



Urology Residency Training Program

Sabah Al-Ahmad Urology Center Rotation Goals and Objectives

Educational Program

Residency training in urological surgery is a progressive educational experience that entails a complex interaction of learning through patient care. Residency training requires maintenance of a balance between the educational and the patient care responsibilities. In order to maintain the educational purpose of the training program residents are expected to attend all teaching conferences. Residents are excused from elective clinical responsibilities including presence in the operating room during scheduled educational conferences. Hands-on training is obtained during Open, Laparoscopic & Endourology cases. In Minimally Invasive Surgery lab and the Clinical Skills Lab, residents receive instruction and practice which will be carried over to their clinical work. Residents are assigned progressive responsibilities by the supervising attending physician and the Program Director based on faculty evaluations of clinical competence including patient care, medical knowledge, evidence of practice based learning and improvement, interpersonal and communication skills, professionalism, and the resident's demonstrated awareness of the systems-based practice of medicine. Promotion and assignment to progressive patient care responsibilities requires satisfactory completion of the training objectives specific for each PGY-year as assessed by the faculty. **Each resident is assigned to contribute or participate in a research project during each clinical rotation.**

Sabah Al-Ahmad Urology Center (SAUC)

SAUC is a governmental tertiary referral urology center that serves all Kuwait health district areas. It is located in Shuwaikh, Al'Asimah, Kuwait City. SAUC was completed in 2012. It has around 100 bed capacity for adult, female, and pediatric urology patients. The hospital fully equipped with Urodynamics, ESWL, cystoscopy suite, and transrectal ultrasound (TRUS) biopsy suite. The radiology department is equipped with interventional radiology and fluoroscopy suite, MRI, CT, ultrasonography, and nuclear medicine imaging. There are five operating rooms all for urology and a fully equipped ICU with nine beds. There are outpatient clinics on the ground floor on a daily basis.

Most urological subspecialties are present with nine urology attendings running services in Uro-Oncology, Endourology, Andrology, Infertility, Female Urology, and Pediatric Urology.

The hospital is unique in having state of the art technology with the latest advances in operative urology. There is an intuitive Da Vinci Si robot used mostly

for adult urology and to a lesser extent pediatric urology. There is holmium and green light lasers used for different urological procedures. There is a microscope used for infertility procedures. All endourology instruments are available for managing stones like ureteroscopy and percutaneous nephrolithotomy. SAUC receives referrals from all hospitals in Kuwait to manage urological malignancies like radical prostatectomy, partial and radical nephrectomy and nephroureterectomy, adrenalectomy, and radical cystectomy with urinary diversion. These are performed in open, laparoscopic, and robotic approaches.

SAUC recently received national and Canadian accreditation for the quality of the service provided since its establishment.

SAUC Educational Program

SAUC provides a learning environment for the care, treatment, and follow up of urology patients. Residents will manage patients pre-, intra-, and post-operatively using their acquired knowledge during the rotation. They will be involved in outpatient clinics and ancillary procedures. They will be involved in daily rounds to follow patients progress on a day to day basis.

Medical Knowledge

1. Residents are expected to describe the components of a focused genitourinary history and physical examination in evaluating the following urologic problems:
 - A. Pain
 - B. Hematuria
 - C. Dysuria
 - D. Urinary incontinence
 - E. Flank masses
 - F. Penile lesions
 - G. Testicular masses
 - H. Prostate cancer or benign prostatic hyperplasia

2. Discuss the evaluation and management of the following urologic infections:
 - A. Cystitis
 - B. Pyelonephritis
 - C. Prostatitis

3. Summarize the indications for diagnostic procedures/imaging in urology including:
 - A. Renal/bladder ultrasonography
 - B. CT urogram
 - C. Retrograde urethrography
 - D. Cystography/VCUG
 - E. Transrectal ultrasound
 - F. Nuclear renal scan
 - H. Multiparametric MRI

4. Discuss the nature and indication for the following therapeutic procedures:
 - A. Bladder catheterization
 - B. Urethral meatotomy
 - C. Suprapubic cystostomy
 - D. Percutaneous nephrostomy

6. Discuss the following conditions including the embryology and management of the following:
 - A. Hypospadias
 - B. Ureteropelvic junction obstruction
 - C. Vesico-ureteral reflux
 - D. Hernia/hydrocele
 - E. Cryptorchidism (undescended testicle)
 - F. Urethral stricture

7. Describe the types of incisions and exposure required for the following operations:
 - A. Nephrectomy
 - B. Radical cystectomy
 - C. Retropubic prostatectomy
 - D. Simple vs radical orchiectomy

8. Discuss the management of renal, ureteral and bladder calculi

9. Discuss common peri-operative complications and their management of the following operations:
 - A. Radical retropubic prostatectomy
 - C. Radical cystectomy
 - D. Bladder augmentation
 - E. Transurethral resection of the prostate (TURP), and (TURBT)
 - F. Laparoscopic/open nephrectomy

Surgical Procedures

Surgical Procedures List A

The fully trained resident must be competent to individually perform the following procedures, in addition to being able to manage the patient perioperatively.

1. Endoscopic and Percutaneous Procedures (Adult and Pediatric Urology)	<ul style="list-style-type: none"> • Cystoscopy and urethroscopy, ureteric catheterization including ureteric stent insertion and removal, retrograde pyelography
	<ul style="list-style-type: none"> • Urethral dilatation and visual internal urethrotomy • Manipulation of bladder calculi • Transurethral biopsy of bladder and urethra • Ureteroscopy, lithotripsy and basket extraction of ureteric calculi • Direct visual internal urethrotomy
	<ul style="list-style-type: none"> • Transurethral resection of prostate • Transurethral resection of bladder tumors • Transurethral resection/incision of ureterocele • Cystolitholopaxy • Endoscopic injection for vesico-ureteric reflux • Percutaneous renal surgery including nephrolithotomy with ultrasound/electrohydraulic/laser lithotripsy
2. Open Surgical Procedures (Adult and pediatric Urology)	<ul style="list-style-type: none"> • Circumcision • Suprapubic cystostomy • Urethral meatotomy • Fulguration of venereal warts • Biopsy of penile lesions • Scrotal surgery - hydrocele, simple orchidectomy • Testicular biopsy (including TESE and MicroTESE) • Varicocele repair (including microscopic) • Repair of testicular torsion • Radical inguinal orchidectomy • Cavernal shunting procedures for priapism • Orchidopexy for inguinal testis • Uretero-neocystostomy • Pyeloplasty for ureteropelvic junction obstruction • Repair of urinary fistulae - involving bladder, urethra, ureter, kidney • Nephrectomy (simple and radical) • Nephroureterectomy

3. Laparoscopic Procedures (Adult and Pediatric Urology)	<ul style="list-style-type: none"> ● Laparoscopic renal cyst decortication/marsupialization
4. Robotic Procedures	<ul style="list-style-type: none"> ● Patient positioning, Port insertion, Docking of patient cart, bedside assisting which involves passing needles, suctioning, clip application, exchange of robotic instruments, and specimen extraction ● Console simulation training ● Basic console skills during robotic procedures (switching instruments, camera movement and zooming, bagging specimens, suturing on fatty tissue)
5. Office Procedures	<ul style="list-style-type: none"> ● Extra-corporeal Shock wave lithotripsy ● Urodynamic Studies ● Intra-cavernosal Injections ● Intra-lesional penile Injections ● TRUS biopsy of the prostate ● Diagnostic Flexible Cystoscopy ● Transrectal Ultrasound

Surgical Procedures List B

The fully trained resident will know how to do the following procedures, including indications, and peri-operative management.

The resident may not have actually done one of these procedures independently during the residency training period.

1. Endoscopic and Percutaneous Procedures	<ul style="list-style-type: none"> ● Endoscopic pyeloplasty (endopyelotomy) ● Holmium laser enucleation of the prostate ● Green light vaporization of the prostate
2. Open Surgical Procedures (Adult and pediatric)	<ul style="list-style-type: none"> ● Procedures for correction of penile curvature and Peyronie's disease ● Simple retropubic prostatectomy ● Radical Retropubic Prostatectomy and pelvic lymph node dissection ● Urethroplasty (primary anastomosis, two stage buccal graft) ● Insertion of penile prosthesis ● Radical cystectomy (male and female) and urinary diversion (ileal conduit or studer pouch) with bilateral pelvic lymph node dissection

<p>3. Robotic and Laparoscopic Procedures (Adult and pediatric)</p>	<ul style="list-style-type: none"> • Laparoscopic orchiopexy/orchiectomy for abdominal testis • Laparoscopic and Robotic Adrenalectomy • Laparoscopic and Robotic Pyeloplasty • Laparoscopic and Robotic Partial nephrectomy • Laparoscopic and Robotic Radical nephrectomy • Laparoscopic and Robotic Simple nephrectomy • Robotic Assisted Radical Prostatectomy and pelvic lymph node dissection • Robotic Assisted Radical Cystectomy and pelvic lymph node dissection • Laparoscopic and Robotic Nephroureterectomy
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Patient Care

The resident during the rotation is required to establish basic proficiency in providing pre-operative and post-operative care (writes appropriate pre-op and post-op orders for floor patients, handles nursing calls appropriately, and manages most routine post-operative care). The resident should become familiar with evidence-based guidelines. The history should include the following components at a minimum:

- A. Complete history of present illness
- B. Past medical and surgical history
- C. Review of social and family history
- D. Review of systems
- E. Medication and allergies

The resident should be able to discuss treatment options, risks and potential complications of different management options. He/She should be able to Assist in the performance of urological procedures (either as a first assist in open procedures or bedside assist in laparoscopic/robotic procedures).

The resident should be able to recognize and manage postoperative surgical complications, including wound infection, dehiscence and leaks, lymphoceles, seromas and hematoma formation.

The resident should demonstrate basic surgical skills including:

- A. Knot tying
- B. Exposure and retraction
- C. Knowledge of instrumentation
- D. Incisions
- E. Closure of incisions

- F. Establishing pneumoperitoneum
- G. Handling of laparoscopic instruments
- H. Handling of the laparoscopic camera
- I. Port insertion
- J. Be able to apply and remove all types of dressings.

Residents in each level:

1. Should be able to differentiate between stable and emergent symptoms
2. Should document components of a urogenital, rectal, and prostate exam
3. Should be familiar with the initial management of genitourinary cancers
4. Should be familiar with the approach to managing sexual dysfunction – erectile or ejaculatory dysfunction, loss of libido, etc.
5. Residents should develop an understanding of the pathophysiology, clinical presentation, natural history, and management of the following conditions:

- Adrenal neoplasm
- Balanitis
- Benign prostatic hyperplasia
- Chronic indwelling catheter
- Cryptorchism and undescended testicles
- Epididymitis, orchitis, prostatitis, urethritis
- Erectile dysfunction
- Hydrocele, spermatocele, varicocele
- Hypogonadism
- Hypospadias
- Incontinence – stress, urge, overflow, mixed
- Interstitial cystitis
- Nephrolithiasis
- Neurogenic bladder
- Pelvic floor prolapse
- Perineal trauma
- Peyronie's disease
- Phimosis
- Priapism
- Sexual dysfunction
- Sexually transmitted diseases
- Urethral stenosis
- Urinary tract infection
- Urinary tract obstruction
- Prostate cancer
- Bladder Cancer

- Renal cell carcinoma
- Upper tract urothelial carcinoma
- Testicular carcinoma
- Nephrolithiasis

9. The resident should be familiar with the understand and the indications for PSA screening and be able to effectively counsel patients on the indications of such.
10. All residents should learn to function as part of a team, including the primary care physician, urologist, and clinic staff to optimize patient care taking a leadership role (senior level).

Residents

Rotation at SAUC will include up to two residents (junior and senior). The resident will round with the team on a daily basis and will be responsible for all patients in the institution. The resident will scrub on all cases and if simultaneous cases are running he/she will scrub in the most complex cases. The resident will learn basics of percutaneous, endoscopic, laparoscopic, robotic and open surgery. The resident will be affiliated with one of the other general hospitals to do on-calls to maximize his/her exposure to the emergency department.

TEACHING METHODS:

Residents are encouraged to develop an individualized learning plan and are assigned a mentor to determine if those goals are being achieved. The mentor, along with program director/assistant program directors at the semi-annual review, guides residents to incorporate self-assessment and feedback of others as

part of their learning portfolio. A monthly journal club is used to teach and promote use of evidence-based medicine principles.

Assessment:

Weekly core-competency based evaluations are used by faculty to evaluate residents. Also collective faculty feedback is given monthly about the resident strengths and weaknesses, and ways for improvement.

Systems Based Practice:

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:

- a. Work effectively in various health care delivery settings and systems, Coordinate patient care within the health care system.
- b. Incorporate considerations of cost awareness and risk-benefit analysis in patient care
- c. Use system resources to advocate for quality patient care and optimal patient care systems
- d. Work in interprofessional teams to enhance patient safety and improve patient care quality
- e. Participate in identifying systems errors and in implementing potential systems solutions

The CanMEDS objectives and principles

Medical Expert

Urology residents draw upon an evolving body of knowledge, their clinical skills, and their professional values. They collect and interpret information, make clinical decisions, and carry out diagnostic and therapeutic interventions. They do so within their scope of practice and with an understanding of the limits of their expertise. Their decision-making is informed by best practices and research evidence and takes into account the patient's circumstances and preferences as well as the availability of resources. Their clinical practice is up-to-date, ethical, and resource-efficient, and is conducted in collaboration with patients and their families, other health care professionals, and the community .

Urology residents should:

- Integrate the CanMEDS Intrinsic Roles into their practice of medicine
- Apply knowledge of the clinical and biomedical sciences relevant to their discipline
- Perform appropriately timed clinical assessments with recommendations that are presented in an organized manner
- Carry out professional duties in the face of multiple, competing demands
- Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice
- Prioritize issues to be addressed in a patient encounter
- Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion
- Establish goals of care in collaboration with patients and their families
- Establish a patient-centered management plan
- Determine the most appropriate procedures or therapies
- Obtain and document informed consent, explaining the risks and benefits of each procedure, and the rationale for, a proposed procedure or therapy
- Prioritize a procedure or therapy, taking into account clinical urgency and available resources
- Perform a procedure in a skillful and safe manner
- Implement a patient-centered care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation
- Recognize and respond to harm from health care delivery, including patient safety incidents
- Adopt strategies that promote patient safety and address human and system factors

Communicator:

- Develop interpersonal and communication (verbal and writing) skills that will allow effective exchange of information with urologic patients, their families and other health care professionals
- Develop effective listening skills and be able to elicit and provide information using appropriate nonverbal, explanatory and patient interview skills.
- Formulate and write coherent and accurate notes in the medical record
- Write clear, concise and comprehensible manuscripts for publication in the urologic literature.
- Prepare and deliver oral or case presentations in a thoughtful, organized and coherent manner.
- Work effectively with others (urologic residents and faculty) as a member or leader of the Urology health care team.
- Interact and communicate effectively with nurses and other health professionals and hospital staff.

Teaching Methods:

1. Clinical performance with direct observation
2. Operating room with observed performance
3. Daily supervised care of surgical patients
4. Presentations in clinic
5. Rotation specific conferences
6. Supervised on-call experiences

Evaluation Methods:

1. Global faculty evaluation
2. 360° evaluation
3. Observed clinical examination
4. Patient surveys
5. Teaching rounds
6. Biannual review with residency program director

Professional:

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. They must demonstrate

compassion, integrity and respect for others, including accountability to patients and society, and professional commitment to excellence.

Adherence to ethical principles by practicing patient-centered care that encompasses confidentiality, respect and autonomy via appropriate informed consent and shared decision making. Cultural competence, by being sensitive and responsive to a diverse patient population as well as colleagues, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

Teaching Methods:

- Professionalism is taught primarily during clinical experiences where residents observe and adopt the behavior of senior residents and faculty by assigning mentors who are positive role-models
- To be a member of the hospital Ethics committee and risk management team giving an institutional lecture to the incoming intern class on cultural sensitivity and diversity.

Assessment:

A global 360-degree multi-rater evaluation is used to assess resident performance with respect to professionalism and interpersonal and communication skills. These are filled out anonymously by health care professionals, including nurses, and by their colleagues. The residents are also assessed at semiannual meetings, where they get collective faculty assessment and feedback about professionalism and interpersonal and communication skills, in addition to other competencies.

Scholar:

- Develop, implement, monitor, and revise a personal learning plan to enhance professional practice
- Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources
- Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice
- Recognize the influence of role-modelling and the impact of the formal, informal, and hidden curriculum on learners
- Promote a safe learning environment
- Ensure patient safety is maintained when learners are involved
- Plan and deliver a learning activity
- Provide feedback to enhance learning and performance

- Identify, select, and navigate pre-appraised resources
- Critically evaluate the integrity, reliability, and applicability of health-related research and literature
- Integrate evidence into decision-making in their practice
- Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care
- Identify ethical principles for research and incorporate them into obtaining informed consent, considering potential harms and benefits, and considering vulnerable populations
- Contribute to the work of a research program
- Pose questions amenable to scholarly inquiry and select appropriate methods to address them
- Summarize and communicate to professional and lay audiences, including patients and their families, the findings of relevant research and scholarly inquiry

Communicator:

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families and professional associates. They must demonstrate that they can:

- Communicate effectively with patients and families 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
- Maintain comprehensive, timely and legible medical records

Teaching Methods:

- Interpersonal and communication skills are taught primarily during clinical experiences where residents observe the faculty and senior residents, and participate in, delivering bad news, holding family meetings to discuss ongoing care, educating patients and their families, and resolving conflict.
- Daily meetings of the residents with social workers and case managers, as well as conversations with consultants, refine the skill communication with other health care professionals to provide better patient care.
- Communication with colleagues is encouraged by having a standardized method of hand-off between junior and senior residents to help reduce medical errors and promote continuity of care.
- The residents receive ongoing lectures from the chief residents to develop and refine the skill of seamless hand-off of patient care. The residents

also get a lecture at Kuwait Institute for Medical Specializations (KIMS) about case management and documentation.

Assessment:

- A global 360 degree multi-rater evaluation is used to assess resident performance with respect to professionalism and interpersonal and communication skills. These are filled out anonymously by health care professionals, including nurses, and by their colleagues.
- The residents are also assessed at semiannual meetings, where they get collective faculty assessment and feedback about professionalism and interpersonal and communication skills, in addition to other competencies.

Scholar:

Residents acquire scholarly abilities to enhance practice and advance health care. Residents pursue excellence by continually evaluating the processes and outcomes of their daily work, sharing and comparing their work with that of others, and actively seeking feedback in the interest of quality and patient safety. Using multiple ways of learning, they strive to meet the needs of individual patients and their families and of the health care system

Residents strive to master their domains of skills and to share their knowledge. As lifelong learners, they implement a planned approach to learning in order to improve in each CanMEDS Role.

They recognize the need to continually learn and to model the practice of lifelong learning for others. As seniors they facilitate, individually and through teams, the education of students and younger colleague in training, colleagues, co-workers, the public, and others

Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources. Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice.

Ensure patient safety is maintained when learners are involved. Plan and deliver a learning activity. Provide feedback to enhance learning and performance. Identify, select, and navigate pre-appraised resources. Integrate evidence into decision-making in their practice

Collaborator

Urology resident should be essential for safe, high-quality, patient-centred care, and involves patients and their families, physicians and other colleagues in the health care professions, community partners, and health system stakeholders.

A resident requires relationships based in trust, respect, and shared decision-making among a variety of individuals with complementary skills in multiple settings across the continuum of care. They have to share their knowledge, perspectives, and responsibilities, and a willingness to learn together. This requires understanding the roles of others, pursuing common goals and outcomes, and managing differences.

Leader

As a societal expectation, residents demonstrate collaborative leadership and management within the health care system. At a system level, physicians and residents contribute to the development and delivery of continuously improving health care and engage with others in working toward this goal. Resident integrates their personal lives with their clinical, administrative, scholarly, and teaching and learning responsibilities. They function as individual care providers, as members of teams, and as participants and leaders in the health care system locally, regionally, nationally, and globally.

Health Advocate

Residents are accountable to society and recognize their duty to contribute to efforts to improve the health and well-being of their patients, their communities, and the broader populations they serve. Physicians and residents possess medical knowledge and abilities that provide unique perspectives on health.

Residents should be involved in contributing their knowledge of the determinants of health to positively influence the health of the patients, communities, or populations they serve. Residents gather information and perceptions about issues, working with patients and their families to develop an understanding of needs and potential mechanisms to address these needs. Residents support patients, communities, or populations to call for change, and they speak on behalf of others when needed. Residents increase awareness about important health issues at the patient, community, or population level.
