of grammar and terminology for written communications
- Demonstrate findings to clinicians with clear clinico-pathological correlation
- Participate in clinico-pathological meetings
- Liaise with clinicians as to the most appropriate specimen for diagnosis
- Give expert neuropathologic consultative opinion and advice on referred cases

4.3 Collaboration and teamwork

Outcomes

- Contribute effectively to the activities of laboratory and health care teams, recognizing responsibilities and limitations of own role;
- Consult with laboratory colleagues, other medical practitioners, pathology informaticians and health care professionals;
- Contribute effectively to inter-disciplinary team activities, such as peer review sessions and other education and quality activities, recognizing responsibilities and limitations of own role;
- Promote the role of pathologists as vital contributors to patient care.

Activities
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- Identify the elements of an effective team and reflect on your observations of teams in your work place and others with which you interact
- Network and share information with colleagues, using available technologies
- Plan, organize and review teaching activities, together with supervisor, peers and laboratory staff.
- Participate in mentoring programs
- Participate in College activities and meetings
- Participate in departmental meetings

4.3 Cultural competence

Outcomes

- 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;
- 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;
- 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
In relation to all the above outcomes, select activities that are appropriate to your training environment and, if relevant, keep a record for your portfolio

- 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 verifying completion 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

Assessment

Assessment of the Diploma in Neuropathology is by

- Formal examination
- Evidence of personal and professional development (assessed);
- A portfolio of evidence of having participated in a sufficient number and type of activities
- Satisfactory progress (supervisor's) reports.

All components must be passed to gain an overall pass.

Please refer to the asessment matrix in Appendix 7

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

Examinations
The examination has two components. Candidates who are successful in the slide examination will be invited to proceed to the oral examination.

Histopathology slide (practical) examination
This is a four (4) hour and 15 minute examination of up to 20 neuropathology cases to be marked as for the Part 2 slides practical examination in anatomical pathology. The examination will be held in designated examination centres.

In some cases, the diagnosis may not be straightforward or there may be no definite diagnosis. The emphasis will be on rational and scientific approaches to differential diagnosis as part of problem solving in diagnostic neuropathology

Candidates who fail the first attempt may repeat the slide examination in the next assessment cycle. Candidates who obtain a borderline result will be invited to participate in the oral examination however they will be examined on additional cases through discussion of these cases across a double header microscope with either the Chief or Associate Chief Examiner or other senior examiner. This opportunity will be at the discretion of the Chief Examiner and will not be available to any candidate obtaining a clear fail result.

Structured oral examination
The structured oral examination is held centrally for candidates who have passed slide examination. Candidates progress through a series of stations, each of which will take approximately ten (10) minutes to complete and will be examined by two examiners. The content of the examination encompasses all areas of neuropathology, including CNS tumours, neurodegenerative diseases, diseases of nerve and muscle, molecular pathology, forensic neuropathology, laboratory management and an option in fetal neuropathology.

Evidence of personal and professional development
Three (3) examples are required during training, in which the candidate must be the major contributor to the items presented. All PPD items to be spiral bound as a single document with a table of contents and submitted to the College for grading as a component of the Diploma assessment. Detailed guidelines are in **Appendix 4.**

Portfolio
The hard copy portfolio must be made available to the supervisor to check periodically. To facilitate checking by the supervisor, a print-out of the portfolio summary spreadsheet (Excel file format) must be included as the front page of the portfolio.

The hard copy portfolio and summary spreadsheet will be checked for completeness by the supervisor at the time of the pre-examination supervisor report. It is strongly recommended that candidates commence these activities at the earliest possible time after commending training.

Detailed instructions are included in the portfolio guidelines (Appendix 3) and on the forms that must be used to record the activities which are in Appendix 6). The portfolio summary spreadsheet (Excel file) may be downloaded from the RCPA website.

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

Supervisor reports
Candidates must submit a supervisor report for each year of training, including periods of rotation as well as an additional pre-examination supervisor report with the appended print-out of the portfolio summary spreadsheet. Please refer to RCPA Training Handbook – Administrative Requirements for key dates for submitting these reports.

It is the candidate'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.

Summary of assessment requirements

Item	Completion	Assessed by	Comments
Histopathology slide examination	Final year (usually May)	Examiners with at least 5 years post-Fellowship experience.	
Structured oral examination	Final year		
Personal & professional development items	Final year (August)		
Portfolio of evidence of having completed specified workplace activities	Prior to being awarded the Diploma.	Assessed by Chief Examiner or delegate. Summary spreadsheet checked for completeness by BEA Registrar. If not satisfactory, the candidate may be required to undertake further portfolio activities.	Supervisor will review the hard copy portfolio when preparing the pre-examination supervisor's report.
Supervisor reports: end of rotation, annual and pre-exam reports. Portfolio summary spreadsheet to be sent with annual and pre-exam reports	See RCPA web site for submission dates	Reviewed by BEA Registrar or Deputy Registrar	Referral to Chief Examiner if necessary.

Assessment calendar
Please refer to the RCPA Training Handbook – Administrative Requirements on the RCPA website for enrolment dates and on the website for assessment dates.

Appendix 2

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 should be completed by the supervisor in consultation with other pathologists and laboratory staff with a significant role in the candidate's training program and with reference to the portfolio. Candidates 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 evidence of completion of the following activities:

- Neurodegenerative disease autopsies (case log plus two autopsy DOPS)
- surgical cases
- frozen sections
- cytology; brain smears and CSF
- muscle and nerve biopsies, including nerve tease, nerve montage
- molecular genetics (must include brain tumour, neurodegenerative brains and nerve/muscle cases)
- histochemical and immunohistochemical methods (must include brain tumour and western blot of skeletal muscle)
- clinical meetings
- laboratory management and quality management
- personal professional development
- all previous supervisor reports

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.

Submitting the supervisor report
It is the candidate's responsibility to submit this form by the due date. At least one supervisor report is due annually and may be submitted with the annual registration for the subsequent year.

For candidates who participate in rotational programs, one report is required for each period of rotation at a different institution and should be submitted on completion of the rotation. For candidates sitting the examination, the 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 spreadsheet must be appended to the annual and pre-examination 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 3

Portfolio Guidelines for Candidates and Supervisors

This document contains guidelines to assist candidates to compile the portfolio and the portfolio summary.

The activities to be recorded in the portfolio are carried out in the workplace and provide evidence that the candidate is developing the desired technical skills and professional values and behaviours that are not readily assessed by formal examinations.

Candidates should accumulate evidence for the portfolio from the commencement until the completion of training. We strongly recommend that candidates commence activities **early** in training.

The forms for recording these workplace activities are in **Appendix 6**. They can also be downloaded from the RCPA website. They are

- Full neuropathology autopsy DOPS
- Clinical meetings

The hard copy forms should be filed in a portfolio folder with thirteen (13) separate sections, numbered as in the Table of items/activities (overleaf).

A logbook should also be kept for recording

- Brain only autopsies
- Brain and spinal cord autopsies
- Neurosurgical biopsies
- Muscle and nerve biopsies
- Frozen sections
- Brain smears
- CSF cytology
- Histochemical & immunohistochemical methods
- Molecular genetics

Pages for the logbook are included in **Appendix 6**. We recommend that you preserve them by keeping them in a plastic folder which you keep with you at all times.

A soft copy **portfolio summary** (Excel spreadsheet) should be compiled so that you can keep track of what you have completed. The spreadsheet can be downloaded from the RCPA website.

It is the candidate'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-examination supervisor report.

The only document from the portfolio required for submission to the College is a print out of the portfolio summary spreadsheet with the annual and pre-examination supervisor reports. The actual portfolio should not be sent unless requested for audit purposes.

Neuropathology
Portfolio requirements

Portfolio Section	Mandatory activities	Evidence
1	**Full neuropathology autopsy** Perform at least two (2) full neuropathology autopsies on deaths from different neurodegenerative disease causes, both of which have a peripheral and central pathology	**Autopsy DOPS form** Both Autopsy DOPS forms to be signed off as satisfactory by the observer (supervisor of delegate). Case reports are also required.
2	**Brain only autopsies** Report a minimum of 75 brain only autopsies. This must include at least 50% as neurodegenerative diseases.	**Logbook** records, signed periodically by supervisor or delegate.
3	**Brain and spinal cord autopsies** Report a minimum of 15 brain and spinal cord autopsies.	**Logbook** records, signed periodically by supervisor or delegate.
4	**Neurosurgical biopsy cases**. Report a minimum of 450 cases during training. Cases that the candidate has reviewed but not reported should **not** be included.	**Logbook** records, signed periodically by supervisor or delegate.
5	**Muscle and nerve biopsies** Report on a minimum of 75 muscle biopsies and 20 nerve biopsies, including nerve tease and nerve montage.	**Logbook** records, signed by supervisor or delegate.
6	**Frozen sections** Perform and report to surgeon a minimum of 50 during training.	**Logbook** records, signed by supervisor or delegate.
7	**Brain smears** Perform and report to surgeon a minimum of 50 during training.	**Logbook** records, signed by supervisor or delegate.
8	**CSF cytology** Perform and report CSF cytology investigations. Minimum of 25 reports	**Logbook** records, signed by supervisor or delegate.
9	**Molecular genetics** Ten (10) specimens for which these investigations are required (brain tumour, neurodegeneration and nerve and muscle cases)	**Logbook** records, signed by supervisor or delegate.
10	**Histochemical** and **immuno-histochemical methods** One hundred (100) de-identified reports indicating correct use and value in diagnosis of these techniques in neuropathology (brain tumour, neurodegeneration and nerve and muscle cases).	**Logbook** records, signed by supervisor or delegate De-identified copies of the signed laboratory reports should be retained in the portfolio.

11	**Clinical meetings** (CPC, MDT, etc) Provide evidence of having attended at least 30 meetings. These must include neurosurgical and neurology meetings, with brain, nerve and muscle biopsy cases. Candidate should prepare and present at 15 of these meetings.	**Logbook** records, signed by supervisor or delegate. Record topic, date, duration, brief description (maximum 1 page). Record to be signed off by supervisor.
12	**Professional qualities** The following RCPA e-learning modules are required to be completed during training • Quality Management • Laboratory Safety • Ethics • Cultural Competence Candidates who can supply evidence of having completed the modules previously are exempt.	A **certificate of 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 ethics module certificate.
13	**Supervisor reports** for rotations, annual and pre-examination. Portfolio summary spreadsheet to be sent with annual and pre-examination reports.	Reports and a brief reflection (maximum 1 page) on the supervisor's comments for each report.

Appendix 4

Guidelines for presenting evidence of Personal & Professional Development

By the end of training candidates should provide evidence of having completed three (3) examples of personal professional development in the area of neuropathology research, quality/audit or health & safety. The candidate must be the major contributor to the item presented.

PPD items are graded as a component of the Diploma assessment.

At least **one (1)** example should come from Category A; the remainder may be from either Category A or B, noting that there is a limit on some activities.

Candidates are **strongly advised to commence** these activities early in training.

The portfolio documentation and sign-off required for each item is summarised below

Category A	**Maximum number**	**Documentation**
A **project,** either research, clinical audit, health and safety or case correlation**.** Supervisor approval is required before commencement and ongoing supervision of the work is required. Manuscript must be in a style and standard suitable for publication	No limit	Copy of project report, with sign off from the supervisor that work was performed and written up by the candidate.
Principal author on one (1) **publication in a peer-reviewed journal** on a neuropathology case	No limit	Copy of article or manuscript with evidence of submission; sign off from the supervisor that the candidate made a major contribution to the work
Two (2) **oral and/or poster presentations** on a neuropathology topic at a national or international meeting. The candidate must be a major contributor to the work being presented and is significantly responsible for the production of the poster	No limit	Copy of meeting poster abstracts and A4 or A3 printout of mini version of the poster; sign off from the supervisor that the candidate made a major contribution to the work and production of the poster

Category B	Maximum number	Documentation in portfolio
Oral presentation by the candidate of a topic, or case/cases at a hospital meeting, clinical meeting, regional meeting or grand round where the candidate had a major contribution to preparing and delivering the presentation	Two	Copy of documentation including printout of (eg) PowerPoint slides etc from the presentation; sign off from supervisor that the candidate made a major contribution to preparing and delivering the presentation
Presentation of a **written report** on a complex case in neuropathology with appropriate discussion of the relevant points and issues; worked up and reported by the candidate. Refer to Appendix 5 for guidelines. The written report should be submitted to the Chief Examiner for formal assessment.	Two	Copy of the written case report; sign off from the supervisor that the candidate made a major contribution to the reporting of the case. Sign off from the Chief Examiner on adequacy of the written report.
Prepare and present **teaching sessions** (lecture/seminar) relevant to neuropathology for medical students, lab staff, GPs etc	Two	Copy of the teaching material (PowerPoint slides, brochures etc); sign off from the supervisor that the candidate made a major contribution to the session. Sign off from the Chief Examiner on adequacy of the written report.

Submission of PPD items for assessment

All PPD items must be spiral bound as a single document with a table of contents. They will be assessed as satisfactory or unsatisfactory. Items that are assessed as unsatisfactory may be revised and re-submitted one time only.

Candidate and supervisor declarations must be included (see Appendix 5).

Keep your own copy of PPD items because the copies you send to the College will not be returned to you.

Please post t to

The Chief Examiner, Neuropathology
The Royal College of Pathologists of Australasia
207 Albion Street
Surry Hills NSW 2010 AUSTRALIA

Appendix 5

Declarations for PPD items

Declaration for a project report

Candidate declaration: I certify that I undertook this project during my accredited training in neuropathology. The work has not been submitted for assessment in any other PPD category and has not been used by any other candidate in this laboratory. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Supervisor declaration: As the supervisor for Dr. ……..…, I certify that he/she undertook this project as stated above. I have reviewed this item and read the relevant RCPA PPD requirements and believe it is suitable for submission to the RCPA examiners.

Candidate signature……..date…….....

Supervisor name (print) .....……...……...

Supervisor signature…….....date……

Declaration for published manuscript

Candidate declaration: I certify that this published article is work that I completed during my accredited training in neuropathology. The work is original and has not been submitted for assessment in any other PPD category. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Supervisor declaration: As the supervisor for Dr. ……, I certify that this published article reports work to which he/she made a major contribution and was carried out during his/her training in anatomical pathology. I have reviewed this item and read the relevant RCPA PPD requirements and believe it is suitable for submission to the RCPA examiners.

Candidate signature……...date…….....

Supervisor name (print) .....……...……...

Supervisor signature…….....date……

Declaration for conference oral or poster presentation

Candidate declaration: I certify that this oral/poster presentation (cross out as applicable) reports work that I completed during my accredited training in neuropathology. The work is original and has not been submitted for assessment in any other PPD category and has not been used by any other candidate in this laboratory. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Supervisor declaration: As the supervisor for Dr. ……., I certify that this oral/poster presentation (cross out as applicable) reports work to which he/she made a major contribution and was carried out during his/her training in anatomical pathology and has not been used by any other candidate in this laboratory. I have reviewed this item and read the relevant RCPA PPD requirements and believe it is suitable for submission to the RCPA examiners.

Candidate signature……...date…….....

Supervisor name (print) .....……...……...

Supervisor signature…….....date……

Declaration for local oral presentation (not conference) or teaching session

Candidate declaration: I certify that I gave this presentation on ……...(date) to ……(audience). The presentation was prepared by me during my accredited training in neuropathology and has not been submitted for assessment in any other PPD category and has not been used by any other candidate in this laboratory. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Supervisor declaration: As the supervisor for Dr. ……., I certify that he/she gave this presentation as stated above. I have reviewed this item and read the relevant RCPA PPD requirements and believe it is suitable for submission to the RCPA examiners.

Candidate signature……...date…….....

Supervisor name (print) .....……...……...

Supervisor signature…….....date……

Guidelines for written case reports

The cases must have been handled personally by the candidate as part of their supervised training in neuropathology.

The written report should be

- Written to a standard suitable for publication;
- No more than 10 pages of single spaced type;
- The discussion, clinico-pathological correlation must be at least twice as long as the remainder of the report;
- The appraisal of the cited literature should be critical and selective;
- The reference list should include 15-30 references, including recent peer-reviewed literature;
- Photomicrographs and illustrations must be high quality.
- Accompanied by signed declarations of originality from the candidate and supervisor.

Suitable topics and techniques
Candidates may choose from the case types and techniques below. The techniques can be combined in a single case, eg, molecular biology with immunohistochemistry, (eg, neurodegenerative disease, muscle disorder, nerve disorder)

Cases

- neurodegenerative cases
- nerve or muscle cases,
- brain tumour cases

Techniques

- Immunohistochemistry (e.g. peroxidase-based immunohistology or immunofluorescence)
- Western blot protein analysis
- Electron microscopy
- Molecular biology techniques
- In-situ hybridization

Declaration for written case reports

Candidate declaration: I certify that I reported this case as part of my personal supervised practice during my accredited training in neuropathology. The case report is original. It has not been submitted for assessment in any other PPD category and has not been used by any other candidate in this laboratory. I have read and understand RCPA Policy 10/2002 - Plagiarism and Cheating in Examinations.

Supervisor declaration: As the supervisor for Dr. ……, I certify this case was examined and reported personally by him/her during training in neuropathology. The case report is original and has not been used by any other candidate in this laboratory. I have reviewed this item and read the relevant RCPA PPD requirements and believe it is suitable for submission to the RCPA examiners.

Candidate signature……...date…….....

Supervisor name (print).....……..……...

Supervisor signature…….....date…….

Appendix 6

Forms and logbook pages

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:

- Autopsy DOPS
- Clinical meetings
- Laboratory Management and Quality Management
- Brain only autopsies
- Brain and spinal cord autopsies
- Neurosurgical biopsies
- Muscle and nerve biopsies
- Frozen sections
- Cytology: brain smears and CSF
- Histochemical & immunohistochemical methods
- Molecular genetics

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Neuropathology Autopsy DOPS form

DOPS = Directly Observed Practical Skill
This form is to be completed by the observer

How to use this form
The supervisor or delegate is asked to observe the candidate conducting two full neuropathology autopsies on deaths caused by different neurodegenerative diseases, both of which have a peripheral and central pathology. The autopsies should include dissection of brain, meninges, skull, nerve roots, spinal cord, peripheral nervous system, autonomic nervous system, skeletal muscle. Please use a separate form for each.
The candidate should also write up a case report for each, including

- Clinical history and investigations
- External examination
- Macroscopic dissection
- Microscopy
- Ancillary investigations
- Diagnosis
- Clinico-pathological correlation including a discussion of the diagnosis/cause of death relating to underlying aetiology and recurrence risk

CompletedNeuropathology Autopsy DOPS forms & case reports are to be retained in the portfolio, whether pass or fail.
Both forms should be sighted by the supervisor and signed off on the annual supervisor report.

Candidate name	**Candidate ID**
Observer/Assessor name	**Observer/Assessor position**
Type of case	**Complexity of case (tick box)** ☐low ☐medium ☐high

Please comment on whether these aspects of the candidate's performance are satisfactory for the stage of training (SY= satisfactory; NS = not satisfactory; n/a=not applicable)	**SY**	**NS**	**n/a**
Identify & understand the significance of the clinical history and investigations			
External examination and identification of abnormalities			
Macroscopic dissection and identification of abnormalities			
Appropriate ancillary investigations			
Microscopic report			
Diagnosis/cause of death identification			
Appropriateness and relevance of clinico-pathological correlation			

Please comment on any other relevant aspects, especially on aspects for improvement

Final outcome (please circle) Satisfactory Not Satisfactory	Date of assessment	Time taken for assessment	Time taken for feedback
Signature of assessor Print name		Signature of candidate	

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Neuropathology
Brain only autopsies
Log

How to use this form

During training, the candidate should log a minimum of 75 brain only autopsies. At least 50% should be neurodegenerative and must include a minimum of 3 prion diseases, 10 neurotrauma and 10 neurologic complications of medical and surgical cause.

At the end of each year, the log should be sighted by the supervisor and signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

	Date	**ID and description of specimen**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

Supervisor name (print)……

Supervisor signature……..Date……

Neuropathology Brain and spinal cord autopsies Log

How to use this form

During training, the candidate should log a minimum of 15 brain and spinal cord examinations.

At the end of each year, the log should be sighted by the supervisor and signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

	Date	**ID and description of specimen**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

Supervisor name (print)……

Supervisor signature……Date……

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Neuropathology Neurosurgical biopsy cases Log

How to use this form

During training, the candidate should log a minimum of 450 neuropathology surgical cases. Cases that the candidate has reviewed (eg QAP) but not reported should **not** be included.

Please place a tick (✓) in the column to denote whether the specimen is benign, malignant or normal/inflammatory.

At the end of each year, the log should be sighted by the supervisor &signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

Place a tick (✓) in the column to denote whether the specimen is **B**enign, Malignant or Normal/inflammatory.

	Date	**ID of specimen**	**Benign**	**Malignant**	**Normal Inflamm**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

Supervisor name (print)……

Supervisor signature……Date……

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Neuropathology
Muscle and nerve biopsies Log

How to use this form

During training, the candidate should log a minimum of 75 muscle biopsies and 15 nerve biopsies, including nerve tease and nerve montage. Cases that the candidate has reviewed (eg QAP) but not reported should **not** be included.

Please indicate whether muscle (M) or nerve (N)

At the end of each year, the log should be sighted by the supervisor & signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

	Date	**M(uscle) or N(erve)**	**ID and brief description of specimen**
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

Supervisor name (print)……..……..…

Supervisor signature…….Date…….

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The Royal College of Pathologists of Australasia

Neuropathology Frozen sections Log

How to use this form

During training, the candidate should perform, report and log a minimum of 50 frozen sections.

Please place a tick (✓) in the column to denote whether the specimen is benign, malignant or normal/inflammatory.

At the end of each year, the log should be sighted by the supervisor & signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

Place a tick (✓) in the column to denote whether the specimen is **B**enign, Malignant or Normal/inflammatory.

	Date	**ID of specimen**	**Benign**	**Malignant**	**Normal/ Inflamm**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

Supervisor name (print)……

Supervisor signature……Date……

Neuropathology
Brain smears
Log

How to use this form

During training, the candidate should perform, report and log a minimum of 50 brain smears.

Please place a tick (✓) in the column to denote whether the specimen is benign, malignant or normal/inflammatory.

At the end of each year, the log should be sighted by the supervisor & signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

Place a tick (✓) in the column to denote whether the specimen is **B**enign, Malignant or Normal/inflammatory.

	Date	**ID of specimen**	**Benign**	**Malignant**	**Normal/ Inflamm**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Supervisor name (print)……

Supervisor signature……Date……

The Royal College of Pathologists of Australasia

Neuropathology CSF cytology Log

How to use this form

During training, the candidate should perform, report and log a minimum of 25 CSF cytology investigations,

Please place a tick (✓) in the column to denote whether the specimen is benign, malignant or normal/inflammatory.

At the end of each year, the log should be sighted by the supervisor & signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

Place a tick (✓) in the column to denote whether the specimen is **B**enign, Malignant or Normal/inflammatory.

	Date	**ID of specimen**	**Benign**	**Malignant**	**Normal/ Inflamm**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

Supervisor name (print)……

Supervisor signature……Date……

Neuropathology Histochemical & Immunohistochemical methods Log

How to use this form

During training, the candidate should log a one hundred (100) investigations using histochemical and immunohistochemical techniques. Only cases that the candidate has reported should be logged on this form. It is expected that these cases will overlap with cases logged in other sections of their log). Cases that the candidate have reviewed but not reported should **not** be included. Cases should be from brain tumours, neurodegeneration cases and muscle biopsies

A copy of the de-identified (no patient details) laboratory report for each case should be appended to this form and should be retained in the portfolio.

At the end of each year, the log should be sighted by the supervisor and signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

	Date	**ID of specimen and brief description**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Supervisor name (print)……

Supervisor signature……Date……

Neuropathology Molecular Genetics Log

How to use this form

During training, the candidate should log ten (10) investigations on which molecular genetic investigation are required. Cases should include; brain tumour, neurodegeneration, muscle/nerve cases. Only cases that the candidate has reported should be logged on this form. Cases that the candidate has reviewed but not reported should **not** be included.

A copy of the de-identified laboratory report for each case should be appended to this form and should be retained in the portfolio.

At the end of each year, the log should be sighted by the supervisor and signed off on the annual supervisor report.

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

Candidate name	**Candidate ID**

	Date	**ID of specimen and brief description**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Supervisor name (print)……

Supervisor signature……Date……

Neuropathology Clinical Meetings Summary

How to use this form

During the training period, the candidate should attend a minimum of 30 clinical meeting, (which must include neurosurgical and neurology meetings, with brain, nerve and muscle biopsy cases) and should present at 15 of them. Each meeting is to be signed off by the supervisor or delegate.

Please indicate whether the candidate simply attended (**A**) or whether s/he presented cases (**P**) as well

Candidates should retain a list of the cases/entities presented at each meeting in the portfolio.

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

Candidate name				**Candidate ID**
	Date	**Brief description of meeting**	**Attend only or present case**	**Supervisor signature**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Appendix 7

Assessment matrix

Outcome		Assessment method (see key below)			
		Exams		Portfolio	
		A	B	C	D
Discipline-specific functions in the laboratory					
1.1	Foundation knowledge and skills	X	X		X
1.2	Accession, management, processing specimens		X	X	X
1.3	Storage and retrieval of laboratory data		X	X	X
1.4	Analysis of laboratory data	X	X	X	X
1.5	Developing, reporting a professional opinion	X	X	X	X
1.6	Monitoring patient progress		X	X	X
Functions as a manager in the laboratory					
2.1	Quality assurance		X		X
2.2	Laboratory safety		X		X
2.3	Compliance with legislation		X		X
2.4	Managing people		X		X
2.5	Managing resources		X		X
2.6	Information fundamentals		X		X
Research and scholarship					
3.1	Research and critical appraisal			X	
3.2	Self-education and CPD			X	
3.3	Educating colleagues and others			X	X
Professional qualities					
4.1	Ethics and confidentiality		X	X	X
4.2.1	Oral communication		X		
4.2.2	Written communication			X	
4.2.3	Academic writing			X	
4.3	Collaboration and teamwork				X
4.4	Cultural competence			X	X

	Assessment key
A	Histopathology slide exam
B	Part 2 structured oral exam
C	Personal professional development:
C	Portfolio items: Laboratory safety Full neuropathology autopsy DOPS Brain only autopsy DOPS Brain and spinal cord autopsy DOPS Neurosurgical biopsy cases Muscle and nerve biopsy cases Frozen sections Brain smears CSF cytology Molecular genetics Histochemical and immune-histochemical techniques Clinical meetings Professional qualities