

ANATOMICAL PATHOLOGY RESIDENCY

TRAINING REQUIREMENTS

(A) INTRODUCTION

- **Definition and Scope of specialty**
Graduate medical education programs in anatomical pathology must provide an organized educational experience for qualified physicians seeking to acquire the basic competence of an anatomical pathologist.
- **Duration of Training**
The education in Anatomical Pathology is 5 years (R1 – R5), with an intermediate examination (ABMS or its equivalent) taken after the first three years of training.

The entering resident must have completed training in an ACGME-I accredited clinical Transitional Year (12 months).

(B) PROGRAMME OVERVIEW

- 36 months of training that is accredited by ACGME-I (R1-R3)
- 24 months of training that is accredited by JCST

(C) TRAINING REQUIREMENTS R1 – R3

Clinical Experience

1. Each pathology program must include:
 - a. 24 months of formal education in anatomic pathology;
and,
 - b. 12 months of training that may be a continuation of structured anatomic pathology or may be devoted to a specialized facet of pathology, pending the discretion of the program director.

The postings should help the residents to acquire medical knowledge in autopsy and surgical pathology, cytopathology, pediatric pathology, dermatopathology, forensic pathology, immunopathology, histochemistry, neuropathology, ultrastructural pathology, cytogenetics, molecular biology, and aspiration techniques.

Please refer to Annex A for example of the rotation schedule of residents.

2. According to ACGME-I requirement, residents must
 - (i) examine a minimum of 2,000 surgical pathology specimens
 - the material must be from an adequate mix of cases to ensure exposure to both common and uncommon conditions
 - (ii) examine a minimum of 1,500 cytologic specimens which include a variety of both exfoliative and aspiration specimens
 - (iii) perform a minimum of 50 autopsies
 - residents must have exposure to exposure to forensic, paediatric, perinatal and

stillborn autopsies.

- (iv) perform a minimum of 200 intra-operative consultations

Regularly Scheduled Didactic Sessions

The sessions should encompass

- (i) broad education in anatomic pathology and provide the opportunity to acquire techniques and methods of those disciplines, and experience with the consultative role of the pathologist in patient-care decision making
- (ii) clinico-pathological conferences
- (iii) participation in teaching, scholarly activity, educational conferences
- (iv) laboratory management including quality assurance, safety issue, usage of laboratory and hospital information systems etc

Residents' Scholarly Activities

Residents should have participated in scholarly activity and been involved in at least one oral or poster presentations in scientific meetings or journal publication in their junior residency.

For more details on the ACGME-I advanced specialty program requirements, please refer to: <http://www.acgme-i.org/web/requirements/specialtypr.html>

(D) TRAINING REQUIREMENTS R4 – R5

1. Foundational Requirements

The R4-R5 years must be in compliance with ACGME-I's Foundational Requirements.

The Foundational requirements for Anatomical Pathology can be found at: <http://www.acgme-i.org/web/requirements/internationalfoundational.pdf>

2. Specialty Specific Requirements

a) Clinical and / or operative experience

R4	R5
<i>Routine histopathology reporting: At least 1000 cases per year</i>	
<i>Intra-operative consultation: At least 50 per year</i>	
<i>Cytology reporting: At least 200 cases per year</i>	

b) Postings / rotations

Rotations through histopathology subspecialties of renal pathology, haematopathology, liver pathology and neuropathology within the 5 years of training.

c) Didactic sessions

Residents should have participated in regular didactic teaching sessions organized by the Residency. The training log should demonstrate regular attendance at teaching sessions within and outside the hospital.

d) Residents' scholarly activity

Residents should demonstrate a commitment to scholarly activity and by the end of R5, Residents are encouraged to participate in at least one research project and presented at least one paper as either a poster or oral presentation at a scientific meeting.

e) Other Requirements

Residents are posted HSA for Forensic Pathology training (inclusive of performing autopsy assignments) and required to pass an assessment at the end of the posting. Following completion of the HSA posting, residents are required to perform autopsy duties on a roster basis.

3. Resident Competencies

	R4	R5
1. Patient Care	<p>With increasing level of confidence, residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents must demonstrate competence in:</p> <ol style="list-style-type: none"> 1. providing appropriate and effective pathology services and consultations; and 2. Interpreting laboratory data as part of patient-care decision-making and patient-care consultation. <p>By the end of R5, residents must be able to perform these independently at the level of an Associate Consultant.</p>	
2. Medical Knowledge	<p>Residents must demonstrate increasing knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. These will include but not limited to knowledge of autopsy and surgical pathology, cytopathology, paediatric pathology, dermatopathology, forensic pathology, immunopathology, histochemistry, neuropathology, ultrastructural pathology, cytogenetics, molecular biology,</p> <p>At the end of R5, residents must demonstrate the level of medical knowledge expected of an Associate Consultant, who is able to practise histopathology independently.</p>	
3. Practice-based Learning and Improvement	<p>Residents must demonstrate increasing ability to evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on continuous self-evaluation and life-long learning. Residents are expected to develop skills and habits to be able to identify strengths, deficiencies, and limits in one's knowledge and expertise; set learning and improvement goals; identify and perform appropriate learning activities; systematically analyse practice using quality improvement methods, and implement changes with the goal of practice improvement; incorporate formative evaluation feedback into daily practice; locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems; use information technology to optimize learning; and, participate in the education of patients, families, students, residents and other health professionals.</p>	

	<p>By R5, residents should be able to provide evidence to show a record of continuing professional education and practice-based learning.</p>
4. Interpersonal and Communication Skills	<p>Residents must demonstrate increasingly mature interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.</p> <p>By R5, residents are expected to communicate effectively with patients and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds; communicate effectively with physicians, other health professionals, and health related agencies; work effectively as a member or leader of a health care team or other professional group; act in a consultative role to other physicians and health professionals; maintain comprehensive, timely, and legible medical records., if applicable. Along with faculty and other colleagues, they must be regularly involved in consultative activity, e.g. CPC; provide patient-care consultations that should be intra- and inter- departmental; perform in excess of 300 intra-operative consultations cumulatively, and be given direct responsibility to make decisions in the laboratory when operating under appropriate supervision.</p>
5. Professionalism	<p>Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate compassion, integrity, and respect for others; responsiveness to patient needs that supersedes self-interest; respect for patient privacy and autonomy; accountability to patients, society and the profession; sensitivity and responsiveness to a diverse patient population, including but not limited to, diversity in gender, age, culture, race, religion, disabilities, and sexual orientation; high standards of ethical behavior; and a commitment to continuous patient care.</p> <p>By R5, the resident is expected to demonstrate these values in his professional life and prepared to point out and rectify breaches and deficiencies he/she encounters.</p>
6. Systems-based Practice	<p>Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to work effectively in various health care delivery settings and systems relevant to their clinical specialty; work effectively in various health care delivery settings and systems relevant to their clinical specialty; coordinate patient care within the health care system relevant to their clinical specialty; incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate; advocate for quality patient care and optimal patient care systems; work in inter-professional teams to enhance patient safety and improve patient care quality; and, participate in identifying system errors and implementing potential systems solutions.</p>

	By R5, the resident is expected to have demonstrated the above behaviour and has participated in audits and other work improvement initiatives.
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(E) LOG OF OPERATIVE / CLINICAL EXPERIENCE

All residents must keep a log of their operative / clinical experience in the logbook to the standard required by the Royal College of Pathologists of Australasia.

(F) ASSESSMENT AND EXAMINATIONS

I. Supervisors Assessment

The supervisor's evaluation of the resident should be performed at the end of every rotation and then submitted to the RAC for review.

II. Feedback

Residents should perform a yearly evaluation of teaching faculty and the training programme using the designated forms. These forms must be submitted to the RAC and kept absolutely confidential.

III. Examinations

R1	R2	R3	R4	R5
<ul style="list-style-type: none"> • <i>Formative assessment by PD</i> • <i>RISE assessment</i> 	<ul style="list-style-type: none"> • <i>Formative assessment by PD</i> • <i>RISE assessment</i> 	<ul style="list-style-type: none"> • <i>Formative assessment by PD</i> • <i>RISE Assessment</i> • <i>Joint Exam with ABMS</i> 	<ul style="list-style-type: none"> • <i>Formative assessment by PD</i> 	<ul style="list-style-type: none"> • <i>Formative assessment</i>

(G) CHANGES IN TRAINEESHIP PERIOD AND LEAVE OF ABSENCE

I. Changes in Training Period

Residency should be continuous. If a training programme is interrupted for any reason whatsoever, the RAC may at its discretion, require the trainee to undergo a further period of training in addition to the minimum requirements of the programme or terminate the residency altogether. All trainees are required to conform to the residency training plan as approved by the RAC and complete all the exit and training requirements within the maximum candidature.

II. Leave Of Absence

All residents are to comply with the prevailing MOH policy on Leave of Absence.

III. Overseas Postings

Overseas attachment during Senior Residency training is not permitted with the exception of Radiation Oncology and Neurosurgery (*refer to JCST Circular 114/14*).

Example of Residents' Blocked Rotations (R1 – R3)

SHS

Year 1	Introductory Basic Pathology	General Surgical Pathology	General Surgical Pathology
	Singapore General Hospital (SGH)	Changi General Hospital (CGH)	Singapore General Hospital (SGH)
	3 months	3 months	6 months

Year 2	Autopsy	Cytopathology	General Surgical Pathology	Electives
	Health Sciences Authority (HSA)	Singapore General Hospital (SGH)		
	6 months	3 months	1 months	2 months

Year 3	Pediatric Pathology	General Surgical Pathology	Electives	Gynecologic Pathology
	KK Women's and Children Hospital (KKH)	Singapore General Hospital (SGH)		KK Women's and Children Hospital (KKH)
	3 months	5 months	2 months	2 months

NUHS

Year 1	6 months	1 month	2 weeks	2 weeks	4 months
	General Surgical Pathology including 2 weeks of introduction to laboratory	Cytopathology	Introduction to Molecular Pathology	Informatics and laboratory management	General Surgical Pathology

Year 2	6 months	1 month	5 months
	Autopsy Pathology (including Forensic Pathology)	Cytopathology	General Surgical Pathology

Year 3	2 months	1 month	7 months	2 months
	Pediatric and Perinatal Pathology (KKH)/TTSH GSP/NUH GSP	Cytopathology	General Surgical Pathology	Specialist Surgical Pathology

Notes:

1. Block rotations are scheduled where possible in blocks of calendar months, in line with the main departmental duty rotation.
2. This may not be the final exact order of rotations, especially as some rotations are dependent on other departments.