# Specialty Training Requirements (STR)

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| Name of Specialty: | Urology |
| Chair of RAC: | Prof Esuvaranathan Kesavan |
| Date of submission: | 1 December 2025 |

## Contents



Note: In addition to the training requirements stated in this STR, residents must comply with any other regulatory requirements or practice-based requirements mandated by the healthcare institutions or place of practice.

## Scope of Urology

*Urology* is the branch of medicine that focuses on surgical and medical diseases of the urinary-tract and the reproductive organs. Urology combines the management of medical (i.e., non-surgical) conditions, such as urinary-tract infections and benign prostatic hyperplasia, with the management of surgical conditions such as bladder or prostate cancer, kidney stones, congenital abnormalities, traumatic injury, and stress incontinence.

## Purpose of the Residency Programme

Urology Residency comprises urology training that follows after Surgery-in-General Residency. This programme offers broad-based comprehensive training in the diagnosis, medical and surgical management of urological conditions, as well as exposure to clinical research. For example, residents acquire medical knowledge, develop surgical skills as in endourology and laparoscopy. Upon completion, residents become professionally accredited urologists who join the medical workforce and contribute to serve national healthcare needs, with a special role in view of Singapore's ageing population.

## Admission Requirements

At the point of application for this residency programme,

a) Applicants must be employed by employers endorsed by Ministry of Health (MOH); and
b) Residents who wish to switch to this residency programme must have waited at least one year between resignation from his / her previous residency programme and application for this residency programme.

At the point of entry to this residency programme, residents must have fulfilled the following requirements:

a) Hold a local medical degree or a primary medical qualification registrable under the Medical Registration Act (Second Schedule);
b) Have completed Post-Graduate Year 1 (PGY1);
c) Have a valid Conditional or Full Registration with Singapore Medical Council (SMC); and
d) Completed Surgery-In-General residency programme.

## Selection Procedures

Applicants must apply for the programme through the annual residency intake matching exercise conducted by MOH Holdings (MOHH).

Continuity plan: Selection should be conducted via a virtual platform in the event of a protracted outbreak whereby face-to-face on-site meeting is disallowed and cross institution movement is restricted

### Less Than Full Time Training

Less than full time training is not allowed. Exceptions may be granted by Specialist Accreditation Board (SAB) on a case-by-case basis.

### Non-traditional Training Route

The programme must not accept mid-stream entry to residency training by an International Medical Graduate (IMG).

### Separation

The PD must verify residency training for all residents within 30 days from the point of notification for residents' separation / exit, including residents who did not complete the programme.

### Duration of Specialty Training

The training duration must be 48 months.

*Maximum candidature: All residents must complete the training requirements, requisite examinations and obtain their exit certification from JCST not more than 36 months beyond the usual length of their training programme. The total candidature for Urology is 24 months Surgery-in-General residency + 48 months Urology residency + 36 months candidature.*

*Nomenclature: Because residents continue with Urology residency after the 2-year SIG residency, residents in first year of Urology residency are denoted as R3, residents in 2nd year of Urology residency as R4, etc*

### "Make-up" Training

"Make-up" training must be arranged when residents

- Exceed days of allowable leave of absence / duration away from training; or
- Fail to make satisfactory progress in training.

The duration of make-up training should be decided by the Clinical Competency Committee (CCC) and should depend on the duration away from training and / or the time deemed necessary for remediation in areas of deficiency. The CCC should review residents' progress at the end of the "make-up" training period and decide if further training is needed.

Any shortfall in core training requirements must be made up by the stipulated training year and / or before completion of residency training.

### Learning Outcomes: Entrustable Professional Activities (EPAs)

Residents must achieve level 4 of the following EPAs by the end of residency training:

| | **Title** |
|---|---|
| **EPA 1** | Managing Urology Patients in the Ward |
| **EPA 3** | Managing Urology Patients in an Outpatient Setting |
| **EPA 4** | Managing Acute Emergency Admissions When on Call |

Residents must achieve level 4/3/2 (please refer to table in section C.R10) of the following EPA by the end of residency training:

| | **Title** |
|---|---|
| **EPA 2** | Performing Urology Surgical Procedures |

### Learning Outcomes: Core Competencies, Sub-competencies and Milestones

The programme must integrate the following competencies into the curriculum, and structure the curriculum to support resident attainment of these competencies in the local context.

Residents must demonstrate the following core competencies:

**1) Patient Care and Procedural Skills**

Residents must demonstrate the ability to:

- Gather essential and accurate information about the patient
- Counsel patients and family members
- Make informed diagnostic and therapeutic decisions
- Prescribe and perform essential medical procedures
- Provide effective, compassionate and appropriate health management, maintenance, and prevention guidance

Residents must demonstrate ability to:

- Identify the clinical urological problem(s)
- Formulate and implement care that is patient-centric and medically necessary
- Perform common urological surgeries
- Stabilise and/or provide initial management of patients with severe, complex urological illnesses and injuries
- Apply current scientific evidence in the diagnosis and treatment of urologic disease

- Appropriately counsel and educate patients and their families about specific urologic problems.

**2) Medical Knowledge**

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioural sciences, as well as the application of this knowledge to patient care.

Residents must demonstrate knowledge of the basic sciences, including the anatomy and physiology of the genitourinary system and clinical epidemiology, and be up to date on the evaluation and management of urological disorders.

**3) System-based Practice**

Residents must demonstrate the ability to:

- 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 care
- Advocate for quality patient care and optimal patient care systems
- Work in inter-professional teams to enhance patient safety and improve patient care quality. This includes effective transitions of patient care and structured patient hand-off processes.
- Participate in identifying systems errors and in implementing potential systems solutions

**4) Practice-based Learning and Improvement**

Residents must demonstrate a commitment to lifelong learning.

Resident must demonstrate the ability to:

- Investigate and evaluate patient care practices
- Appraise and assimilate scientific evidence
- Improve the practice of medicine
- Identify and perform appropriate learning activities based on learning needs

**5) Professionalism**

Residents must demonstrate a commitment to professionalism and adherence to ethical principles including the SMC's Ethical Code and Ethical Guidelines (ECEG).

Residents must:

- Demonstrate professional conduct and accountability
- Demonstrate humanism and cultural proficiency
- Maintain emotional, physical and mental health, and pursue continual personal and professional growth
- Demonstrate an understanding of medical ethics and law

**6) Interpersonal and Communication Skills**

Residents must demonstrate ability to:

- Effectively exchange information with patients, their families and professional associates.
- Create and sustain a therapeutic relationship with patients and families
- Work effectively as a member or leader of a health care team
- Maintain accurate medical records

**Other Competency: Teaching and Supervisory Skills**

Residents must demonstrate ability to:

- Teach others
- Supervise others

### Learning Outcomes: Others

Residents must attend Medical Ethics, Professionalism and Health Law course conducted by Singapore Medical Association (SMA) and Geriatric Medicine Modular Course by Academy of Medicine Singapore (AMS).

Residents must attend the following conference / workshop:

| **Title (include brief description)** | **Format (e.g. lecture, seminar)** | **Frequency** | **Minimum Attendance** |
|---|---|---|---|
| Urofair – Local Annual Conference | Conference | Annually | 75%<br>(from R3 to R6) |
| Urology Residents' Course | Workshop | Annually | 75%<br>(from R3 to R6) |

## Curriculum

The curriculum and detailed syllabus relevant for local practice must be made available in the Residency Programme Handbook and given to the residents at the start of residency. The PD must provide clear goals and objectives for each component of clinical experience.

## Learning Methods and Approaches: Scheduled Didactic and Classroom Sessions

The programme must schedule and residents must attend the following didactic sessions:

| Session | Frequency | Minimum Attendance |
|---|---|---|
| Peer Review Learning / Morbidity and Mortality | At least once monthly | 80% |
| Uro-Radiology multidisciplinary Conference | At least once monthly | 80% |
| Multi-discipline Tumour Board Meeting | At least once monthly | 80% |
| Journal / Evidence-based Review Club | At least once every 2 months | 80% |
| Grand Ward Round and Case Based Didactic Faculty Teaching Session | At least once every 2 months | 80% |
| National Teaching Programme – Singapore Urological Association Book Club | At least once monthly | 80% |

The teaching sessions should continue on a virtual platform (e.g. Zoom) in the event of a protracted outbreak.

## Learning Methods and Approaches: Clinical Experiences

Residents must complete:

- 3.5 - 4 years of Clinical Urology (R3 -R6)
- 1 additional year of dedicated urologic research (only for residents in Clinician Scientist scheme)

During R4 – R6, residents may complete an optional rotation up to 6 months of:

- General Surgery (including Colorectal Surgery)
- General Urology
- Subspecialty in Urology
- Academic Urology

Residents may complete up to 6 months of optional overseas rotations for General Urology, Subspecialty in Urology, Academic Urology on a case-by-case basis, subject to approval from the RAC and JCST.

## Learning Methods and Approaches: Scholarly/Teaching Activities

Residents must complete the following scholarly / teaching activities:

| | **Name of activity** | **Brief description: nature of activity, minimum number to be achieved, when it is attempted** |
|---|---|---|
| 1. | Collaborative Institutional Training Initiative (CITI) Certification | By end of R3 |
| 2. | Case Report / Literature Review / Original article | Present to faculty and peers, and submit for publication in a peer-reviewed journal by end of R4 |
| 3. | Quality Improvement / Research Project relevant to Urology | Conference presentation and / or Publication in a peer-reviewed journal by end of residency |

## Learning Methods and Approaches: Documentation of Learning

From R3 intake in July 2025 onwards, residents must perform / assist and log the following procedures:

| **Sub-Specialty** | **Procedure** | **Minimum number as First Performing Surgeon** | **DOPS + EbD** | **Entrustment Level at Completion of Residency** |
|---|---|---|---|---|
| Benign Prostatic Hyperplasia and Prostate Biopsy | 1. Transabdominal ultrasound for residual urine, prostatic size & | 100 | 2 | Level 4 |

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|---|---|---|---|---|
| | intravesical prostatic protrusion (IPP) | | | |
| | 2. Prostate Biopsy, Transrectal Ultrasound (TRUS) and/or Transperineal (under Local Anaesthesia (LA)) and/or Magnetic Resonance Imaging (MRI) Fusion-guided Biopsy | 20 | 2 | Level 4 |
| | 3. Transurethral resection of prostate (TURP) / Bladder Neck Incision / Endoscopic enucleation of prostate (EEP) | 40 (including cases where trainees assist in EEP) | 2 | Level 4 |
| General Urology | 1. Circumcision | 10 | 1 | Level 4 |
| | 2. Hydrocoelectomy | 8 | 1 | Level 4 |
| | 3.Vasectomy (see under Andrology) | 10 | 1 | Level 4 |
| Emergency Urology | 1. Suprapubic cystostomy / Cystoscopic guided urinary catheter insertion | 5 | 1 | Level 4 |
| | 2. Scrotal exploration for Torsion or rupture | 6 | 1 | Level 4 |
| Endourology | 1. Cystoscopy (Rigid / Flexible) | 200 | 2 | Level 4 |
| | 2. Optical urethrotomy | 3 | | Level 4 |
| | 3. Litholapaxy of bladder stone | 5 | 2 | Level 4 |
| | 4. Stenting of ureter | 30 | | Level 4 |
| | 5. Extracorporeal Shock Wave Lithotripsy (ESWL) | 20 | 2 | Level 4 |
| | 6. Semi-rigid ureteroscopy & lithotripsy (URS) | 40 | 4 | Level 4 |
| | 7. Retrograde Intra-renal surgery/Flexible | 10 | | Level 4 |

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|---|---|---|---|---|
| | ureteroscopy (R.I.R.S) | | | |
| Laparoscopy | 1. Open Hasson cannula insertion / Port insertion / Veress needle insertion | 20 | 2 | Level 4 |
| Urologic oncology | 1. Transurethral Resection of Bladder Tumor (TURBT) | 10 | 2 | Level 4 |
| | 2. Radical orchidectomy | 4 | 1 | Level 4 |
| Female Urology and Neuro-urology | 1. Urodynamic studies | 20 | 2 | Level 4 |
| | 2. Video-urodynamic studies | 10 | | Level 4 |
| Andrology | 1. Vasectomy | 10 | - | - |
| | 2. Varicocoelectomy<br>• Inguinal / sub-inguinal or Microsurgical | 5 | - | - |

| **Sub-Specialty** | **Procedure** | **Minimum Number as Assistant Surgeon** | **DOPS + EbD** | **Entrustment Level at Completion of Residency** |
|---|---|---|---|---|
| Endourology | 1. Percutaneous Nephrolithotomy (PCNL) | 20 | 2 | Level 3 |
| Laparoscopy | 1. Lap / Robotic Pyeloplasty | 2 | 2 | Level 3 |
| Urologic oncology | 1. Radical nephrectomy / Nephroureterectomy (Open / Laparoscopic / Robotic) | 10 | | Level 3 |
| | 2. Partial nephrectomy (Open / Laparoscopic / Robotic) | 5 | 1 | Level 3 |
| | 3. Radical prostatectomy (Open / Laparoscopic / Robotic) | 10 | 1 | Level 3 |
| | 4. Radical cystoprostatectomy / Anterior Pelvic Exenteration | 8 | 1 | Level 3 |

| | | | | |
|---|---|---|---|---|
| | 5. Penectomy (partial / total) | 2 | 1 | Level 3 |
| | 6. Inguinal lymph node dissection | 2 | 1 | Level 3 |
| | 7. Retroperitoneal lymph node dissection (RPLND) | 2 | | Level 2 |
| | 8. Adrenalectomy (Open / Laparoscopic / Robotic) | 2 | 1 | Level 3 |
| Female Urology and Neuro-urology | 1. Surgery for stress urinary incontinence (SUI) includes Tension-free Vaginal Tape (TVT), TVT-obturator (TVT-O), bulking agent injection, Pubo-vaginal slings and Colposuspension | 3 | 1 | Level 3 |
| | 2. Surgery for genito-urinary fistulae<br>• includes urethrovaginal fistula (UVF) repair | 3 | | Level 3 |
| Reconstructive Urology | 1. Uretero-neocystostomy (reimplantation) with or without Psoas hitch, boari flap | 3 | 1 | Level 3 |
| | 2. Ileal conduit diversion | 5 | | Level 3 |
| | 3. Urethroplasty – includes:<br>• Anterior or posterior<br>• With / without buccal mucosa graft | 3 | 1 | Level 2 |
| Andrology | 1. Testicular Exploration and sperm Extraction (TESE) | 3 | 1 | Level 3 |
| | 2. Correction of penile curvature | 2 | 1 | Level 3 |
| | 3. Insertion of penile prosthesis | 2 | | Level 3 |
| Renal Transplantation | 1. Donor procurement Living-related or cadaveric | 3 | 1 | Level 2 |
| | 2. Implant operation | 3 | | Level 2 |
| Paediatric Urology | 1. Correction of Hypospadias | 2 | - | - |
| | 2. Orchidopexy | 2 | - | - |

DOPS: Direct Observation of Procedural Skills

EbD: Entrustment-based Discussion

## Summative Assessments

| | Summative assessments | |
|---|---|---|
| | Clinical, patient-facing, psychomotor skills etc. | Cognitive, written etc. |
| R6 | NIL | 1. EBU MCQs<br>2. OSSE<br>3. Exit Interview<br>4. Clinical Viva |
| R5 | NIL | NIL |
| R4 | NIL | NIL |
| R3 | NIL | NIL |
| R2 | Not applicable | |
| R1 | | |

| S/N | **Learning outcomes** | **Summative assessment components** | | | |
|---|---|---|---|---|---|
| | | EBU MCQs | OSSE | Exit Interview | Clinical Viva |
| 1 | EPA 1: Managing Urology Patients in the Ward | | ✓ | | ✓ |
| 2 | EPA 2: Performing Urology Surgical Procedures | ✓ | ✓ | | |
| 3 | EPA 3: Managing Urology Patients in an Outpatient Setting | | ✓ | | ✓ |
| 4 | EPA 4: Managing Acute Emergency Admissions When on Call | | | ✓ | ✓ |