I. Demonstrate the ability to identify the signs and symptoms of and manage benign and malignant diseases of the adrenal glands.
   A. Select and interpret appropriate diagnostic tests to arrive at correct diagnosis.
   B. Demonstrate knowledge of the normal development, function, and surgical anatomy of the adrenal glands.
   C. Identify microscopically and grossly various adrenal pathology and discuss the pathophysiology, diagnosis, and management of the following:
      1. Nonfunctioning adrenal cortical tumors
      2. Cushing’s Disease
      3. Cushing’s Syndrome
      4. Adrenal hemorrhage
      5. Adrenal cyst
      6. Myelolipoma of the adrenal
      7. Adrenogenital syndrome
      8. Adrenal carcinoma
      9. Addison’s disease
      10. Pheochromocytoma
      11. Metastasis to the adrenal from other primaries
   D. Given a case history and supporting laboratory and radiologic materials and data, demonstrate the ability to make the correct diagnosis and make appropriate recommendations for management.
   E. Demonstrate the ability to discuss and apply the surgical anatomy and the surgical approach for various types of adrenal pathology.
   F. Discuss the intraoperative management of patients undergoing adrenal surgery, list potential problems which might be encountered, and describe techniques to minimize risks or manage complications.

II. Demonstrate the ability to evaluate, diagnose and manage a patient with a kidney mass.
   A. Discuss the normal development, function, surgical anatomy, and surgical relationships of the kidney.
   B. Identify and differentiate (using slides of gross and microscopic histology) the following renal abnormalities:
      1. Acute and chronic interstitial nephritis – pyelonephritis
      2. Clear cell renal adenocarcinoma
      3. Papillary renal adenocarcinoma
      4. Granular cell adenocarcinoma
      5. Wilms' tumor
      6. Oncocytoma
      7. Angiomyolipoma
      8. Transitional Cell Carcinoma
      9. Sarcoma
      10. Mesoblastic nephroma
      11. Mesonephric adenoma
12. Malakoplakia
13. Xanthogranulomatous pyelonephritis

C. List the common presenting symptoms of kidney cancer
D. List the important diagnostic and staging studies used to evaluate a solid renal mass and interpret their results.
E. Discuss diagnosis, evaluation, and plan a course of management for various cases of renal mass lesions.
F. Demonstrate the ability to select and perform the surgical approaches for radical nephrectomy (open, laparoscopic, and robot-assisted approaches).
G. Identify the prognosis of renal cancer as a function of the TNM stage of the disease.
H. Discuss the various adjunctive therapies and their expected responses for metastatic RCC

III. Demonstrate the ability to diagnose, evaluate and treat a patient with cancer of the upper collecting system.
A. Describe the normal embryological development, functions, and anatomy of the upper collecting system (ureter and renal pelvis).
B. Discuss the theories regarding the etiologies of cancer of the ureter and renal pelvis.
C. Identify and differentiate both on gross, endoscopic, and microscopic examinations the following abnormalities:
   1. Ureteritis and pyelitis
   2. Malakoplakia
   3. Xanthogranulomatous Pyelonephritis
   4. Fibroepithelial polyp
   5. Papilloma
   6. Inverted papilloma
   7. Transitional Cell Carcinoma
   8. Squamous Cell Carcinoma
   9. Adenocarcinoma
   10. Sarcoma
D. Demonstrate the ability to use the TNM classification system to stage ureteral and renal pelvic tumors.
E. Discuss the roles of endoscopic, radiologic, cytologic, and pathologic evaluation in diagnosing and staging TCC of the ureter and renal pelvis.
F. Discuss the surgical management of upper tract neoplasm – including nephron sparing and radical extirpative techniques.

IV. Demonstrate the ability to diagnose and manage a patient with bladder cancer.
A. List the various types of bladder cancer and discuss differences in the management of each type.
B. Demonstrate competence in the endoscopic surveillance, diagnosis, and transurethral resection treatment and staging of TCC of the bladder.
C. Demonstrate competence in radical cystectomy, anterior exenteration, and total exenteration; discuss the preoperative evaluation and preparation, intraoperative techniques, possible complications, and their management.
D. Discuss the potential advantages and risks / complications of the various types of urinary diversion.
E. Demonstrate competence in the performance of urinary diversion and the postoperative management of radical cystectomy patients.
F. Discuss the potential metabolic and neoplastic abnormalities resulting from urinary diversion to bowel.

V. Demonstrate the ability to diagnose, evaluate, stage, and treat a patient with prostate cancer (CaP).
A. Discuss the normal development, function, and surgical anatomy of the prostate.
B. Discuss the various factors associated with the development of CaP
1. Hormonal environment
2. Genetic / familial
3. Environmental and / or dietary influences

C. Identify and differentiate using gross and microscopic pathology the following: (and select educationally valuable and informative cases for presentation at monthly Uro-Pathology Conference)
   1. BPH
   2. CaP
   3. High grade PIN
   4. Seminal vesicle
   5. Squamous metaplasia
   6. Granulomatous disease
   7. Acute and chronic prostatitis
   8. Prostatic calcifications (corpora amylacea)

D. Discuss the epidemiology and natural history of CaP with respect to age, race, and family history

E. Demonstrate the ability to stage CaP using DRE, TRUS, PSA, CT Scans, Bone Scans, skeletal surveys, laparoscopic biopsy, bone marrow biopsy, MRI and PET Scans.

F. Discuss without bias the risks and possible benefits of the various treatment options for localized and metastatic CaP.

G. Discuss adjuvant treatments and controversies for recurrence following definitive radical treatments.

H. Discuss treatment options for metastatic prostate cancer.
   1. Androgen ablation – surgical and medical
   2. Total androgen ablation – orchiectomy or LHRH analog therapy + antiandrogens
   3. Treatment options for hormone refractory prostate cancer

I. Discuss the roles of PSA, Age-specific PSA, Free PSA, PSA velocity, and PSA density in: screening, diagnosing, staging and in follow-up to previous treatment.

J. Demonstrate competence in performing radical prostatectomy (open, laparoscopic, and robot-assisted) and pelvic lymphadenectomy

K. Discuss the indications, potential value, and risks for performing lymphadenectomy – list the criteria of low probability of lymph node involvement.

L. Discuss the potential intraoperative and postoperative complications of radical prostatectomy and their management.

VI. Demonstrate the ability to evaluate, diagnose, and treat a patient with cancer of the testes.

A. Discuss the normal embryology, anatomy, function, and surgical anatomy of the testes and spermatic cord structures.

B. Discuss and identify on gross and microscopic slides the various types of testis cancer and describe how they are differentiated and managed.
   1. Seminoma
   2. Embryonal cell Ca
   3. Choriocarcinoma
   4. Teratocarcinoma
   5. Sertoli Cell Tumor
   6. Interstitial (Leydig) Cell Tumor
   7. Lymphoma

C. Discuss the natural history and epidemiology of testes cancer

D. Demonstrate the ability to diagnose and stage, using PE, serum tumor markers, U/S, CT, CXR, and MRI.

E. Demonstrate the ability to select a patient for and to perform the following surgeries:
   1. Radical orchiectomy
   2. Retroperitoneal Lymph Node Dissection – modified, nerve sparing vs. extended
3. Excision of metastases (post-chemotherapy)
F. Discuss the roles for chemotherapy and limited role of radiation in managing Ca of the testes.
G. List the adverse risk factors for metastatic disease based on primary tumor characteristics and pathological findings.
H. Discuss with the patient and family the need for surgical and/or chemotherapy and/or adjunctive measures, prognosis, and follow-up.

VII. Discuss the differential diagnosis and management of benign, premalignant, and malignant lesions of the penis.
A. Balanitis xerotica obliterans (BXO)
B. Leukoplakia
C. Bowen’s Disease
D. Erythroplasia of Queyrat
E. Condyloma acuminata
F. Bowenoid papulosis
G. Kaposi sarcoma
H. Squamous cell cancer
   1. Discuss risk factors such as circumcision status, chronic inflammation, viral infection (HPV).
   2. Demonstrate the ability to recognize and diagnose penile cancer.
   3. Discuss the TNM staging.
   4. Discuss and demonstrate competence in partial and total penectomy and inguinal lymphadenectomy.
   5. Discuss the indications for, technique, and complications and their management for inguinal lymphadenectomy.
   6. Discuss alternatives to surgery.
      a. Radiation
      b. Laser fulguration
      c. Chemotherapy

VIII. Discuss the modern incidence and historical link to environmental carcinogens among chimney sweeps for scrotal squamous cell cancer.
A. Discuss the gross appearance and describe the technique of biopsy for diagnosis of a suspicious scrotal lesion.
B. Discuss staging and treatment for scrotal cancer.

IX. Understand, and be able to list with examples, the different categories of chemotherapeutic agents used in GU malignancies.
A. Discuss the pharmacology of the various types and describe their major toxicities.
B. Discuss other specific complications of chemotherapy.
C. Discuss the indications for chemotherapy of GU malignancies and the expected response rates in different tumors with the different agents used.

X. Demonstrate an understanding of the physical and biological principles of radiotherapy for GU malignancies.
A. Define and explain the fundamental units of radiation used including: Rads, Gray (Gy), and Roentgens (R)
B. Discuss the differences in radiation techniques of teletherapy and brachytherapy and list some applications for each type in GU malignancies.
C. Discuss the interaction of factors on biologic effectiveness of radiotherapy.
   1. Dose of XRT
   2. Type of XRT
   3. Number of treatments
   4. Immunologic changes and complications
   5. Cellular death and repair
   6. Total body (hemi-body) irradiation
7. Tumor burden
8. Radiation sensitizers (tissue oxygenators, pharmacologic agents, temperature)
9. Relative radiosensitivity of different normal and neoplastic tissues
10. Molecular mechanisms of free radical formation (Compton effect)

D. Discuss commonly used curative and palliative radiation techniques used in GU malignancies.

XI. List and discuss the cystic diseases of the kidney.
A. Describe the genetic transmission of adult and infantile forms of PCKD.
B. Comment on acquired cystic disease and its association with end stage renal disease.
C. Discuss the genetic counseling of patients with genetically transmitted renal cystic diseases.
D. Discuss the histological features of the various forms of cystic renal disease.
E. Discuss the age and mode of presentation, diagnosis, and management of the different types of renal cysts.
F. Discuss the role of biopsy, transplantation, and nephrectomy in patients with end stage renal cystic disease.

XII. Demonstrate the ability to evaluate, diagnose and treat congenital obstruction of the ureteropelvic junction.
A. Demonstrate competence in dismembered pyeloplasty – indications, work-up, and postoperative management.
B. Describe surgical and endoscopic alternatives and their reported success rates.
   1. Percutaneous endopyelotomy
   2. Retrograde ureteroscopic endopyelotomy
   3. Acucise balloon endopyelotomy
   4. Davis intubated ureterotomy
   5. Scardino and Culp modifications of open pyeloplasty
   6. Laparoscopic and robot-assisted pyeloplasty
   7. Discuss management of accessory renal vessels
C. Discuss surgical approaches to the UPJ region
D. Discuss the risks and possible benefits of temporary percutaneous nephrostomy tubes and/or stenting and draining the open repair.

XIII. Demonstrate the ability to evaluate, diagnose, and treat a patient with Wilms' tumor.
A. Discuss the various theories regarding the etiology of Wilms’ tumor
B. List the associated anomalies with congenital Wilms' tumor – aniridia, hemihypertrophy, Beckwith-Wiedemann syndrome and Drash syndrome
C. Discuss and differentiate favorable and unfavorable histology and discuss its influence on prognosis and treatment.
D. List and discuss the diagnostic and staging studies used in Wilms’ tumor.
E. Discuss the surgical and chemotherapeutic and radiation management of Wilms’ tumor, dependant on stage and histology.
F. Demonstrate competence in performing a standard transabdominal or thoraco-abdominal radical nephrectomy for Stage I Wilms’ tumor.

XIX. Develop the ability to diagnose, evaluate, and treat a patient with horseshoe kidney or other fusion renal defects.
A. List and discuss the indications for surgery of the horseshoe kidney including: obstruction, infection, stone, and tumor.
B. Describe and demonstrate competence in performing division of the isthmus and pyeloplasty.

XX. Discuss the development, pathophysiology, clinical problems, treatment, and complications of epispadias and exstrophy.
A. Describe the mechanism by which these defects form.
B. Describe the clinical problems produced by these defects.
C. Discuss the surgical management of these defects and their complications and management.
D. Demonstrate surgical knowledge and competence in management of these conditions.
E. Defend your decision regarding extent of personal participation in the care vs. referral to a major children’s center.

XXI. Evaluate and accurately describe the severity of hypospadias based on meatal position
A. Recognize the signs that suggest the possibility of intersex and discuss the evaluation and management.
B. Discuss the dysfunctions related directly to the hypospadias defect.
   1. Sexual performance secondary to chordee
   2. Abnormality in semen deposition
   3. Difficulty in directing urinary stream
   4. Psychological issues for parents and child
   5. Discuss the various principles of hypospadias surgery and describe the application of various techniques to different degrees of hypospadias.
   6. Discuss the methods of urinary diversion and dressings following hypospadias repair.
   7. Demonstrate competence in performing and managing complications of several techniques for hypospadias correction.

XXII. Demonstrate knowledge of the classifications, embryogenesis, associated anomalies, and management of imperforate anus.
A. Discuss the spectrum of anorectal malformations.
B. Demonstrate the ability to define the defect and associated anomalies and plan appropriate management.
C. Recognize and manage potential urologic complications of anorectal surgery.
D. Discuss the importance of long term urologic follow up and surveillance for such anomalies as:
   1. Neuropathic voiding dysfunction
   2. Consequences of Mullerian anomalies at puberty or during pregnancy
   3. Difficulty with attainment of urinary control
   4. Recognition of potential progressive nature of associated lumbosacral anomalies.

XXIII. Recognize abnormal appearances of the external genitalia which suggest the possibility of intersex.
A. Become familiar with the work up of intersex disorders.
B. Know the criteria upon which the sex of rearing is based.
C. Become familiar with the medical and surgical management for intersex disorders.
D. Understand the psychological impact on parents, family, and patient and provide needed counseling services.

XXIV. Demonstrate knowledge of the basic anatomy, pathophysiology, and clinical features of vesicoureteral reflux, and its evaluation and management.
A. Describe the embryological development of the ureteral bud and explain its maldevelopment in producing reflux, ureteroceles, and duplication anomalies.
B. Understand the basic mechanism of reflux.
C. Understand the grading system used to classify reflux and its impact on spontaneous resolution rates.
D. Discuss the implications of the presence of a Hutch diverticulum on spontaneous resolution rates.
E. Discuss the relationship of reflux, infection, intrarenal reflux, and reflux nephropathy.
F. Discuss ancillary measures to aid in reflux resolution – antibiotic prophylaxis, anticholinergics, voiding retraining.
G. Demonstrate knowledge of the indications for, techniques used in, and competence in performing surgical correction of V-U reflux.
H. Discuss the complications of antireflux surgery and their management.

XXV. Demonstrate the ability to evaluate, diagnose, and treat a patient with cryptorchid testis.
A. Discuss the normal embryologic development, decent, or abnormal arrest of descent of testes.
B. Discuss the normal timing of descent.
C. List the problems posed by undescended testes – malignant degeneration, infertility.
D. List the appropriate evaluation tests when faced with cryptorchid testes.
E. Identify the pharmacological and surgical techniques in the treatment of cryptorchid testis.
F. Demonstrate competence in the performance of orchidopexy (single stage surgery, staged orchidopexy, Fowler-Stevens technique, and laparoscopic techniques for diagnosis and management).

XXVI. Identify the clinical situations which warrant augmentation cystoplasty and define its goals.
   A. Demonstrate knowledge of preoperative assessment, surgical performance, and postoperative management of patients undergoing augmentation cystoplasty.
   B. Be familiar with the physiology, and indications, and possible risks and complications of various bowel segments used.
   C. Demonstrate the technical skills required for this procedure.
   D. Identify possible complications and discuss their prevention and / or management.
   E. List the diagnoses in the pediatric population which may require augmentation cystoplasty.
   F. Define the indications for and demonstrate competence in performing:
      1. Appendicovesicostomy (Mitrofanoff Procedure) in conjunction with an augmentation.
      2. Ileocystoplasty
      3. Sigmoidocystoplasty
      4. Cecocystoplasty
      5. Transverse colon cystoplasty
      6. Gastric cystoplasty
      7. Autoaugmentation (Detrusorectomy)
      8. Ureteral bladder augmentation
   G. Consider and discuss the various secondary factors affecting recommendations for this procedure.
      1. Physical limitations of the patient
      2. Mental limitations of the patient
      3. Renal function
      4. Motivation

XXVII. Discuss the etiology, types, presentation, pathophysiology, and management of megaureters.
   A. Select the appropriate diagnostic studies for evaluating megaureters and discuss their advantages and disadvantages.
   B. Discuss the various treatment options, considering: timing, advantages, hazards, potential complications, and management of complications, and follow-up.

XXVIII. Consider and discuss options for future clinical practice and professional success and satisfaction in urology.
   A. Solo private practice
   B. Group private practice
   C. Rural, suburban, urban settings
   D. Marketing skills and staffing and equipping office
   E. Academic practice – full-time or part-time clinical appointment
   F. Salaried, managed care practice
   G. Participation in organized medicine

XXIX. Through supervised daily medical practice and through participation in clinical competency-based evaluation exercises, you should continue to acquire the necessary skills to achieve competence in the six (6) medical competencies in order to function independently and to succeed as a physician.
   A. Provide Patient Care that is compassionate, appropriate, and effective for treatment and prevention of disease.
      1. Learn to communicate effectively and demonstrate caring and respectful behaviors to patients and families.
      2. Be able to gather essential / pertinent and accurate information during history taking.
      3. Begin to make informed diagnostic and therapeutic decisions based on patient information and preferences.
4. Learn to develop and carry out logical patient management plans.
5. Acquire the ability to provide compassionate counseling and advice to patients and their family members.
6. Demonstrate the ability to gather and apply appropriate information and technology to support management recommendations.
7. Begin to perform competently medical and surgical procedures appropriate to your level of training.
8. Learn when to provide preventive health care advice and guidance for health maintenance.
9. Learn to work as a team member with other health care providers in providing patient-focused care.

B. Continue to acquire Medical Knowledge (demonstrate knowledge about established and evolving sciences and their application to patient care).
   1. Demonstrate an investigatory and analytic thinking approach to clinical situations.
   2. Learn to apply basic and clinically supportive sciences appropriate to your urologic level of training.

C. Refine your Interpersonal and Communication Skills (to accomplish effective information exchange and teaming).
   1. Learn how to create and sustain a therapeutic and ethically-sound relationship with patients.
   2. Learn how to use effective listening skills and elicit and provide information using effective communication skills.
   3. Learn how to work effectively with others as a member of a health care team.

D. Exhibit Professionalism (commitment to professional responsibilities, ethical principles, and sensitivity to diverse patient population).
   1. Demonstrate respect, compassion, integrity, and unselfish responsiveness to needs of patients and society.
   2. Demonstrate accountability to patients, society, and the medical profession.
   3. Demonstrate a commitment to excellence and on-going professional development.
   4. Demonstrate a commitment to ethical principles pertaining to provision of, or withholding of, care.
   5. Maintain the confidentiality of patient information and provide fully-informed consent.
   6. Understand and provide sound, ethical business practices.
   7. Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.

E. Demonstrate an understanding of Practice – Based Learning and Improvement (investigate and evaluate practice patterns and improve patient care).
   1. Use systematic methodology for practice analysis and perform practice-based improvement.
   2. Demonstrate ability to locate, appraise, and assimilate evidence from scientific studies related to patient health problems.
   3. Be able to obtain & use information on your own patient population and relate it to larger patient populations.
   4. Demonstrate the ability to analyze study designs and statistical methods in the evaluation of clinical studies and treatments.
   5. Use information technology to obtain and manage current and continuing self-education.
   6. Participate in or facilitate the learning of students and other health care professionals.

F. Acquire an understanding of Systems – Based Practice (demonstrate an awareness of and responsiveness to the larger context and system of health care).
   1. Demonstrate the ability to effectively call on system resources to provide care that is of optimal value.
   2. Understand the interrelationships between your practice and the larger system of health care.
3. Learn how the different types of medical practice and delivery systems differ from one another.
4. Understand the methods of controlling health care costs and allocating resources.
5. Begin to practice cost-effective health care and resource allocation without compromising quality of care.
6. Understand how to be an advocate for quality patient care and how to assist patients in dealing with medical system complexities.
7. Learn how to partner with case managers, social workers, and other providers to assess, coordinate and improve care.
8. Understand how such partnerships and their activities can affect system performance.

I have reviewed with the resident his/her progress toward accomplishment of the stated goals & objectives for the final (Chief Resident) level of training and have provided individual feedback evaluation.

Signed: _________________________________  Date:_____________

Program Director

Note to Resident: At the end of each training year you will also be asked to self-evaluate your personal attainment of each educational goal and objective. You will indicate your perception of accomplishment of each stated goal and objective by marking in the margin alongside each the following coded responses:

“+” … indicates satisfactory accomplishment of this particular goal or objective.
“√” … indicates exposure to, but incomplete acquisition of, knowledge or experience.**
“-” … indicates perceived deficiency in knowledge or clinical experience in this area at the beginning of final year of residency training.**

** You are expected to carry these goals & objectives over to this final year of residency training and/or continue to work toward achievement of mastery of these clinical competencies during any subsequent years of self-learning as a post-graduate fellow or practicing Urologist.

I have reviewed with the Program Director my understanding of educational goals and objectives expected during this year/level of training (prior to beginning this year), and have received individual feedback regarding my degree of accomplishment of the stated goals and objectives – including acquisition of competency in the six designated competencies (at the completion of this year).

Signed: _________________________________  Date:_____________

Urology Resident