



RRM'S NEET SS-UROLOGY-AIIMS MODEL EXAM-1ST NOVEMBER-2020

ANSWERS & EXPLANATIONS

1. A 30 years old male presents to the casualty with acute onset right sided colicky pain radiating to groin. Which among the following is responsible for this ureteric pain?

- a.VIP
- b.NO
- c.lactic acid
- d.bradykinin

Ans: C

Ref: Campbell Walsh 12th Ed P.No:2

Ureteral pain typically is due to ureteral obstruction, is acute in onset, and is located to the ipsilateral lower quadrant. The acute distention of the ureter and hyperperistalsis result in pain as prostaglandins accumulate, causing ureteral spasm, which in turn causes increased lactic acid production, which in turn irritates type A and C nerve fibers in the ureteral wall. These nerve fibers conduct signal toward T11-L1 dorsal root ganglia, and this irritation is perceived as pain. Ureteral obstruction of a gradual or partial nature may not cause pain. The point of ureteral obstruction may result in referred pain to the ipsilateral scrotum or penis. Obstruction at the ureterovesical junction also may result in irritative voiding symptoms.

2. Terminal hematuria often signifies the site of pathology to be at:

- a.Prostate
- b.bladder neck
- c.urethra
- d.seminal vesicles

Ans: B

Ref: Campbell Walsh 12th Ed P.No:2

Patients should be queried as to which portion of the urinary stream contains urine: the initial part of the stream, the entire stream, or the terminal portion of the urinary stream. Initial stream hematuria often signifies mild bleeding from a prostatic or urethral source, and terminal hematuria often signifies bladder neck irritation that expresses hematuria upon contraction of the bladder neck at the end of urination. Other helpful clues include any associated pain and clots associated with the hematuria.



3. Bladder diary is a tabulation of all fluid ingested and all urine produced by a patient with associated times and volumes. Typically a bladder diary is kept for ____ day/s.

- a.1
- b.2
- 3.3
- 4.7

Ans:B

Ref: Campbell Walsh 12th Ed P.No:3

Bladder diary, briefly, is a tabulation of all fluid ingested and all urine produced by a patient with associated times and volumes. Preferably patients note sensations of urgency or urinary incontinence on this tabulation. Typically a bladder diary is kept for 48 hours. The bladder diary can help provide insight into the functional capacity of a bladder, which should be around 300 to 400 mL in a normal adult and can help quantify the severity of nocturia.

4. Enuresis is normal in children up to ____ years of age.

- a.2
- b.3
- c.5
- d.8

Ans:B

Ref: Campbell Walsh 12th Ed P.No:6

Urinary incontinence during sleep, known as enuresis, is normal in children up to 3 years of age. It persists in about 15% of children up to 5 years of age and in up to 1% of adolescents up to 15 years of age

5. Find the wrong statement:

- a. Even in the era of CT and MRI, a bimanual examination of bladder can improve upon the performance of these images for the prediction of pT3 disease in carcinoma bladder.
- b. Fournier gangrene is typified by necrotic “black” scrotal skin, foul odor, dishwater discharge, and crepitus.
- c. silk glove sign is seen in congenital inguinal hernia in children.
- d. The absence of a cremasteric reflex is a non specific sign for testicular torsion in pediatric patients.



Ans:D

Ref: Campbell Walsh 12th Ed P.No:10 & 12

A bimanual examination is performed to assess the mobility of the bladder and is the standard of care for examination of patients with large bladder tumors post resection. Even in the era of CT and MRI, a bimanual examination can improve upon the performance of these images for the prediction of pT3 disease and was found to be an independent predictor of pT3 disease on multivariate analysis.

In children, the presence of hernias can be appreciated by assessing for the “silk glove” sign. The potential space within the hernia sac allows for the hernia sac to roll over itself, resembling the sensation of rolling over the finger of a silk glove.

The absence of a cremasteric reflex (light touch to inner thigh resulting in cremasteric muscle contraction and ascension of the ipsilateral testicle) is a very specific sign for testicular torsion in pediatric patients.

6. Cloudy urine is seen in all the following conditions except:

- a.phosphaturia
- b.chyluria
- c.hypercalciuria
- d.hyperuricosuria

Ans:C

Ref: Campbell Walsh 12th Ed P.No:14

Cloudy urine is commonly caused by phosphaturia, a benign process in which excess phosphate crystals precipitate in alkaline urine. Rare causes of cloudy urine include chyluria lipiduria, hyperoxaluria, and hyperuricosuria.

7. A 50 years old post-menopausal woman often presents to the urologist's clinic with recurrent UTI and her urine dipstick shows an alkaline urine with a pH of 8. The most likely organism causing UTI in this woman would be:

- a.E.coli
- b.proteus
- c.Pseudomonas
- D.Enterobacter

Ans:B

Ref: Campbell Walsh 12th Ed P.No:15



Urine pH determinations are also useful in the diagnosis and treatment of UTIs and urinary calculus disease. In patients with a presumed UTI, an alkaline urine with a pH greater than 7.5 suggests infection with a urea-splitting organism, most commonly *Proteus*. Urease-producing bacteria convert ammonia to ammonium ions, markedly elevating the urinary pH and causing precipitation of calcium magnesium ammonium phosphate crystals.

8. A 40 year old farmer met with an accident with crush injury involving both lower limbs. An urologist consult was given as he was passing red coloured urine. His renal parameters are altered and he is suspected with AKI. The urine dipstick is positive for blood in urine. A urine microscopy of centrifuged urine is ordered and microscopy is negative for RBCs. The supernatant serum will be most likely _____ in this patient.

- a. red
- b. pink
- c. clear and colourless
- d. straw yellow

Ans: C

Ref: Campbell Walsh 12th Ed P.No:16

Hematuria can be distinguished from hemoglobinuria and myoglobinuria by microscopic examination of the centrifuged urine; the presence of a large number of erythrocytes establishes the diagnosis of hematuria. If erythrocytes are absent, examination of the serum will distinguish hemoglobinuria and myoglobinuria. A sample of blood is obtained and centrifuged. In hemoglobinuria, the supernatant will be pink. This is because free hemoglobin in the serum binds to haptoglobin, which is water insoluble and has a high molecular weight. This complex remains in the serum, causing a pink color. Free hemoglobin will appear in the urine only when all of the haptoglobin-binding sites have been saturated. In myoglobinuria, the myoglobin released from muscle is of low molecular weight and water soluble. It does not bind to haptoglobin and is therefore excreted immediately into the urine. Therefore in myoglobinuria the serum remains clear.

9. Which among the following is the most common cause of glomerular hematuria?

- a. IgA nephropathy (Berger disease)
- b. Mesangioproliferative GN
- c. Focal segmental proliferative GN
- d. Familial nephritis

Ans: A

Ref: Campbell Walsh 12th Ed P.No:16



TABLE 2.2 Glomerular Disorders in Patients With Glomerular Hematuria

DISORDER	PATIENTS
IgA nephropathy (Berger disease)	30
Mesangioproliferative GN	14
Focal segmental proliferative GN	13
Familial nephritis (e.g., Alport syndrome)	11
Membranous GN	7
Mesangiocapillary GN	6
Focal segmental sclerosis	4
Unclassifiable	4
Systemic lupus erythematosus	3
Postinfectious GN	2
Subacute bacterial endocarditis	2
Others	4
Total	100

GN, Glomerulonephritis; IgA, immunoglobulin A.

Modified from Fassett RG, Horgan BA, Mathew TH. Detection of glomerular bleeding by phase-contrast microscopy. *Lancet*. 1982;1(8287):1432-1434.

10. A 42 year old peri menopausal woman presents to urology OPD with history of dysuria and supra pubic discomfort for 3 days. Amidstream clean catch urine microscopy sample is sent and is being examined by a pathologist. The minimum no of bacteria per HPF that signifies a clinically significant bacteriuria is _____.

- a.1
- b.3
- c.5
- d.10

Ans:C

Ref: Campbell Walsh 12th Ed P.No:23

Normal urine should not contain bacteria; in a fresh uncontaminated specimen, the finding of bacteria is indicative of a UTI. Because each HPF views between 1/20,000 and 1/50,000 mL, each bacterium seen per HPF signifies a bacterial count of more than 30,000/mL. Therefore, 5 bacteria per HPF reflects colony counts of about 100,000/mL. This is the standard concentration used to establish the diagnosis of a UTI in a clean-catch specimen



11. All of the following are TRUE with respect to post contrast acute kidney injury except:

- a. it refers to an acute, sudden deterioration in kidney function within 48 hours after IV administration of contrast medium.
- b. The patients at highest risk for developing CIN are those with both diabetes and pre-existing renal insufficiency.
- c. in patients with renal insufficiency, metformin should be discontinued two days prior to study and withheld for 48 hours.
- d. The use of N-acetylcysteine for the prevention of CIN is controversial & there is insufficient evidence to make a definitive recommendation for its use.

Ans:C

Ref: Campbell Walsh 12th Ed P.No:32,33

Post contrast acute kidney injury (PC-AKI) is a nonspecific term assigned to an acute, sudden deterioration in kidney function within 48 hours after IV administration of contrast medium. Contrast-induced nephropathy (CIN) is specific for a sudden decrease in kidney function caused by IV administration of iodinated contrast medium.

The patients at highest risk for developing CIN are those with both diabetes and pre-existing renal insufficiency. The most common patient-related risk factors for CIN are chronic kidney disease (creatinine clearance <60 mL/min), diabetes mellitus, dehydration, diuretic use, advanced age, congestive heart failure, age, hypertension, low hematocrit, and ventricular ejection fraction less than 40%.

(The use of N-acetylcysteine for the prevention of CIN is controversial. Currently there is insufficient evidence to make a definitive recommendation for its use, and therefore it should not be considered a substitute for appropriate screening and hydration in patients with renal insufficiency, metformin should be discontinued the day of the study and withheld for 48 hours. Post procedure creatinine should be measured at 48 hours and metformin started once kidney function is normal.

12. Chromophobe RCC arises from _____ .

- A Proximal convoluted tubules
- B Loop of Henle
- C Distal convoluted tubules
- D Cortical collecting duct

Ref: Campbell text book of urology 12th Ed. P. No: 2152.

Explanation

This question is to enlighten the **update from previous edition**. Still confusion prevails because, old table is retained in new Ed which still quotes chromophobe RCC arises from IC cells of collecting ducts which is not right. Because 12ed quotes a paper from 2017 which says chromophobe RCC arises from distal convoluted tubules without any doubt.

RRM'S NEET SS



Recent genetic analysis has demonstrated that a common profile of mutations can contribute to this aggressive histology²¹, and combination chemotherapy regimens incorporating targeted therapies can be used for this splinter group²².

Clear cell, papillary, and chromophobe RCC have a commonality in that they all are thought to originate in the renal cortex: clear cell and papillary RCC in the proximal convoluted tubule and chromophobe RCC in the distal convoluted tubule^{12, 19, 20}. In contrast, other kidney tumors originate outside the renal cortex and include collecting duct (or Bellini's tumors) and medullary carcinomas. Both are thought to arise from the renal medulla. Relatively less is known about these rare kidney cancer subtypes. Collecting duct carcinomas were recognized as a distinct clinical diagnosis in the 1980s and are characterized by a tubulopapillary pattern and desmoplastic stroma²³ and in some cases are difficult to distinguish histologically from urothelial carcinomas. However, biologically they may be very different from urothelial carcinomas as the two cancers contain very different patterns of chromosomal gain and loss²⁴. Medullary carcinomas most commonly arise in young patients with sickle cell trait^{25, 26}. Even less is known about their molecular biology, although mutations in SMARCB1 appear to dominate their genetic profile²⁷, rendering them further distinct from the other histologic subtypes described.

3.2.4. Clinical Significance of Histologic Subtypes of Renal Cell Carcinoma—

While it is clear that several histologic subtypes exist within the RCC spectrum and detailed molecular studies have shed light on their divergent biology, enthusiasm for “splitting” this disease has been fueled by the clinical relevance of the subtypes. Specifically, the various histologic subtypes can vary greatly in prognosis. For example, initially it seemed that papillary RCC had a favorable prognosis relative to clear cell RCC⁷. However, with the emergence of histologic papillary RCC subtypes, the story became more complicated. It is now clear that the MET-driven papillary RCC type 1 tumors have a favorable prognosis with the majority of cases representing early stage disease while papillary RCC type 2 patients have a high rate metastasis and poor overall survival¹⁹. Distal tubule-derived chromophobe RCC rarely metastasizes and patients do well, while the tumors that arise from the renal medulla, namely collecting duct and medullary carcinomas, represent extremely aggressive disease with poor overall prognosis. In one series of renal medullary carcinoma, the mean survival was a mere 4 months²⁶. Thus, precise histologic subclassification can provide a profound contribution to the understanding of an individual patient's prognosis.

The clinical relevance of RCC histologic subtypes informs not only prognosis but, in some instances, can guide treatment decisions. For example, in the early studies of immunotherapy in RCC using high dose interleukin-2, it was observed that the response rate was superior for clear cell RCC relative to non-clear cell RCC subtypes for reasons that remain poorly understood²⁸. These observations have been validated in more recent prospective analyses as well²⁹.

However, a new class of medications would cause a dramatic shift in the design of prospective RCC trials. As discussed before, the molecular hallmark of clear cell RCC (but not other subtypes) is biallelic loss of *VHL* with resultant HIF stabilization and inappropriate hypoxia signaling, including profound increases in angiogenesis signaling¹³.

13. Various radio pharmaceutical agents are handled differently by the kidneys. Find the correct pair among the following:

- a. ^{99m}Tc -DMSA- glomerular filtration
- b. ^{99m}Tc -DTPA- glomerular filtration&tubular secretion
- c. ^{99m}Tc -MAG3- tubular secretion
- d. All of the above

Ans: C

Ref: Campbell Walsh 12th Ed P.No:33

Technetium ^{99m}Tc -diethylenetriamine pentaacetic acid (^{99m}Tc -DTPA) is primarily a glomerular filtration agent. It is most useful for evaluation of obstruction and renal function. Because it is excreted through the kidney and dependent on GFR, it is less useful in patients with renal failure because impaired GFR may limit adequate evaluation of the collecting system and ureters. Technetium ^{99m}Tc -dimercaptosuccinic acid (^{99m}Tc -DMSA) is cleared by filtration and secretion. Technetium ^{99m}Tc -mercaptoacetyl triglycine (^{99m}Tc -MAG3) is an excellent agent for imaging because of its photon emission, 6-hour half-life, and ease of preparation. It is cleared mainly by ^{99m}Tc -MAG3.

14. Which among the following PET tracer gives us a measure of bone status in the body?

- a. ^{18}F -FDG Glucose
- b. ^{18}F -NaF Fluoride
- c. ^{11}C -acetate
- d. ^{18}F -FACBC Amino-fluorocyclobutanecarboxylic acid

Ans: B

Ref: Campbell Walsh 12th Ed P.No:45, table:3-4

One of the most rapidly changing areas of imaging in urologic oncology is in the use of PET/CT and PET/MRI. Depending on the radiotracer used, PET offers diagnostic information based on glucose, choline, or amino acid metabolism and has been applied to imaging tumor cell proliferation and tissue hypoxia in urologic malignancies.



TABLE 3.4 PET Tracer in Urologic Oncology

BIOLOGIC ANALOG	PROCESS TARGETED	EFFECT
¹⁸ F-FDG Glucose	Glucose transporters and hexokinases	Aerobic and anaerobic glycolysis, glucose consumption
¹¹ C-choline Choline	Choline kinase	Cell membrane metabolism, tumor proliferation
¹⁸ F-choline Choline	Choline kinase	Cell membrane metabolism, tumor proliferation
¹¹ C-acetate Acetate	Tricarboxylic acid cycle and fatty acid synthase	Lipid synthesis
¹⁸ F-FDHT Testosterone	Androgen receptor	Measures androgen receptor
¹⁸ F-NaF Fluoride	Hydroxyl and bicarbonate ions of bone hydroxyapatite	Measures bone status
¹⁸ F-FMISO NA	Measures hypoxia	Tumor hypoxia
¹⁸ F-FLT NA	Thymidine kinase	Nucleic acid synthesis, tumor proliferation
¹⁸ F-FACBC Amino-fluorocyclobutane-carboxylic acid	Neutral A-A type amino acid uptake and protein synthesis	Protein synthesis
⁶⁸ Ga-PSMA Prostate-specific membrane antigen	Prostate cell surface protein	Tumor aggressiveness, androgen independence

Data from Kazuhiro K, Shingo Y, Kazuhito F, et al: Update on advances in molecular PET in urological oncology. *Jpn J Radiol* 34:470-485, 2016.

15. Multiparametric Ultrasound is the new evolving technology. Which of the following component of mpUS gives us the more information about the tissue structure?

- grayscale
- contrast-enhancement
- elastography
- Doppler

Ans:C

Ref: Campbell Walsh 12th Ed P.No:75-77,Figure:4.22

Multiparametric Ultrasound :The emergence of multiple modalities of ultrasound, including grayscale,Doppler, elastography, contrast-enhancement, and computerenhancedimaging, has given rise to the concept of multiparametricultrasound (mpUS). Just as multiparametric MRI (mpMRI) offersexcellent anatomic resolution with T2-weighted imaging, ultrastructuralhistology with water diffusion, and vascularity with contrast enhancement,mpUS is able to address all of those tissue properties in realtime. mpUS is already used in transrectal ultrasound of the prostate.



Attribute	Ultrasound	MRI
Anatomic resolution	2.3 mm (7.5 mHz)	1 mm
Vascularity	<ul style="list-style-type: none"> • Microbubbles • No problem with renal insufficiency 	<ul style="list-style-type: none"> • Gadolinium • NSF
Tissue structure	Elastography: 1) Strain 2) Shear	H ₂ O diffusion/ADC
Chemical characteristics		Choline/spectroscopy
Access for biopsy	<ul style="list-style-type: none"> • Real-time • Infinite flexibility 	<ul style="list-style-type: none"> • Fusion techniques • In-bore

Fig. 4.22. Multiparametric ultrasound is compared with MRI. ADC, Apparent diffusion coefficient; NSF, systemic nephrogenic fibrosis.

16. A 65 year old male presented with hematuria and was subsequently diagnosed with muscle invasive TCC bladder. During his pre-operative workup, he is able to take care of himself without any assistance, but is unable to carry out his routine normal work. His Karnofsky performance score is likely to be _____.

- a.90
- b.70
- c.60
- d.50

Ans: B

Ref: Campbell Walsh 12th Ed P.No:107, table:6.4



TABLE 6.4 Comparison of Karnofsky Performance Score to ECOG Grade

KARNOFSKY STATUS	KARNOFSKY SCORE	ECOG GRADE	ECOG STATUS
Normal, no complaints	100	0	Fully active and able to carry out all predisease performance without restriction
Able to carry on normal activities. Minor signs or symptoms of disease.	90	1	Restricted in physically strenuous activity but ambulatory and able to carry out light work/activity
Normal activity with effort	80	1	Restricted in physically strenuous activity but ambulatory and able to carry out light work/activity
Can care for self but unable to carry on normal activity or to do active work	70	2	Ambulatory and capable of all self care but unable to carry out work activities. Up and about for more than 50% of waking hours.
Requires occasional assistance but able to care for most of one's own needs	60	2	Ambulatory and capable of all self care but unable to carry out work activities. Up and about for more than 50% of waking hours.
Requires considerable assistance and frequent medical care	50	3	Capable of only limited self care. Confined to bed or chair more than 50% of waking hours.
Disabled. Requires special care and assistance.	40	3	Capable of only limited self-care. Confined to bed or chair more than 50% of waking hours.
Severely disabled. Hospitalization may be indicated although death not imminent.	30	4	Completely disabled. Cannot carry out self care. Totally confined to bed or chair.
Very sick. Hospitalization required. Active supportive treatment necessary.	20	4	Completely disabled. Cannot carry out self care. Totally confined to bed or chair.
Moribund	10	4	Completely disabled. Cannot carry out self care. Totally confined to bed or chair.
Dead	0	5	Dead

Modified from Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group, *Am J Clin Oncol* 5(6):649-655, 1982.

17. Which of the following outcome tool is considered as the Gold standard for patient reported outcomes in male sexualdysfunction?

- a. Sexual Health Inventory for Men (SHIM)
- b. Psychological Impact of Erectile Dysfunction (PIED) scale
- c. International Index of Erectile Function (IIEF)
- d. Sexual Quality of Life for Men (SQOL-M)

Ans: C

Ref: Campbell Walsh 12th Ed P.No:112, table:6.7



TABLE 6.7 Selected Patient-Reported Outcomes Tools for Use in Men With Sexual Dysfunction

INSTRUMENT	LEAD AUTHOR, YEAR	NUMBER OF ITEMS	DESCRIPTION
International Index of Erectile Function (IIEF)	Rosen et al., 1997	15	Gold standard for patient reported outcomes in male sexual dysfunction; generates scores in erection, libido, and orgasm domains.
Sexual Health Inventory for Men (SHIM)	Cappelleri et al., 2005	5	Consists of the 5 IIEF items that address erection.
QOL-MED	Wagner et al., 1996	18	Assesses HRQoL impact of erectile dysfunction (ED) but assumes a partner is present and that the subject is heterosexual.
Psychological Impact of Erectile Dysfunction (PIED) scale	Latini et al., 2002	16	Examines impact of ED on sexual life and overall emotional state; function not assessed.
Index of Premature Ejaculation (IPE)	Althof et al., 2006	10	Focused on ejaculatory function. Generates scores in three domains: control, sexual satisfaction, and distress.
Sexual Quality of Life for Men (SQOL-M)	Abraham et al., 2008	11	Addresses ejaculatory and ED but not libido issues. Correlates well with the overall satisfaction domain of the IIEF.

18. A 70 year old chronic smoker with previous history of atrial fibrillation on oral warfarin therapy presents with hematuria for past 3 days. His CECT revealed a small sessile tumour in the dome of bladder and a TURBT is planned for him. What is the recommended duration for cessation of warfarin before taking him up for surgery?

- a.3 days
- b.5 days
- c.7 days
- d.10 days

Ans:B

Ref: Campbell Walsh 12th Ed P.No:123

The pharmacologic half-life of warfarin is 36 to 42hours, and therefore most guidelines recommend cessation of therapy 5 days before surgery to ensure an INR less than 1.5.In general, the2012 American College of Chest Physicians (ACCP) guidelines recommends that patients in the moderate- and high-risk groups undergo bridging anticoagulation with therapeutic-dose subcutaneous low–molecular-weight heparin or intravenous unfractionated heparin.

19. During an open right radical nephrectomy for a case of 10*8 cm upper pole renal tumour,intra operatively dense adhesions noted between tumour and duodenum. During dissection, there was an inadvertent breach in the 2nd part of duodenum and spillage of bile noted. This comes under _____ wound classification.

- a.clean
- b.clean contaminated

- Prepared by: Dr.U.Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-
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c.contaminated

d.dirty infected

Ans:C

Ref: Campbell Walsh 12th Ed P.No:128,Box-8.4

BOX 8.4 Surgical Wound Classification	
CLEAN	<ul style="list-style-type: none"> • Uninfected wound without inflammation or entry into the genital, urinary, or alimentary tract • Primary wound closure, closed drainage
CLEAN CONTAMINATED	<ul style="list-style-type: none"> • Uninfected wound with controlled entry into the genital, urinary, or alimentary tract • Primary wound closure, closed drainage
CONTAMINATED	<ul style="list-style-type: none"> • Uninfected wound with major break in sterile technique (gross spillage from gastrointestinal tract or nonpurulent inflammation) • Open fresh accidental wounds
DIRTY INFECTED	<ul style="list-style-type: none"> • Wound with preexisting clinical infection or perforated viscera • Old traumatic wounds with devitalized tissue

Data from Garner JS. CDC guideline for prevention of surgical wound infections, 1985. Supersedes guideline for prevention of surgical wound infections published in 1982. (Originally published in 1995.) Revised. *Infect Control*. 1986;7(3):193–200; Simmons BP. Guideline for prevention of surgical wound infections. *Infect Control*. 1982;2:185–196.

20. A 30 year old otherwise healthy male presents to urology OPD with history of poor urinary stream for past 1 year. His uroflow shows a Qmax-9ml/sec. A simple diagnostic office flexible cystoscopy was planned on him. What is the ideal antibiotic prophylaxis need for him?

A.single dose ciprofloxacin

d.single dose Amikacin

c.single dose co trimoxazole

d.No need for antibiotic coverage

Ans:D



Ref: Campbell Walsh 12th Ed P.No:129, Table-8.5

TABLE 8.5 American Urological Association Best Practice Statement on Recommended Antimicrobial Prophylaxis for Urologic Procedures

PROCEDURE	ORGANISM	PROPHYLAXIS INDICATED	ANTIMICROBIALS OF CHOICE	ALTERNATIVE ANTIMICROBIALS	DURATION
LOWER URINARY TRACT INSTRUMENTATION					
Removal of external urinary catheter	GU tract	If risk factors	Fluoroquinolone TMP-SMX	Aminoglycoside ± ampicillin First- or second- generation cephalosporin Amoxicillin/clavulanate	≤24 hr
Cystography, urodynamic study, or simple cystoscopy	GU tract	If risk factors	Fluoroquinolone TMP-SMX	Aminoglycoside ± ampicillin First- or second- generation cephalosporin Amoxicillin/clavulanate	≤24 hr
Cystoscopy with manipulation	GU tract	All	Fluoroquinolone TMP-SMX	Aminoglycoside ± ampicillin First- or second- generation cephalosporin Amoxicillin/clavulanate	≤24 hr
Prostate brachytherapy or cryotherapy	Skin	Uncertain	First-generation cephalosporin	Clindamycin	≤24 hr
Transrectal prostate needle biopsy	Intestine	All	Fluoroquinolone Second- or third- generation cephalosporin	Aminoglycoside + metronidazole or clindamycin	≤24 hr

21. The Gibson incision- find the wrong statement:

- The Gibson incision is the traditional approach for renal transplant and transplant nephrectomy.
- This musclesplittingincision provides great extra peritoneal access to pelvic vessels, the lower ureter, and the bladder
- The traditional pelvic Gibson incision is an oblique or curvilinearincision from ASIS to rectus
- modified J-shaped or “hockey-stick” shapedGibson’s incision is associated with lower incidence of hernia.

Ans:D

Ref: Campbell Walsh 12th Ed P.No:135

The Gibson incision is the traditional approach for renal transplantand transplant nephrectomy. This musclesplittingincision provides great extraperitoneal access to pelvic vessels,the lower ureter, and the bladder for benign and malignant diseaseand is also utilized as part of minimally invasive nephrectomy forspecimen extraction or use of a hand port. The traditional pelvic Gibson incision is an oblique or curvilinearincision from a few centimeters medial to the anterior superior iliacspine (ASIS) extending down toward the inguinal fold and terminatingjust lateral to the rectus uscle. Recently, this incisionhas been



modified to be more J-shaped or “hockey-stick” shaped, although some retrospective comparisons have found this leads to higher hernia rates.

22. The normal calibre of urethra is given below. Choose the incorrect pair

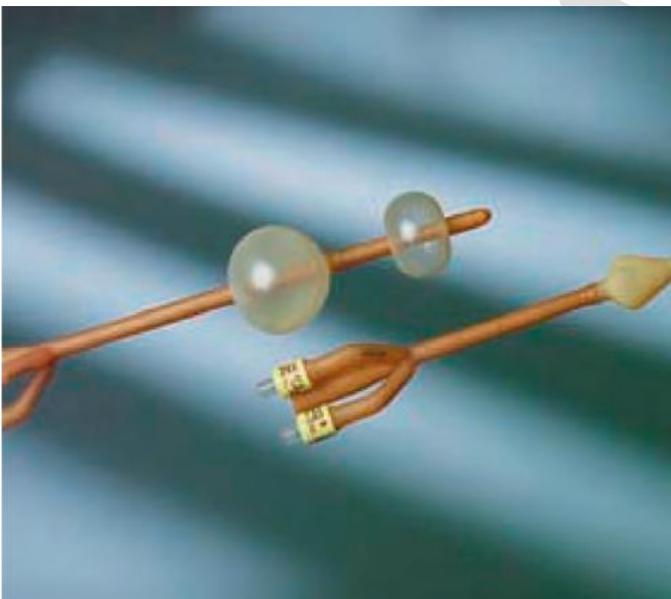
- a. external meatus – 24Fr
- b. bladder neck – 28 Fr
- c. prostatic urethra – 32 Fr
- d. female urethra – 24 fr

Ans:D

Ref: Campbell Walsh 12th Ed P.No:152

The average normal male meatus should accommodate a 24-Fr instrument or catheter. The prostatic urethra should accommodate a 32-Fr instrument and the bladder neck a 28-Fr catheter or instrument. The normal caliber of a female urethra is 22 Fr.

23. Identify this catheter



- a. double lumen foley catheter
- b. hematuria catheter
- c. laipede diagnostic catheter
- d. Davis & Tratner diagnostic catheter

Ans:D



Ref: Campbell Walsh 12th Ed P.No:155, Fig 11.3

The Lapides Diagnostic Foley catheter has five radiopaque rings, each 1 cm apart for calibration of female urethra length. The Davis and Trattner Diagnostic Foley catheters were used to diagnose urethral diverticula in females. These catheters have two balloons, one for the bladder neck and one to seal the meatus so that contrast can be instilled in the urethra.

24. A 80 year old elderly male who is already diagnosed with BPH and on alpha blockers is brought to the casualty with acute urinary retention for past 4 hours. As a duty urologist, you are called in for difficult catheterisation. What would be your choice for attempting catheterisation in this patient?

- A. 14 Fr Foley catheter
- b. 18 Fr Coude tip catheter
- c. Supra pubic catheter
- d. flexible cystoscopy before attempting catheterisation

Ans: B

Ref: Campbell Walsh 12th Ed P.No:157

If BPH is suspected, ideally the clinician should use at least an 18-Fr catheter with a coude tip. The coude tip was developed to follow the angle of the male urethra. There is a small raised marker on the end of the coude catheter that shows the orientation of the tip. The clinician should ensure this mark is always anterior, which will point the coude tip anteriorly. Usually the combination of a coude tip and at least an 18-Fr catheter is sufficient to advance a catheter in a man with prostatic obstruction.

If a false passage has been created, cystoscopy is indicated to not exacerbate the extent of the false passage. If blood is noticed in the catheter port or at the tip of the catheter once removed after difficulty with passage, a false passage should be suspected. Using cystoscopy allows the clinician to visually traverse a false passage, usually by angling the camera anteriorly, and a guidewire can be placed once the bladder is entered. A coude tip catheter may then be used, which is passed over the wire.



Difficult Catheter Algorithm

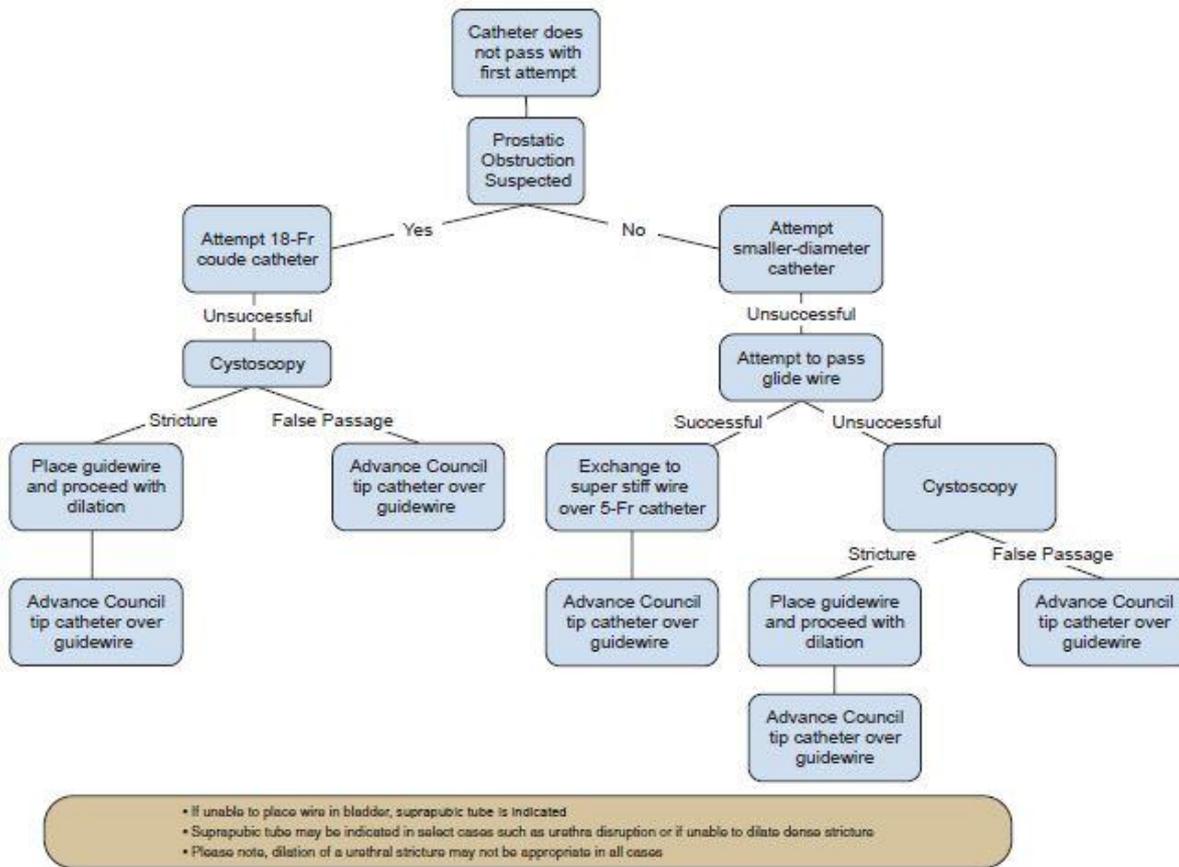


Fig. 11.8. Algorithm for difficult catheter placement.

25. The ascending and descending colon can be lateral or even posterior to the right and left kidneys, respectively. The apposition of the colon to the kidney varies with location; it is greatest on the _____.

- a. left side and at the lower pole
- b. left side and at the upper pole
- c. right side and at the lower pole
- d. right side and at the upper pole

Ans:A

Ref: Campbell Walsh 12th Ed P.No:161

The ascending and descending colon can be lateral or even posterior to the right and left kidneys, respectively. The apposition of the colon to the kidney varies with location; it is greatest on the left side and at the lower pole.



- RRM'S NEET SS-UROLOGY-AIIMS MODEL EXAM-1ST NOVEMBER-2020 -

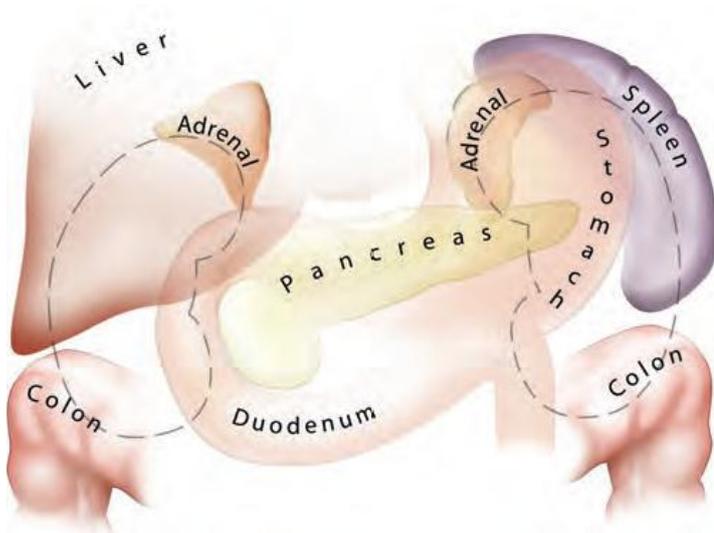
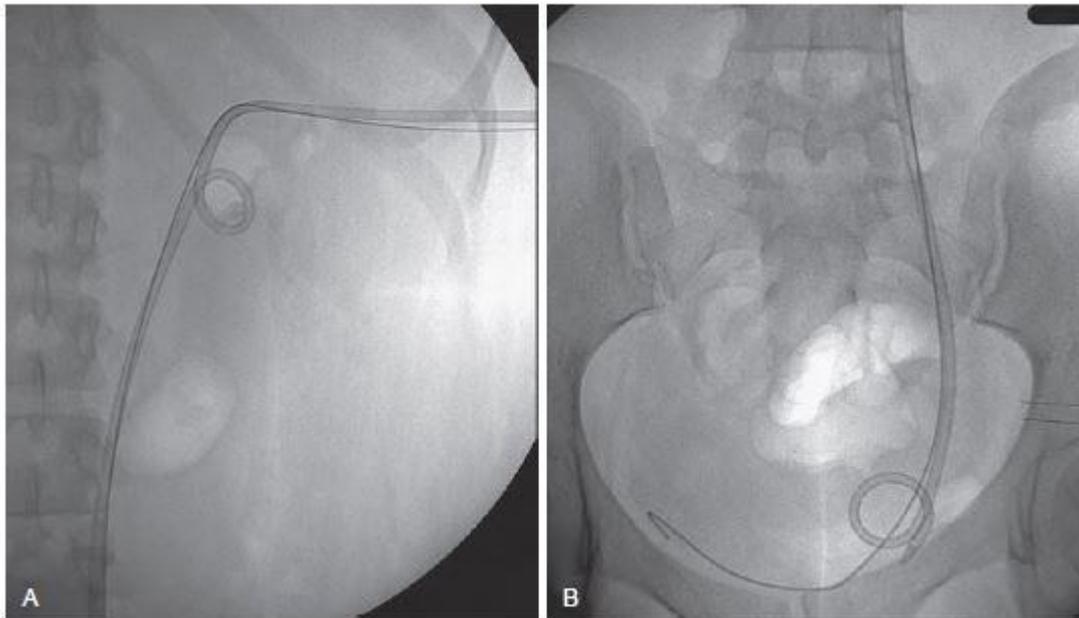


Fig. 12.3. Viscera lateral, anterior, and medial to the kidneys.

26. Identify this:



- Balloon Catheters
- Cope Catheter
- Nephroureteral Stent
- Circle Catheter

Ans:C

Ref: Campbell Walsh 12th Ed P.No:174

- Prepared by: Dr.U.Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-
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A nephroureteral stent has a renal coil like that of a Cope nephrostomy tube, but the tube continues to a ureteral extension that travels down the ureter to end in a passive pigtail that rests in the bladder (Figs. 12.26A, B). The ureteral portion can be the same diameter as the nephrostomy portion, or it can be narrower. A nephroureteral stent is passed percutaneously over a wire that ends in the bladder. A nephroureteral stent offers excellent control of the entire upper urinary tract, from renal pelvis to bladder, and is unlikely to become dislodged.

27. Delayed hemorrhage post PCNL-find the wrong statement .

- a. In most instances, bleeding occurs approximately 1 week after surgery.
- b. the most common cause of delayed hemorrhage is arteriovenous fistulas.
- c. angiography is diagnostic.
- d. angioembolization is usually effective.

Ans: B

Ref: Campbell Walsh 12th Ed P.No:178,179

Delayed haemorrhage is usually caused by arteriovenous fistulas or arterial pseudoaneurysms, with the latter being more common. Arteriovenous fistulas occur when a paired set of artery and vein are injured, and arterial blood enters directly into the vein. The weak vein wall cannot sustain the high arterial pressure and ruptures. An arterial pseudoaneurysm occurs when an artery is injured, clots off, and then intermittently ruptures, often clotting off again at variable intervals. In most instances, bleeding occurs approximately 1 week after surgery. The patient may complain of flank pain associated with hematuria if the bleeding is associated with clot formation, which can cause obstruction and mimic renal colic. Cases of suspected arteriovenous fistula or pseudoaneurysm should be promptly evaluated with angiography, which is diagnostic in more than 90% of cases and allows for subsequent treatment in the same setting in most instances. Both arteriovenous fistulae and pseudoaneurysms are treated with selective angioembolization, which is usually effective. An alternative is placement of a covered stent to occlude the site of arterial injury, which has the benefit of preserving downstream renal parenchyma because renal blood flow is preserved.

28. A 50 year old male chronic smoker with severe COPD was diagnosed with left renal tumour and planned for laparoscopic left radical nephrectomy. his preanaesthetic check-up reveals that the patient is hypercarbic with poor pulmonary reserve. What is the ideal choice of insufflant in this setting?

- A. CO₂
- B. nitrous oxide
- c. Helium
- d. not suitable for laparoscopy

Ans: C



Ref: Campbell Walsh 12th Ed P.No:220

Helium is an inert and noncombustible insufflant. Initial studies performed in various animal models showed favorable effects on arterial partial pressure of CO₂ and pH with no evidence of hypercarbia. Therefore helium is particularly useful for the patient with pulmonary disease in whom hypercarbia would be poorly tolerated. Likewise, if hypercarbia develops during a laparoscopic procedure with CO₂, rather than aborting the procedure or converting to an open approach, the surgeon can change the insufflant to helium and usually salvage the case.

29. Thunderbeat -all are true except:

- it is a bipolar electro-surgical device
- vessels up to 5 mm in diameter can be sealed
- The heat generated is usually less than Ligasure.
- cause the denaturation of proteins and the formation of a coagulum that can seal small vessels

Ans:A

Ref: Campbell Walsh 12th Ed P.No:237

Ultrasonic devices offer an alternative to electro-surgical instruments. These devices have elements that vibrate at ultrasonic frequencies of approximately 55,000 Hz. Mechanical energy and heat are generated, and these cause the denaturation of proteins and the formation of a coagulum that can seal small vessels. Depending on the instrument, vessels 2 to 3 mm in diameter can be sealed, and vessels up to 5 mm in diameter can be sealed with some newer instruments. Newer instruments also produce less heat and charring to the surrounding tissue, limiting thermal injury. The heat generated is usually less than 80°C. Examples of such devices are the Ultra Shears (Covidien), Harmonic Scalpel (Ethicon Endo-Surgery, Johnson & Johnson, New Brunswick, NJ), and Thunder beat (Olympus, Tokyo, Japan). The Harmonic scalpel has been shown to allow for effective tissue dissection and bleeding control during laparoscopic partial nephrectomy

30. Cyberwand-all are true except:

- The CyberWand uses an ultrasonic hand piece producing vibrational energy by means of a piezoceramic crystal.
- Disposable probes are made of an inner 2.77-mm and outer 3.75-mm cylindrical metal tube.
- the inner probe acts like a pneumatic lithotripter whereas the outer probe acts like a ultrasonic lithotripter
- The hollow lumen of the inner sheath of the probe incorporates irrigation suction, which simultaneously clears stone debris during fragmentation while cooling the hand piece.

Ans:C

Ref: Campbell Walsh 12th Ed P.No:245



The CyberWand uses an ultrasonic hand piece producing vibrational energy by means of a piezoceramic crystal. Disposable probes are made of an inner 2.77-mm and outer 3.75-mm cylindrical metal tube. The inner probe screws onto the handset, extending 1 mm past the tip of the outer sheath. The fixed inner probe vibrates at a frequency of 21,000 Hz. Because of a free mass washer and dampening spring, the free-floating outer probe vibrates at approximately 1000 Hz, oscillating longitudinally 1 mm. Selecting "large stone" on the foot pedal couples both sheaths. Ultrasonic energy from the inner sheath is transmitted to the outer sheath, which moves in a ballistic manner, similar to pneumatic lithotripters. The "small stone" pedal allows for finer control and activates only the ultrasonic action of the inner probe. The hollow lumen of the inner sheath of the probe incorporates irrigation suction, which simultaneously clears stone debris during fragmentation while cooling the hand piece.

31. A 65 year old female with past history of carcinoma cervix and pelvic RT 10 years back, presents to casualty with history of gross hematuria for past 2 days. Hematuria is intractable and persists despite cystoscopic clot evacuation and bladder irrigation. What is the next line of treatment in this patient?

- a. intravesical 1% formalin instillation
- b. intravesical 4% formalin instillation
- c. intravesical Alum instillation
- d. Hyperbaric oxygen therapy

Ans: C

Ref: Campbell Walsh 12th Ed P.No:254

For hematuria that persists despite such conservative measures, various agents have been investigated for bleeding control. Alum (aluminum ammonium sulfate or aluminium potassium sulfate) may be dissolved in sterile water (50 g alum in a 5-L bag of sterile water [1% alum solution]) and then used to irrigate the bladder at a rate of 200 to 300 mL/h. Through its action as astringent at sites of bleeding, alum may cause protein precipitation on the urothelial lining and thereby stimulate vasoconstriction and a decrease in capillary permeability. Systemic absorption may nevertheless occur and may result in aluminum toxicity, with consequent mental status changes, particularly among patients with renal insufficiency. However, alum may be instilled without anesthesia and has overall relatively favorable efficacy and safety profiles. Thus this agent may be considered for first-line intravesical therapy among patients with hemorrhagic cystitis failing initial supportive measures, particularly among those without renal insufficiency.

32. Laparoscopic right pyeloplasty was planned for a 17 year old girl diagnosed with right congenital PUJ obstruction. Pneumoperitoneum is created using Veress needle insertion at the level of umbilicus. The most likely vessel injured directly with an umbilical Veress needle is _____ .

- a. abdominal aorta
- IVC
- c. left common iliac vein
- d. right common iliac vein

- Prepared by: Dr. U. Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-

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Ans:C

Ref: Campbell Walsh 12th Ed P.No:271

Particular care is necessary at the level of the umbilicus given the proximity of the common iliac vessels and the aortic bifurcation. The relationship of the umbilicus to the iliac bifurcation varies widely from 5 cm cephalad to 3 cm caudally in both supine and Trendelenburg positions, and it is not always considered a reliable anatomic landmark for safer access. The most likely vessel injured directly with an umbilical Veress is the left common iliac vein.

33. The most important cause for physiological hydronephrosis in pregnancy is:

- a. Increased circulating progesterone during pregnancy results in relaxation of ureteral smooth muscle.
- b. mechanical factors such as compression of the gravid uterus on the ureters
- c. both humoral and mechanical factors are equally contributory
- d. none of the above

Ans:B

Ref: Campbell Walsh 12th Ed P.No:286

Both humoral and mechanical factors have been implicated in the cause of hydronephrosis in pregnant women. Increases of circulating progesterone during pregnancy results in relaxation of ureteral smooth muscle, potentially reducing peristalsis. Recent evidence suggests that mechanical factors such as compression of the gravid uterus on the ureters is likely to be primary in the pathogenesis of hydronephrosis of pregnancy because of right predominance and rare dilation below the pelvic brim. Mixed data exist regarding women with altered urinary anatomy and hydronephrosis, but in general mechanical compression as a mechanism predominates.

34. The incidence of bladder injury is most common with which of the following pelvic surgeries?

- a. Cesarean section
- b. Vaginal hysterectomy
- c. Transvaginal tape placement
- d. Laparoscopic hysterectomy

Ans:C

Ref: Campbell Walsh 12th Ed P.No:299



TABLE 19.2 Incidence of Bladder Injury in Common Pelvic Surgeries

SURGERY	INCIDENCE OF BLADDER INJURY	AUTHORS
Cesarean section	0.28%–0.47%	Phipps et al., 2005 Rahman et al., 2009 Salman et al., 2017 Wong et al., 2018
Laparoscopic total hysterectomy	0.75%	Wong et al., 2018
Laparoscopic supracervical hysterectomy	0.29%	Wong et al., 2018
Laparoscopic-assisted vaginal hysterectomy		Wong et al., 2018
Vaginal hysterectomy	0.51%	Teeluckdharry et al., 2015
Abdominal hysterectomy	0.58%	Teeluckdharry et al., 2015
Transvaginal tape placement	3%–9%	Sharp and Adelman, 2016
Transobturator tape placement	0.5%	Sharp and Adelman, 2016
Hernia repair (inguinal surgery)	0.08%–0.3%	Summerton et al., 2012
Laparoscopic hernia repair	1.6%	Gomez et al., 2004

35. In dysuric patients, an appropriate threshold value for defining significant bacteriuria is:

- a 100 cfu/mL of a known pathogen
- b 1000 cfu/mL of a known pathogen
- c 10,000 cfu/mL of a known pathogen
- d 100,000 cfu/mL of a known pathogen

Explanation

Ans: A

Ref: Campbell Walsh 12th Ed P.No:1142

Historically, a colony count of at least 10⁵ CFU/mL of urine was used to diagnose a UTI. Initially, this colony count confirmed diagnosis of pyelonephritis but has subsequently been employed to make a

- Prepared by: Dr.U.Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-
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diagnosis of cystitis as well. However, many studies have demonstrated that women with dysuria may have lower bacterial colony counts. Indeed, 20% to 40% of women with symptomatic UTIs have bacterial counts of 10² to 10⁴ CFU/mL of urine, probably because of the slow doubling time of bacteria in urine (every 30 to 45 minutes) combined with frequent bladder emptying (every 15 to 30 minutes) from irritation. Thus, in dysuric patients, an appropriate threshold value for defining significant bacteriuria is 10² CFU/mL of a known pathogen.

36. An infection that has not responded to antimicrobial therapy and is documented to be the same organism with a similar resistance profile is called as:

- a Isolated infection
- b Recurrent infection
- c Re-infection
- d Unresolved infection

Explanation

Ans: D (page 1130 Campbell 12th edition) first or isolated infection: that occurs in an individual who has never had a UTI or has one remote infection from a previous UTI. A recurrent infection is that occurs after documented, successful resolution of an antecedent infection. Reinfection describes a new event associated with reintroduction of bacteria into the urinary tract from outside. Bacterial persistence refers to a recurrent UTI caused by the same bacteria reemerging from a focus within the urinary tract, such as an infectious stone or the prostate. Relapse is frequently used interchangeably.

37. Aberrant methylation of the CpG island at the glutathione-S-transferase pi (GSTP1) locus is the most frequent somatic genome alteration reported in

- a Renal cancer
- b Prostate cancer
- c Bladder cancer
- d All the above

Explanation

Ans: B (page 1349 Campbell 12th edition) Methylation of GSTP1 has been detected in greater than 90% of prostate carcinomas and approximately 70% of prostatic intraepithelial neoplasia (PIN)



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38. In patients with spinal cord injury there will be no psychogenic erection if the lesion

- a Above T9
- b Below T9
- c Above T12
- d Below T12

Explanation

Ans: A (page 1490 Campbell 12th edition)

Many men with sacral spinal cord injury retain psychogenic erectile ability even though reflexogenic erection is abolished. These cerebrally elicited erections are found more frequently in patients with lower motor neuron lesions below T12.

39. First line test for evaluation of penile blood flow is:

- a Combined Intracavernosal Injection and Stimulation
- b Duplex Ultrasonography
- c Dynamic Infusion Caverosometry and Caverosography
- d Penile Angiography

Explanation

Ans: A (page 1521 Campbell 12th edition)

The combined intracavernosal injection and stimulation (CIS) test is a first-line evaluation of penile blood flow because of its very basic manner of administration and assessment. The test involves the intracavernosal injection of a vasodilatory drug or drugs as a direct pharmacologic stimulus, Combined with genital or audiovisual sexual stimulation, and the erectile response is observed and rated by an independent assessor. (Regimens include alprostadil alone (Caverject or Edex, 10 to 20 μ g), a combination of papaverine and phentolamine (Bimix, 0.3 mL), or a mixture of all three of these agents (Trimix, 0.3 mL). The procedure requires a syringe with a 5/8th inch needle (27 to 29 gauge), which is inserted at the lateral base of the penis directly into the corpus cavernosum for medication delivery. A normal CIS test, based on the assessment of a sustainably rigid erection, is understood to signify normal erectile hemodynamics.



40. what is the investigation that is being done here?



- a. Penile Near Infrared Spectrophotometry
- b. Dynamic Infusion Cavrosometry and Cavrosography
- c. Duplex Ultrasonography
- d. Nocturnal penile tumescence (NPT) monitoring

Ans: D

Ref: Campbell Walsh 12th Ed P.No:1525

RigiScan is an automated, portable device used for NPTR, which combines the monitoring of radial rigidity, tumescence, number, and duration of erectile events. The device employs two loops, one placed at the base of the penis and the other placed at the coronal sulcus (respectively, base and tip recording sites), and these loops record penile tumescence (circumference) and radial rigidity with timed, standardized constrictions of the loops. RigiScan can accurately predict veno-occlusive dysfunction



41. Identify this device:



- A Malleable prosthesis
- B Two-piece hydraulic prosthesis
- C Three-piece hydraulic prosthesis
- D Zero Degree angle cylinders

Ans:B

Ref: Campbell Walsh 12th Ed P.No:1582,1583

There are two categories of penile implants, hydraulic and semirigidrod. The hydraulic group comprises the three-piece inflatable and the two-piece inflatable devices. The three-piece inflatable implant is composed of two cylinders with one placed in each corpus cavernosum. These are connected by tubing to a pump located in the scrotum, which, in turn, is connected to an abdominal reservoir. The two-piece inflatable implant, the Ambicor of Boston Scientific, comprises a scrotal pump and two cylinders, one placed in each corporal body. Pressing the pump pushes fluid from a reservoir chamber located in the proximal portion of each cylinder to the power chamber, the longer distal part of the cylinder.

42. A 1 year old male child is diagnosed with a renal tumour and a pediatric urologist plans for a left nephrectomy in this child through a dorsal lumbotomy approach. Which of the following muscles need to be cut before reaching the kidney in this approach?

- a. erector spinae
- b. latissimus dorsi
- c. quadratus lumborum
- d. none of the above



Ans:D

Ref: Campbell Walsh 12th Ed P.No:1665,1666

The retroperitoneum can be entered without incising muscle using a dorsal lumbotomy incision. This approach uses a vertical incision through the lumbodorsal fascia lateral to the erector spinae and quadratus lumborum muscles.

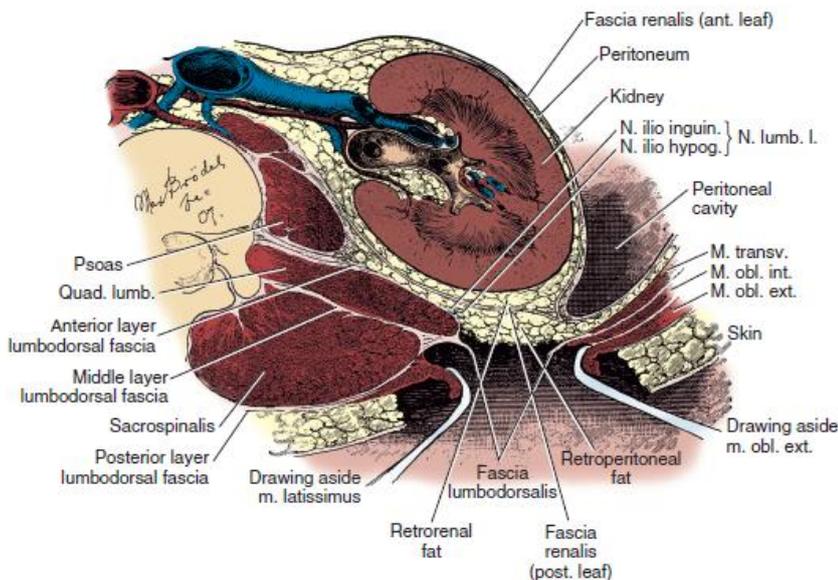


Fig. 75.13. Transverse section through the kidney and posterior abdominal wall showing the lumbodorsal fascia incised. Through such a lumbodorsal incision, the kidney can be reached without incising muscle. (From McVay C: Anson & McVay surgical anatomy, ed 6, Philadelphia, 1994, Saunders.)

43. Which of the following statement is false with respect to Gerota Fascia and Perirenal Space?

- The anterior lamina (fascia of Toldt or prerenal fascia) and the posterior lamina (fascia of Zuckerkandl or retrorenal fascia) of the renal fascia are derived from the intermediate stratum
- The perirenal fat is finer and lighter yellow than the coarser yellow-orange pararenal fat.
- These 2 layers are fused at hilum and do not communicate to the opposite side across the midline below the level of the renal hilum.
- The perirenal space has a conelike shape that is open at its inferior extent in the extraperitoneal pelvis known as space of Bogros.

Ans:C

Ref: Campbell Walsh 12th Ed P.No:1665,1666

The anterior lamina (fascia of Toldt or prerenal fascia) and the posterior lamina (fascia of Zuckerkandl or retrorenal fascia) of the renal fascia are derived from the intermediate stratum, which embeds the



genitourinary organs. The two laminae together form the renal fascia, eponymously named Gerota fascia. The perirenal space contains the adrenal, kidney, ureter, perirenal fat, renal vascular pedicle, and gonadal vessels. The perirenal fat is finer and lighter yellow than the coarser yellow-orange pararenal fat. This color distinction can be helpful during colon mobilization for retroperitoneal surgery. There may be some communication across the midline below the level of the renal hilum. The perirenal space has a cone-like shape that is open at its inferior extent in the extraperitoneal pelvis. These boundaries are of clinical significance in the pathology of urologic disease because they function to contain perinephric fluid collections.

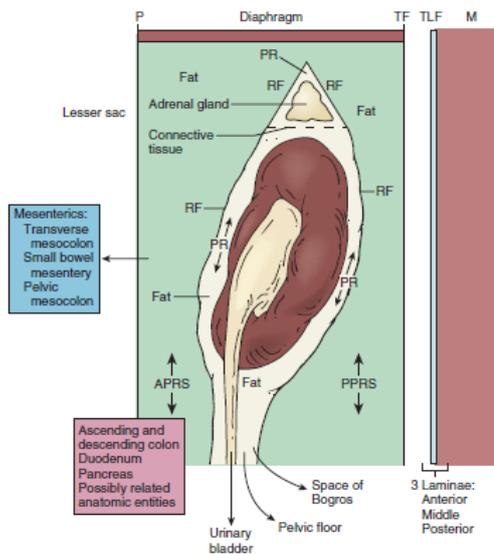


Fig. 75.1. Diagram of retroperitoneal spaces. APRS, Anterior pararenal space; M, muscles; P, peritoneum; PPRS, posterior pararenal space; PR, perirenal space; RF, renal fascia (Gerota fascia); TF, transversalis fascia; TLF, thoracolumbar fascia. (Modified from Skandalakis JE, Colborn GL: *Skandalakis' surgical anatomy: the embryological and anatomic basis of modern surgery*, Athens, Greece, 2004, Paschalides Medical Publications, p 155.)

44. A 45 years old male presents with sudden onset heaviness in right hemiscrotum for past 4 days. On clinical examination, a bag of worm appearance was noted on right hemiscrotum on palpation. As a urologist, what will be your next investigation during evaluation of this patient?

- a. scrotal Doppler
- b. semen analysis
- c. immediate scrotal exploration
- d. USG abdomen and pelvis

Ans: D

Ref: Campbell Walsh 12th Ed P.No:1673

With the relative rarity of unilateral right-sided varicocele, a sudden-onset right varicocele should increase suspicion for a renal or retroperitoneal malignancy causing obstruction and poor venous outflow (e.g., right side renal cell cancer with venous thrombus). This clinical scenario should warrant retroperitoneal imaging to rule out malignancy.



45. A 40 year old well-built body builder underwent an open right nephron ureterectomy for ureteric TCC. It was a difficult operation with dense adhesions requiring more manual retraction. Post-operative day 1, Patient complains of difficulty in extending right knee. Which of the following could be the likely cause?

- a.incomplete recovery from anaesthesia
- b.strech injury to sciatic nerve
- c.injury to femoral nerve
- d.injury to obturator nerve

Ans:C

Ref: Campbell Walsh 12th Ed P.No:1679

With its origin from the anterior rami of L2-L4, the femoral nerve provides efferent motor input to the muscles of the anterior thigh as well as the iliacus and pectineus, which are responsible for knee extension and hip flexion, respectively. The femoral nerve also gives sensory innervation to the skin over the anterior medial lower extremity. Compression of the femoral nerve may occur intraoperatively with placement of retractor blades inferolaterally against the inguinal ligament. Compression injury may result in a motor palsy to the quadriceps muscle, impairing extension at the knee. In addition, a stretch injury to the femoral nerve may occur with prolonged hip flexion in low lithotomy position used during minimally invasive pelvic surgery.

46. Risk factors in testicular malignancy. All are true except:

- A risk factors for testis cancer are white race, cryptorchidism, family history of testis cancer, a personal history of testis cancer, and germ cell neoplasia in situ (GCNIS).
- B Men with cryptorchidism are 4 to 6 times more likely to be diagnosed with testis cancer in the affected gonad and orchidopexy does not reduce the relative risk but helps in early identification.
- C contralateral descended testis is also at slightly increased risk (RR 1.74).
- D GCNIS is associated with a 50% risk of GCT within 5 years and 70% within 7 years.

Ref: Campbell Walsh 12th Ed P.No:1680

Explanation

There are five well-established risk factors for testis cancer: white race, cryptorchidism, family history of testis cancer, a personal history of testis cancer, and germ cell neoplasia in situ (GCNIS), also referred to as intra tubular germ cell neoplasia (ITGCN). **This is an update in 12th Ed compared to previous edition.** White race is included as a risk factor in testicular tumour in this edition. There is evidence of an association between early exposure to endocrine-disrupting chemicals and an increased risk of testicular germ cell tumors. Men with cryptorchidism are 4 to 6 times more likely to be diagnosed with testis cancer in the affected gonad, but the relative risk falls to 2 to 3 if orchidopexy is performed before puberty. A meta analysis of cryptorchidism studies reported that the contralateral descended testis is also at slightly increased



risk (RR 1.74).GCNIS is present in adjacent testicular parenchyma in 80% to 90% cases of invasive GCT and is associated with a 50% risk of GCT within 5 years and 70% within 7 years.

47. Burnt out primary tumour is seen in which of the following malignancies?

- a.prostate cancer
- b.retroperitoneal tumour
- c.testicular cancer
- d.renal sarcoma

Ans:C

Ref: Campbell Walsh 12th Ed P.No:1685

In men with advanced GCT and a normal testicular examination,scrotal ultrasonography should be performed to rule out thepresence of a small, impalpable scar or calcification, indicatinga “burned-out” primary testis tumor. GCTs are one of the mostcommon neoplasms to undergo spontaneous regression; seminomais the most frequent. Radicalorchietomy should be performed in those patients with sonographicevidence of intratesticular lesions (discrete nodule, stellate scar, coarsecalcification) because GCNIS and residual teratoma are frequentlyencountered.

48. Which of the following is HPV related pre malignant risk factor in carcinoma penis?

- a.Pseudoepitheliomatous Keratotic and Micaceous Balanitis
- b.Cutaneous Horn
- c.Balanitis Xerotica Obliterans
- d.Buschke-Löwenstein Tumor

Ans:D

Ref: Campbell Walsh 12th Ed P.No:1742 e1

Premalignant penile lesions havenow been divided into two broad categories based on their potentialcausation by human papillomavirus (HPV) or inflammatory pathways.

HPV unrelated risk factors:

Pseudoepitheliomatous Keratotic and Micaceous Balanitis

Cutaneous Horn

Balanitis Xerotica Obliterans

HPV related risk factors:

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Buschke-Löwenstein Tumor

Kaposi Sarcoma

49. A 50 year old male diagnosed with carcinoma penis underwent partial penectomy and his histopathology reveals tumour invading the corpus cavernosa. What is the appropriate staging in this case?

- a. T1
- B. T2
- C. T3
- D. T4

Ref: Campbell Walsh 12th Ed P.No:1749

This is an update from previous edition. Corpora cavernosa involvement was staged as T2 in previous edition which is now grouped under T3. Similarly urethral involvement is now staged as T2.

TABLE 79.1 Definition of Primary Tumor

T CATEGORY	T CRITERIA
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ (penile intraepithelial neoplasia)
Ta	Noninvasive localized squamous cell carcinoma
T1	Glans: Tumor invades lamina propria Foreskin: Tumor invades dermis, lamina propria, or dartos fascia Shaft: Tumor invades connective tissue between epidermis and corpora regardless of location All sites with or without lymphovascular invasion or perineural invasion and is or is not high grade
T1a	Tumor is without lymphovascular invasion or perineural invasion and is not high grade (i.e., grade 3 or sarcomatoid)
T1b	Tumor exhibits lymphovascular invasion and/or perineural invasion or is high grade (i.e., grade 3 or sarcomatoid)



TABLE 79.1 Definition of Primary Tumor—cont'd

T CATEGORY	T CRITERIA
T2	Tumor invades into corpus spongiosum (either glans or ventral shaft) with or without urethra invasion
T3	Tumor invades into corpora cavernosum (including tunica albuginea) with or without urethral invasion
T4	Tumor invades into adjacent structures (i.e., scrotum, prostate, pubic bone)
CLINICAL N (CN)	
cN CATEGORY	cN CRITERIA
cNX	Regional lymph nodes cannot be assessed
cN0	No palpable or visibly enlarged inguinal lymph nodes
cN1	Palpable mobile or unilateral inguinal lymph node
cN2	Palpable mobile or bilateral inguinal lymph nodes
cN3	Palpable fixed inguinal nodal mass or pelvic lymphadenopathy unilateral or bilateral
PATHOLOGIC N (PN)	
pN CATEGORY	pN CRITERIA
pNX	Lymph node metastasis cannot be established
pN0	No lymph node metastasis
pN1	≤2 unilateral inguinal metastases, no extranodal extension
pN2	≥3 unilateral inguinal metastases or bilateral metastases
pN3	Extranodal extension of lymph node metastases or pelvic lymph node metastases
DEFINITION OF DISTANCE METASTASIS (M)	
M CATEGORY	M CRITERIA
M0	No distant metastasis
M1	Distant metastasis present

TABLE 79.2 Eighth Edition American Joint Committee on Cancer: Summary of Penile Cancer Staging Revisions to the Seventh Edition

CHANGE	DETAILS OF CHANGE	LEVEL OF EVIDENCE
Histologic Grade (G)	The three-tiered World Health Organization (WHO)/International Society of Urological Pathology (ISUP) grading system has been adopted. Any proportion of anaplastic cells is sufficient to categorize a tumor as grade 3.	III
Definition of Primary Tumor (T)	Ta definition is now broadened to include noninvasive localized squamous carcinoma.	II
Definition of Primary Tumor (T)	T1a and T1b have been separated by an additional prognostic indicator (the presence or absence of perineural invasion).	III
Definition of Primary Tumor (T)	T1a or T1b are described by the site where they occur on the penis and are designated glans, foreskin, or shaft. Anatomic layers invaded are described for the three locations.	I
Definition of Primary Tumor (T)	T2 definition includes corpus spongiosum invasion.	II
Definition of Primary Tumor (T)	T3 definition now involves corpora cavernosum invasion.	II
Definition of Regional Lymph Nodes (N)	pN1 is defined as ≤2 unilateral inguinal metastases, no extranodal extension.	II
Definition of Regional Lymph Nodes (N)	pN2 is defined as ≥3 unilateral inguinal metastases or bilateral metastases.	II

Modified from Pettaway CA, Srigley JR, Brookland RK et al: Penis. In Amin MB, Edge SB, Greene FL, et al, editors: *AJCC cancer staging manual*, 8th ed, New York, 2017, Springer, pp 699–712.



50. The preferred donor graft site in patients requiring reconstruction of fossa navicularis is:

- a. buccal mucosal graft
- b. labial mucosa graft
- c. lingual mucosa graft
- d. tunica vaginalis graft

Ans: B

Ref: Campbell Walsh 12th Ed P.No:1749

Oral mucosal grafts (OMGs) consist of nonkeratinized mucosa and are thought to have optimal vascular characteristics. OMGs have a plexiform network. The OMG can be thinned, provided that a sufficient amount of lamina propria is carried to preserve the physical characteristics and not affect the vascular characteristics. There are three types of OMG: buccal mucosal graft (BMG), overlying the buccinator muscle in the cheeks; the labial mucosa graft, overlying the mandible; and the lingual mucosa graft, overlying the caudal aspect of the tongue. The lingual, labial, and buccal grafts vary in thickness and in substance. Because the labial mucosal grafts are thin, some surgeons prefer that donor site for reconstruction of the fossa navicularis.

51. Identify:



- a. vaginal cone
- b. Prader's orchidometer
- c. testicular prosthesis
- d. penile implant reservoir

Ans: C

Ref: Campbell Walsh 12th Ed P.No:1849, Fig 83.9



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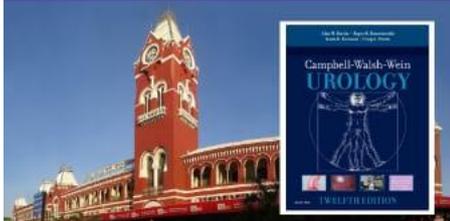
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02 Feb 2021 Tuesday	Uroanatomy & Embryology (3hrs)	Basic Principles Of Urology(3hrs)	Instrumentation In Urology(2hrs)	Uro Radiology (3hrs)
03 Feb 2021 Wednesday	Infections(4hrs)	Renal Transplant(2hrs)	Andrology(3hrs)	Genitourinary Trauma(2hrs)
04 Feb 2021 Thursday	Stone Disease(3hrs)	Penile & Testicular Tumours(3hrs)	Renal & Retroperitoneal Tumours(3hrs)	Urethral Stricture(2hrs)
05 Feb 2021 Friday	Urodynamics (2hrs)	Neuro Urology(2hrs)	Urinary Tract Obstruction(2hrs)	Bladder & Ureteric Tumours(4hrs)
06 Feb 2021 Saturday	Female Urology(4hrs)	Benign Prostate Disease(2hrs)	Prostate Tumour(4hrs)	Adrenals(2hrs)
07 Feb 2021 Sunday	Perinatal & Pediatric Urology-Upper Tract (3hrs)	Pediatric Urology-Lower Tract(3hrs)	Past Paper Discussion(2hrs)	Doubts Clearance (2hrs)

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52. A 38 year old male underwent no scalpel vasectomy 2 months ago and he was advised to undergo semen analysis which reveals motile sperms. Which of the following is the false statement?

- a. wait and repeat SA after another 4 months
- b. NSV was a failure and repeat procedure
- c. advised to continue the use of an alternative contraceptive method until confirmation of procedure success
- d. Couples may stop using other contraceptive methods once the PVSA demonstrates azoospermia or only rare nonmotile sperm (RNMS or $\leq 100,000$ nonmotile sperm/mL).

Ans: B

Ref: Campbell Walsh 12th Ed P.No:1853

It is recommended that fresh semen specimen should be tested 8 to 16 weeks postoperatively, with the ultimate choice of proptertiming of the initial test left to the surgeon. Before this testing, patients should perform at least 10 to 20 ejaculations, keeping in mind that older men have been found to have lower and slower rates of sperm clearance. If the initial PVSA has persistent motile sperm, a repeat testing is recommended in 6 months. If this trend continues at the 6 month PVSA, the procedure is considered a failure, and arrangements for a repeat procedure should be made.

53. A renal mass was incidentally detected in a 40 year old male during master health check-up and referred to an urologist. He asks for a contrast enhanced CT urogram in this patient for better delineation of this tumour. Which of the following phases of CECT is optimal for detection of renal neoplasm?

- a. arterial
- b. cortico medullary
- c. nephrogenic
- d. delayed

Ans: C

Ref: Campbell Walsh 12th Ed P.No:1868

On unenhanced computed tomography (CT), the renal parenchyma is homogeneous, with a density ranging from 30 to 60 Hounsfield units (HU) that increases up to 80 to 120 HU after intravenous contrast injection. After 20 to 30 seconds of contrast injection, the arterial CT phase is reached, and the corticomedullary CT phase appears after 30 to 70 seconds, when contrast accumulates in the renal cortex. The nephrographic CT phase, after 80 to 120 seconds, equally enhances renal cortex and medulla and is considered to be the optimal phase for detection of renal neoplasms. Finally, the excretory CT phase, more than 3 minutes after contrast injection, shows the opacified pelvicalyceal system, ureter, and bladder.



54. The posterior most structure in the renal hilum is _____ .

- a. renal vein
- b. renal artery
- c. renal pelvis
- d. posterior segmental artery

Ans: D

Ref: Campbell Walsh 12th Ed P.No: 1868, 1869

From anterior to posterior, the renal hilar structures are the renal vein (V), renal artery (A), renal pelvis (U for ureter), and posterior segmental artery (A)—making them mnemonic VAUA. The posterior segmental artery represents the first and most constant branch, which separates from the renal artery before it enters the renal hilum. The posterior segmental artery from the posterior division passes posterior to the renal pelvis while the others pass anterior to the renal pelvis.

55. Which of the following is responsible for ureteral recanalization during its development?

- a. BMP
- B. Angiotensin
- c. TGF- β
- D. Pax-2

Ans: B

Ref: Campbell Walsh 12th Ed P.No: 1877

The nephric ducts also express ALK receptors, which are activated by activins and BMPs (TGF- β family members), leading to activation of SMADs, which inhibit ureteric bud outgrowth and ureteral development. Programmed cell death, or apoptosis, is involved in branching of the ureteric bud and subsequent nephrogenesis. Inhibitors of caspases, which are involved in the apoptotic signaling pathway, inhibit ureteral bud branching. During development, the ureteral lumen is obliterated, and then it recanalizes. It appears that angiotensin (Ang) acting through the AT₂ receptor is involved in the recanalization process and in the inhibition of aberrant ureteral budding.

56. Pacemaker cells and collecting system- find the wrong statement.

- a. the electrical activity arises spontaneously in pacemaker cell
- b. it is due to the opening and slow closure of voltage-activated L-type Ca²⁺ channels
- c. pacemaker cells are located near the pelvic calyceal border.
- d. ICC-like cells (telocytes) in the upper urinary tract appear to be primary pacemaker cells



Ans:D

Ref: Campbell Walsh 12th Ed P.No:1881,1882

Electric activity arises in a cell either spontaneously or in response to an external stimulus. If the activity arises spontaneously, the cell is referred to as a pacemaker cell. The ionic conduction underlying pacemaker activity in the upper urinary tract is due to the opening and slow closure of voltage-activated L-type Ca^{2+} -channels. Autonomic nervous system, parasympathetic and sympathetic, have little effect on peristalsis. In species with multicystic system, such as the pig, sheep, and human, the "pacemaker cells" are located near the pelvicalyceal border. "ICC-like" cells (telocytes) in the upper urinary tract do not appear to be primary pacemaker cells but rather may provide for preferential conduction of electrical signals from pacemaker cells to typical smooth muscle cells of the renal pelvis and ureter. It is postulated that in the absence of a proximal pacemaker that these "ICC-like" cells could act as pacemaker cells and trigger contractions in adjacent smooth muscle cells in the ureteropelvic junction. Thus atypical smooth muscle cells and "ICC-like" cells may play a pacemaker role in the initiation and propagation of pyeloureteric peristalsis. Although the primary pacemaker for ureteral peristalsis is located in the proximal portion of the collecting system, other areas of the ureter may act as latent pacemakers. Under normal conditions, the latent pacemaker regions are dominated by activity arising at the primary pacemaker sites. When the latent pacemaker site is freed of its domination by the primary pacemaker, it, in turn, may act as a pacemaker.

57. Back to basics. Find the wrong statement:

- The contraction wave originates in the most proximal portion of the ureter and moves the urine in front of it in a distal direction.
- Baseline, or resting, ureteral pressure is approximately 0 to 5 cm H₂O
- ureteral peristaltic pressure range from 20 to 80 cm H₂O & occur two to six times per minute
- The bolus that is pushed in front of the contraction wave lies almost entirely in contracting part of the ureter

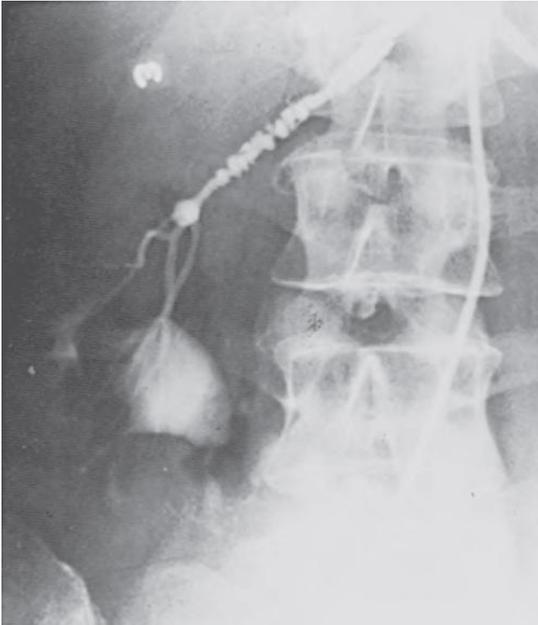
Ans:D

Ref: Campbell Walsh 12th Ed P.No:1892

At normal flow rates, as the renal pelvis fills, a rise in renal pelvic pressure occurs, and urine is extruded into the upper ureter, which initially is in a collapsed state. The contraction wave originates in the most proximal portion of the ureter and moves the urine in front of it in a distal direction. The urine that had previously entered the ureter is formed into a bolus. To propel the bolus of urine efficiently, the contraction wave must completely coapt the ureteral walls. The bolus that is pushed in front of the contraction wave lies almost entirely in a passive, noncontracting part of the ureter (Fung, 1971; Weinberg, 1974). Baseline, or resting, ureteral pressure is approximately 0 to 5 cm H₂O, and superimposed ureteral contractions ranging from 20 to 80 cm H₂O occur two to six times per minute



58. A 25 year old female presents with acute onset severe head ache and on evaluation was found to be hypertensive not controlled with 3 types of antihypertensive drugs. her renal angiogram reveals the following picture. What could be the most probable diagnosis?



- medial fibroplasia
- perimedialfibroplasia
- intimal fibroplasia
- medial hyperplasia

Ans: A

Ref: Campbell Walsh 12th Ed P.No:1915

Arteriogram and schematic diagrams of medial fibroplasia. Rightrenal arteriogram demonstrating weblike stenosis with interposed segments of dilatation (large beads) typical of medial fibroplasia ("string-of-beads" lesion).

59. The most common cause of AKI in hospitalised patients is _____ .

- hypovolemic pre renal AKI
- intrinsic ATN
- post renal obstructive uropathy
- Both A & B

Ans: B

Ref: Campbell Walsh 12th Ed P.No:1922

The greatest proportion of hospital acquired AKI is secondary to acute tubular necrosis (ATN).

60. A 35 year old male with ESRD who underwent live related renal transplant surgery 2 months ago, now presents with complaints of increased urinary frequency, swelling of right lower limb and worsening of renal parameters from nadir value. What is the next step in management?

- a. increase the dose of immunosuppressants
- b. start on higher iv antibiotics
- c. USG or CT abdomen & pelvis
- d. DJ stenting of transplant kidney

Ans: C

Ref: Campbell Walsh 12th Ed P.No:1939

A lymphocele is a pseudocyst with lymph content covered by a hard fibrous capsule around the graft. Lymphocele is radiographically evident in 0.6% to 33.9% of recipients. However, the incidence of symptomatic lymphocele ranges from 0.03% to 26%. A lymphocele most frequently develops within the first 6 months after transplantation with a peak incidence at 6 weeks. Lymphoceles occur mainly because of extensive dissection of the lymphatics around the iliac vessels of the recipient or renal vessels of the donor occurring during the time of organ procurement surgery or back table preparation. The majority of patients with lymphocele are asymptomatic. However, large lymphoceles may present as unilateral lower limb edema, deterioration of graft function, symptoms related to bladder compression, fever, and deep vein thrombosis as a consequence of compression of the external iliac vein.

Confirmation of the presence of a fluid collection around the graft can be determined on US examination or CT scan. Biochemical and microbiological analysis of the fluid from the lymphocele can be obtained directly from the drain or the aspirate using a US-guided/CT-guided fine-needle percutaneous aspiration. This should be performed to differentiate lymphocele from urinoma, seroma, or abscess.

61. The incidence of renal cell carcinoma (RCC) is higher in transplant recipients than in the general population. The most common pathological variant of RCC in graft kidney is _____ .

- A. clear cell
- b. papillary
- c. collecting duct
- d. sarcomatoid differentiation

Ans: B



Ref: Campbell Walsh 12th Ed P.No:1940

The incidence of renal cell carcinoma (RCC) is higher in transplant recipients than in the general population. RCC represents 4.6% of posttransplant cancers compared with 3% of tumors in the general population. However, only 10% occurred in kidney grafts. Tillou et al. (2012) analyzed the histology subtype of de novo RCC in kidney grafts and found that papillary carcinomas are reported in 56% of kidney graft tumors. The treatment of RCC in kidney transplant patients is similar to RCC in the general population. Consider screening high-risk recipients with a previous history of RCC, analgesic nephropathy, tuberous sclerosis, or known acquired cystic disease.

62. A 10 year old boy was brought to emergency room with history of road traffic accident in which the van he was travelling hit against a tree. On arrival, his vitals are stable, bp-100/70 mmHg and no major complaints. Serum creatinine was 0.6mg% and urine microscopy revealed 2-3 pus cells & 7-8 RBCs. He has passed urine twice post-accident and is clear. What is the next step in management?

- re assure and send him home
- Admit and observe for deterioration of any vitals.
- do an emergency CECT abdomen and pelvis with delayed images
- take him up for emergency exploratory laparotomy

Ans:C

Ref: Campbell Walsh 12th Ed P.No:1984

Based on the AUA Urotrauma guidelines and EAU Upper Urinary Tract Trauma guidelines published in 2014, the criteria for radiographic imaging include the following (Morey et al., 2014; Serafetinides et al., 2015):

- All patients with a penetrating trauma with a likelihood of renal injury (abdomen, flank, ipsilateral rib fracture, significant flank ecchymosis, or low chest entry/exit wound) who are hemodynamically stable enough to have a CT (instead of going directly to the operating room or angiography suite)
- All patients with blunt trauma with significant acceleration/deceleration mechanism of injury, specifically rapid decelerations as would occur in a high-speed motor vehicle accident or a fall from heights
- All patients with blunt trauma and gross hematuria
- All patients with blunt trauma with microhematuria and hypotension (defined as a systolic pressure of less than 90 mmHg at any time during evaluation and resuscitation)
- All pediatric patients with greater than 5 RBCs/HPF. The preferred imaging test is an abdominal/pelvic CT using IV contrast with immediate and delayed images.



1. Children have an up to 50% higher risk for renal trauma than adults after blunt abdominal injury, such as motor vehicle accidents (Kurtz et al., 2017) and 33% higher risk for high grade injury. Possible explanations are the larger comparative kidney size, less perirenal fat, non-ossified bones, and less relative rib coverage over the kidneys in children (Buckley and McAninch, 2004).

2. Importantly, children often do not become hypotensive with major blood loss, and in the absence of this sign can still have an exsanguinating renal injury. Liberal use of renal imaging is probably warranted. Children have a high catecholamine output after trauma, which maintains blood pressure until approximately 50% of blood volume has been lost.

63. Comminution is the Stone fragmentation during SWL and occurs as a result of mechanical stressors. There are different mechanical stresses that result from SWL and contribute to stone fragmentation. Which among the following is FALSE?

- The different mechanical stresses that result from SWL and contribute to stone fragmentation are as follows: spall fracture, squeezing, shear stress, superfocusing, acoustic cavitation, and dynamic fatigue.
- Spall fracture, also known as spallation, is the coalescence of microcracks within a stone resulting in comminution.
- Superfocusing occurs because of the difference in sound speed between the stone and the surrounding fluid.
- Shear stress will be generated by shear waves (also termed transverse waves) that develop as the shock wave passes into the stone.

Ans: C

Ref: Campbell Walsh 12th Ed P.No: 2096, 2097

Stone fragmentation during SWL, also called comminution, occurs as a result of mechanical stressors created by two mechanisms that can occur simultaneously or separately: (1) directly by the incident shock wave or (2) indirectly by the collapse of bubbles. Spall fracture, also known as spallation, is the coalescence of microcracks within a stone resulting in comminution. The second mechanism for stone breakage, squeezing-splitting or circumferential compression, occurs because of the difference in sound speed between the stone and the surrounding fluid. The third mechanism is shear stress. Shear stress will be generated by shear waves (also termed transverse waves) that develop as the shock wave passes into the stone. Superfocusing is the amplification of stresses inside the stone because of the geometry of that stone. The fifth mechanism for SWL stone breakage is cavitation. Cavitation is the formation and subsequent collapse of bubbles.

64. All of the following arise from the distal tubules except:

- ADPKD
- ARCD (Acquired renal cystic disease)
- sporadic renal cysts



d. Renal oncocytoma

Ans: B

Ref: Campbell Walsh 12th Ed P.No: 2121, 2123

the cysts of ACKD arise from the proximal convoluted tubule (as in clear cell RCC), unlike the cysts of ADPKD and sporadic renal cyst disease, which arise from the distal tubule. Oncocytomas are classically strongly eosinophilic because of the high mitochondrial density with nests and tubular structures common, arising from the distal tubule. Nuclei tend to be round and regular with extremely rare mitotic figures.

65. Oncocytomas are the most common benign renal tumours that enhance on a CECT. However, it represents a diagnostic dilemma with the following tumours because of some overlapping features except:

- a. eosinophilic chromophobe RCC
- b. succinate dehydrogenase-deficient RCC
- c. clear cell RCC
- d. papillary RCC

Ans: C

Ref: Campbell Walsh 12th Ed P.No: 2123

Pathologically, oncocytoma represents a diagnostic dilemma resulting from overlapping features with eosinophilic chromophobe RCC, succinate dehydrogenase-deficient RCC, and papillary RCC

66. When typical features of oncocytoma are present, histology and morphology are sufficient to establish the diagnosis pathologically; however, when morphologic variants are seen the International Society of Urologic Pathology (ISUP) recommends use of immunohistochemistry to differentiate oncocytoma from non-benign tumors. All of the following statements are true in this regard except:

- a. cytokeratin 7- positive in chromophobe RCC
- b. Haller's colloidal iron- positive in oncocytoma
- c. vimentin- non chromophobe RCC
- d. CD 117- oncocytoma

Ans: B

Ref: Campbell Walsh 12th Ed P.No: 2123, 2124

In cases in which the diagnostic dilemma is between chromophobe and oncocytoma, cytokeratin-7 (CK7) can be useful. CK7 is rarely positive in oncocytoma, whereas chromophobe RCC tends to be diffusely positive and is recommended by the ISUP to distinguish these entities. Colloidal iron staining can be variable, making interpretation difficult; however, the hallmark is negative staining of oncocytoma and diffuse



reticular staining in chromophobe RCC. When the differentiation is between oncocytoma and non-chromophobe RCC histologies, CD117 and vimentin can be useful, because oncocytoma is positive for CD117 and negative for vimentin, whereas non-chromophobe RCC stains oppositely.

67. A 52 year old male with chronic back pain underwent a MRI which incidentally picked up a 4 cm interpole lesion in the right kidney which showed the following characteristics. T2-weighted magnetic resonance imaging (MRI) with hypointensity. Non-contrast-enhanced T1 MRI with hyperintensity of lesion. Post-contrast, fat-suppressed T1 image with signal dropout of mainly fat containing lesion and the presence of a dark boundary on in-phase/opposed-phase imaging that is also called an "India ink artifact". What could be the most possible diagnosis of this renal tumour?

- a. oncocytoma
- b. Renal cell carcinoma
- c. angiomyolipoma
- d. wilms tumour

Ans: C

Ref: Campbell Walsh 12th Ed P.No:2126, Fig 96.5

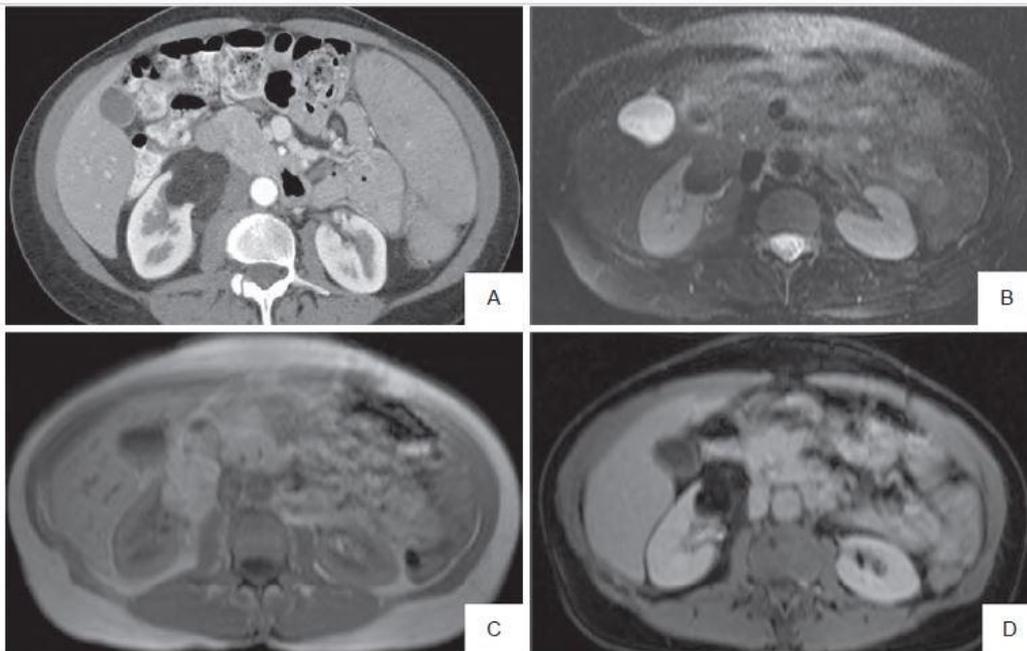


Fig. 96.5. (A) Contrast-enhanced computed tomography demonstrating macroscopic intralésional fat. (B) T2-weighted magnetic resonance imaging (MRI) with hypointensity. (C) Non-contrast-enhanced T1 MRI with hyperintensity of lesion secondary to macroscopic fat. (D) Post-contrast, fat-suppressed T1 image with signal dropout of mainly fat containing lesion, all consistent with classic angiomyolipoma. (From Flum AS, Hamoui N, Said MA, et al.: Update on the diagnosis and management of renal angiomyolipoma. *J Urol* 195[4 Pt 1]:834–846, 2016.)



68. A 54 year old chronic smoker presented with right loin pain and was diagnosed with right upper ureteric TCC. He was evaluated and planned for right Nephroureterectomy and bladder cuff excision. What is the inferior limit of lymphadenectomy in this patient?

- a.inferior mesenteric artery
- b.aortic bifurcation
- c.common iliac artery bifurcation
- d.lymphadenrctomy is not mandatoey in this case.

Ans:B

Ref: Campbell Walsh 12th Ed P.No:2205, Fig 99.14

Kondoand Tanabe (2012) proposed an extended lymphadenectomy templatebased on the location of the tumor (Fig. 99.14). For tumors of renalpelvis this includes ipsilateral hilar, paracaval, retrocaval, andinteraortocaval nodes up to the level of inferior mesenteric arteryfor right-sided tumors, and ipsilateral hilar and para-aortic up tothe level of inferior mesenteric artery for left-sided tumors. For tumors of the upper two-thirds of the ureter (above crossing of inferiormesenteric artery to the common iliac artery), the template is similar,but the distal border of dissection is extended to the level of aorticbifurcation. For tumors of the lower one-third of the ureter, theseinclude ipsilateral obturator, internal, external and common iliac,and presacral packets.

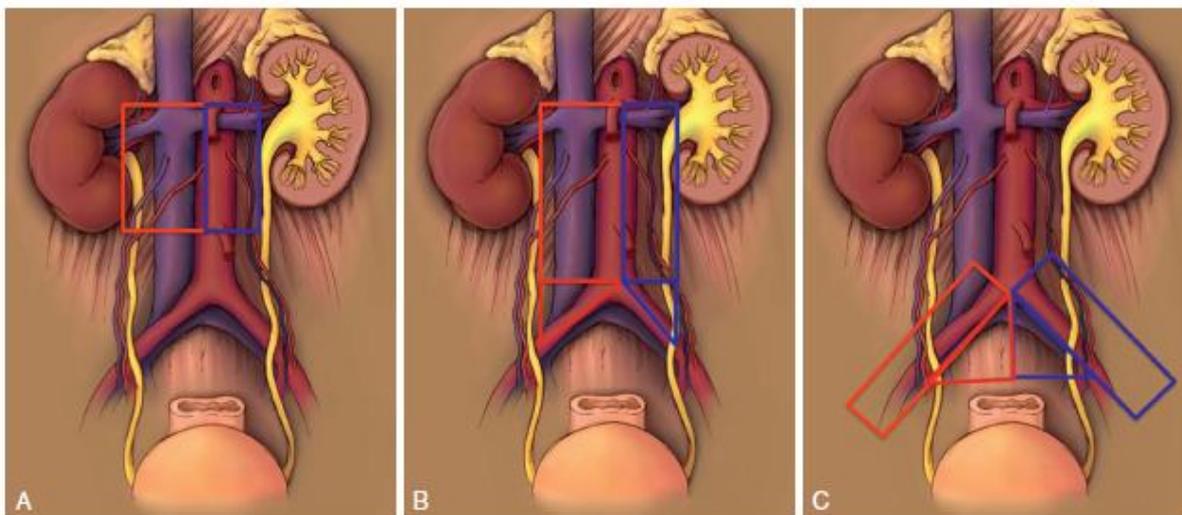


Fig. 99.14. (A) In addition to ipsilateral hilar nodes, the extended lymphadenectomy template for tumors of the renal pelvis includes paracaval, retrocaval, and interaortocaval lymph nodes for right-sided, and para-aortic lymph nodes for left-sided tumors. The inferior mesenteric artery marks the inferior boundary of the template. (B) For tumors of the upper two-thirds of the ureter, this template is extended to the level of bifurcation of aorta. (C) The extended lymphadenectomy template for tumors in the distal ureter includes ipsilateral common, external and internal iliac, obturator, and presacral nodes.

69. The vasculature of the adrenal glands is unique: all of the following are true except:

- Capsular arteries only supply the adrenal capsule and do not penetrate any deeper into the tissue.
- Fenestrated cortical sinusoidal capillaries supply the cortex and then drain into fenestrated medullary capillary sinusoids.
- Medullary arterioles travel within the trabeculae of the adrenal gland to deliver blood to the medullary capillary sinusoids.
- Medullary arterioles contain a high concentration of glucocorticoids, which plays a role in epinephrine synthesis.

Ans: D

Ref: Campbell Walsh 12th Ed P.No: 2345

There are three patterns of blood distribution within the adrenal gland. Capsular arteries only supply the adrenal capsule and do not penetrate any deeper into the tissue. Fenestrated cortical sinusoidal capillaries supply the cortex and then drain into fenestrated medullary capillary sinusoids. Medullary arterioles travel within the trabeculae of the adrenal gland to deliver blood to the medullary capillary sinusoids. The medulla has two blood supplies: arterial blood from the medullary arterioles and venous blood from the cortical sinusoid capillaries that have already supplied the adrenal cortex with arterial blood (Ross et al., 1995). This dual vascular supply is important for the medullary production of catecholamines. As venous blood from the adrenal cortex reaches the medullary tissue, it contains a high concentration of glucocorticoids, which plays a role in epinephrine synthesis.

70. A 30 year old female presented with essential hypertension refractory to antihypertensives. On evaluation, she was diagnosed with bilateral pheochromocytoma and was planned for bilateral partial adrenalectomy. As an operating urologist, you should follow all the following principles except:

- Accurate localization of the adrenal tumor in question is paramount for a successful partial adrenalectomy.
- Excision of tumor with a 3- to 5-mm margin is recommended.
- The adrenal gland is exposed and mobilized all around preserving the arterial and venous blood supply to localize the tumour.
- At least one third of the adrenal gland should be preserved to maintain its function.

Ans: C

Ref: Campbell Walsh 12th Ed P.No: 2421

A major and important difference is that the adrenal gland is exposed but not mobilized to preserve the arterial and venous blood supply, especially in cases in which the main adrenal vein has to be sacrificed. Accurate localization of the adrenal tumor in question is paramount for a successful partial adrenalectomy. The use of intraoperative ultrasonography can help accurately localize and identify the tumor. The arterial supply of the adrenal gland forms a plexus circumferentially around the gland and can usually be removed without fear of devascularizing the adrenal cortex. The gland will remain viable as long

- Prepared by: Dr. U. Venkatesh M. Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-

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as it remains attached to the kidney or to an area of unmobilized connective tissue. The cut surface can be sealed with fibrin glue or Surgicel (Ethicon, Cincinnati, OH) to prevent delayed bleeding. Frozen section is recommended if available; if not, intraoperative ultrasonography can be performed to confirm gross complete resection. More recent studies seem to suggest at least a third of the adrenal gland should be preserved. Excision of tumor with a 3- to 5-mm margin is recommended.

71. The parametrium and paracolpium provide support to the vagina and uterus. This was described by Delancy. Which of the following is the FALSE statement?

- a. The cardinal ligaments and uterosacral ligaments provide support to the uterus, cervix, and vagina. This was described by DeLancey as Level 1 support.
- b. Level II support runs from the paravaginal attachments to the ATFP and to the arcus tendineus rectovaginalis.
- c. Level III support is created by the distal vagina attachments to the levator muscles laterally, anteriorly to the urethra, and posteriorly to the perineal body.
- d. Level I support provides foundation to the urethra, and disruption leads to urethral hypermobility.

Ans: D

Ref: Campbell Walsh 12th Ed P.No: 2438, Fig: 108.17

Level III support provides foundation to the urethra, and disruption leads to urethral hypermobility

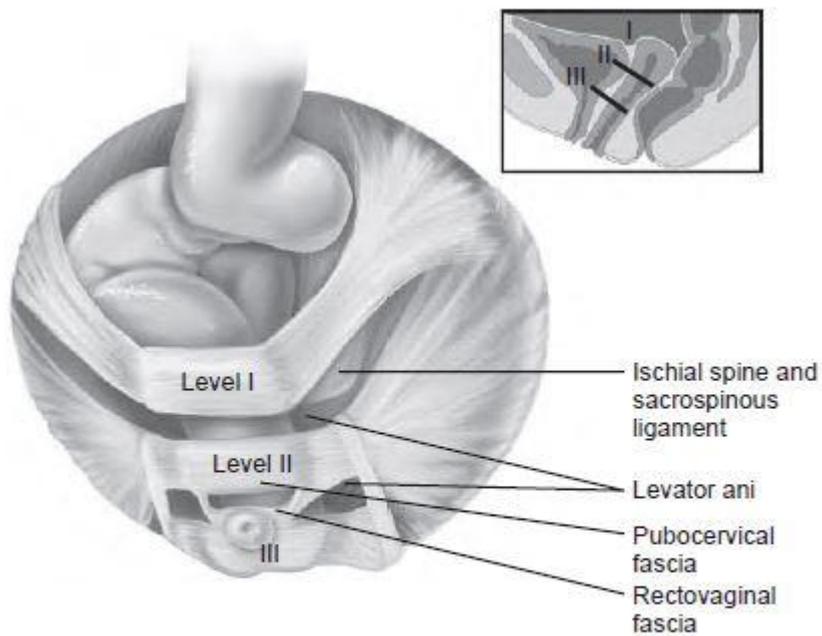


Fig. 108.17. Vaginal and visceral supportive structures as defined by Delancey. The fibers of level I support are oriented vertically and suspend the uterus and upper vagina. Level II support is more horizontal in its orientation and is attached to the mid-vagina. Distally, level III support fuses directly into support structures. (From Delancey JO: Anatomic aspects of vaginal eversion after hysterectomy. *Am J Obstet Gynecol* 166:1717-1728, 1992.)

72. A 49 year old female presented to uro gynaecological OPD with complaints of dysuria, post void dribbling ad recurrent UTI. On evaluation, she was suspected to have an urethral diverticulum. The best imaging modality in this case will be _____.

a.VCUG

b.double lumen PPU

c.MRI pelvis

d.CECT KUB

Ans:C

Ref: Campbell Walsh 12th Ed P.No:2440,2983

T2-weighted MRI is the best imaging technique to visualize and localize urethral diverticula and to differentiate them from other benign vaginal masses. For the evaluation of UD, the eMRI coil is placed intravaginally or intrarectally. Surface coil MRI and eMRI appear to be superior to VCUG and/or PPU in the evaluation of UD.



73. A 55 year old male who had an ischemic stroke 3 months back was referred to an Urologist for lower urinary tract symptoms post CVA. He gives history of frequency, urgency and occasional urge incontinence. An urodynamic study on him reveals normal bladder sensation with involuntary contractions at low filling volumes, able to void with no significant residual urine. This type of bladder is typically named as _____ as per Lapide's classification of lower urinary tract dysfunction.

- a. sensory neurogenic bladder
- b. autonomous neurogenic bladder
- c. uninhibited neurogenic bladder
- d. Reflex neurogenic bladder

Ans:C

Ref: Campbell Walsh 12th Ed P.No:2522

An uninhibited neurogenic bladder was described originally as resulting from injury or disease to the "corticoregulatory tract." The sacral spinal cord was presumed to be the micturition reflex center, and this corticoregulatory tract was believed normally to exert an inhibitory influence on the sacral micturition reflex center. A destructive lesion in this tract would then result in overfacilitation of the micturition reflex. Cerebrovascular accident, brain or spinal cord tumor, Parkinson disease, and demyelinating disease were listed as the most common causes in this category. The voiding dysfunction is most often characterized symptomatically by frequency, urgency, and urge incontinence and urodynamically by normal sensation with involuntary contraction at low filling volumes. Residual urine is characteristically low. The patient generally can initiate a bladder contraction.

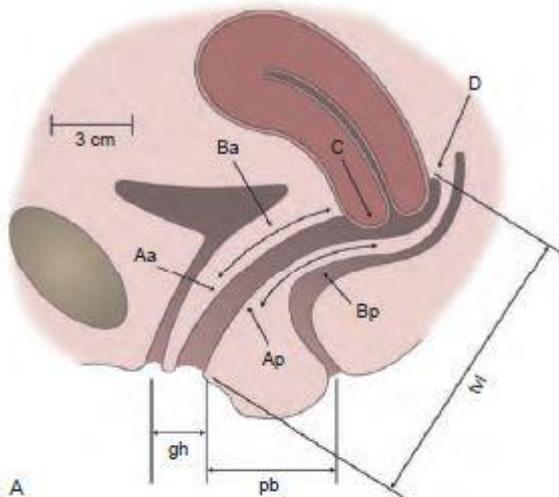
74. A 49 years old postmenopausal multiparous woman comes to urogynaecological OPD with complaints of mass protruding her vulva and difficulty in voiding for past 12 months. On examination, a uterocervical prolapse was diagnosed and POP-Q staging was done/All of the following are true regarding Pelvic Organ Prolapse-Quantification system, known as the POP-Q except:

- a. was created in an effort to provide objectivity to POP quantification
- b. nine specific points of measurement are obtained in relation to the hymenal ring
- c. Points above the hymen are considered negative, and points below the hymen are positive
- d. The total vaginal length (tvL) is measured by asking the patient to strain and measuring the depth of the vagina.

Ans:D

The total vaginal length (tvL) is measured by reducing the prolapse and measuring the depth of the vagina.

Ref: Campbell Walsh 12th Ed P.No:2529



Point	Description	Range of values
Aa	Anterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Ba	Most distal position of remaining upper anterior vaginal wall	-3 cm to +tvl
C	Most distal edge of cervix or vaginal cuff scar	-
D	Posterior fornix (N/A if posthysterectomy)	-
Ap	Posterior vaginal wall 3 cm proximal to the hymen	-3 cm to +3 cm
Bp	Most distal position of remaining upper posterior vaginal wall	-3 cm to +tvl
gh (genital hiatus)	Measured from middle of external urethral meatus to posterior midline hymen	-
pb (perineal body)	Measured from posterior margin of gh to middle of anal opening	-
tvl (total vaginal length)	Depth of vagina when point D or C is reduced to normal position	-

Fig. 112.2. (A) Landmarks for the POP-Q system. (B) POP-Q points of reference. (A, From Bump RC, Mattiasson A, Bo K, et al. The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. *Am J Obstet Gynecol* 175:10-7, 1996.)

In the POP-Q system, which was created in an effort to provide objectivity to POP quantification, nine specific points of measurement are obtained in relation to the hymenal ring as illustrated in Fig. 112.2. Six vaginal points labelled Aa, Ba, C, D, Ap, and Bp are measured during the Valsalva maneuver. Points above the hymen are considered negative, and points below the hymen are positive. The genital hiatus (gh) represents the size of the vaginal opening, and the perineal body (pb) represents the distance between the vagina and the anus. The total vaginal length (tvl) is measured by reducing the prolapse and measuring the depth of the vagina.



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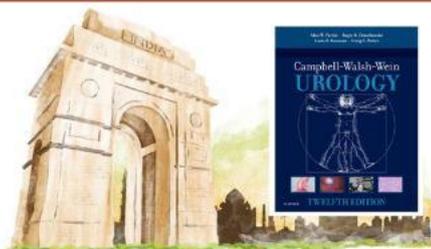
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75. All of the following statements regarding Dye test are true except:

- a. helpful to verify that the leakage represents urine versus another fluid such as vaginal discharge or peritoneal fluid and to substantiate the diagnosis of urinary tract fistulae.
- b. Oral phenazopyridine colors the urine pink, and this simple test can confirm that the leaking fluid is indeed urine.
- c. In the case of a suspected ureterovaginal fistula, intravesical methylene blue with concurrent oral pyridium can elucidate the fistula location based on the staining pattern on the vaginal tampon.
- d. Orange staining suggests a ureteral communication, whereas blue staining connotes a bladder communication

Ans: B

Ref: Campbell Walsh 12th Ed P.No:2533

Oral phenazopyridine colors the urine orange, and this simple test can confirm that the leaking fluid is indeed urine

76. CARE trial- all are true except:

- a. stands for "The Colpopexy and Urinary Reduction Efforts"
- b. CARE trial was designed to evaluate whether a Burch colposuspension performed at the time of sacrocolpopexy for prolapse in stress-continent women reduced postoperative SUI.
- c. It is a large prospective randomized control trial
- d. prophylactic Burch colposuspension was not useful in preventing SUI following prolapse surgery

Ans: d

Ref: Campbell Walsh 12th Ed P.No:2536

The Colpopexy and Urinary Reduction Efforts (CARE) trial was designed to evaluate whether a Burch colposuspension performed at the time of sacrocolpopexy for prolapse in stress-continent women reduced postoperative SUI. The large prospective randomized study demonstrated a continued advantage of prophylactic Burch for SUI though the failure rates of sacrocolpopexy increased in both groups by the 7-year follow up.

77. The surgical option preferred in patients with SUI with significant urethral hypermobility is:

- a. retropubic colposuspension
- b. Suburethral sling procedure

- c. Artificial sphinter
- d. Anterior colporrhaphy

Ans:A

Retropubic procedures act to restore the bladder neck and proximal urethra to a fixed, retropubic position and are used when hypermobility is thought to be an important factor in the development of that woman's stress incontinence. This may facilitate the function of a marginally compromised intrinsic urethral sphincter mechanism, but if significant intrinsic sphincter deficiency is present, it is likely that SUI will persist despite efficient surgical repositioning of the bladder neck and proximal urethra.

Ref: Campbell Walsh 12th Ed P.No:2757

78. Ball-Burch procedure-all of the following are true except:

- a. it is a modification of the standard Burch operation in managing SUI associated with the low-pressure urethra.
- b. Ball procedure is two or three sutures are used to plicate the anterior urethral wall at the level of the proximal and middle urethra.
- c. Ball-Burch procedure continued to yield better results than the standard Burch procedure in patients with a low pressure urethra
- d. Ball procedure is done after performing Bursh Cooper ligament suspension

Ans:D

Ref: Campbell Walsh 12th Ed P.No:2765

Although a low-pressure urethra (MUCP <20 cm H₂O) is considered a contraindication to the Burch procedure, a modification of the standard Burch operation has had some success in managing SUI associated with the low-pressure urethra. Bergman and colleagues combined a standard Burch procedure with the Ball procedure (Ball, 1963) wherein before the Cooper ligament suspension is performed, two or three sutures are used to plicate the anterior urethral wall at the level of the proximal and middle urethra. Ball-Burch procedure continued to yield better results than the standard Burch procedure in patients with a low pressure urethra.

79. Which of the following is the gold standard for management of ALL forms of SUI?

- a. PVS using polypropylene mesh
- b. PVS using autologous graft
- c. MUS using polypropylene mesh
- d. Burch colposuspension



Ans:B

Ref: Campbell Walsh 12th Ed P.No:2834

PVSs are indicated for treatment of incontinence associated with a deficiency in a portion of the midurethral complex, hypermobility, ISD, MUI, concomitant cystoceles, urethral diverticula, and neurologic conditions. The PVS using autologous fascia is the gold standard for management of ALL forms of SUI.

80.A 40 year old multiparous woman presents with urinary icontinence with sudden increase in abdominalpressure only in standing but not in supine position.She is diagnosed to have grade____ SUI as per the Stamey incontinence grading system.

- a.0
- b.1
- c.2
- d.3

Ans:B

Ref: Campbell Walsh 12th Ed P.No:2893

TABLE 127.2 Stamey Incontinence Grading System

GRADE	DESCRIPTION
0	Continent
1	Patient loses urine with sudden increases in abdominal pressure but not when supine
2	Patient loses urine with physical stress (walking; changing from a reclining to a standing position; sitting up in bed)
3	Patient has total incontinence; urine loss unrelated to physical activity and/or position

81.Detrusor hyperactivity with impaired contractility (DHIC) is a form of bladder dysfunction that is unique in the geriatricpopulation. All of the following are TRUE except:

- a. this represents a functional combination of overactiveand underactive bladder.
- b. Anti muscarinics help to alleviate bladder symptoms
- c.Behavioural therapy and CIC forms a part of treatment protocol



d. Brain imaging studies have shown hypoperfusion abnormalities that localize to the frontal and global cortical areas and are often associated with cognitive impairment.

Ans: B

Ref: Campbell Walsh 12th Ed P.No: 2919-e2

In this condition, the patient experiences DO with bladder filling, which is associated with the typical symptoms of urinary urgency, frequency, and potentially with urgency UI. However, during the voiding effort, the bladder does not contract efficiently or with sufficient force to completely empty. In some ways, this represents a functional combination of overactive and underactive bladder. Brain imaging studies have shown hypoperfusion abnormalities that localize to the frontal and global cortical areas and are often associated with cognitive impairment. Monotherapy with antimuscarinic medications or other bladder relaxants can worsen urinary retention and promote development of chronic urinary retention with associated incontinence. Successful treatment often requires multimodal therapy including behavioral interventions and medications to inhibit DO and clean intermittent catheterization (CIC) to empty the bladder. Intentional induction of urinary retention with antimuscarinic medications to control hyperactivity, combined with CIC performed on a regular schedule to empty the bladder, can be a successful method for clinical management in some patients. Future research will be needed to help develop more optimal forms of management for this complex condition.

82. A 60 year old male was diagnosed with carcinoma bladder and is planned for radical cystectomy. His son, who is a chronic smoker now seeks your opinion and his is worried about his chances of getting a bladder tumour. Smoking and bladder cancer-ALL are true except:

- a. smokers have a 2- to 3-fold increased risk of bladder cancer.
- b. supplementary beta-carotene and vitamin supplementation (with C, E, or folate) have been shown to mitigate bladder cancer risk
- c. Aromatic amines are the primary carcinogens in tobacco smoke that lead to cancer.
- d. Smoking cessation decrease the risk of urothelial cancer formation

Ans: B

Ref: Campbell Walsh 12th Ed P.NO: 3076

Aromatic amines are the primary carcinogens in tobacco smoke that lead to cancer. Persons with NAT2 slow acetylation polymorphisms have been shown to be at a particularly high risk when they smoke cigarettes, because NAT2 allows for the detoxification of these amines. Although there is some evidence that dietary beta-carotene may have protective effects, supplementary beta-carotene and vitamin supplementation (with C, E, or folate) have not been shown to mitigate bladder cancer risk among those with environmental exposures. Smoking cessation decrease the risk of urothelial cancer formation: smokers who have stopped for 1 to 3 years have a 2.6 relative risk compared with a 1.1 relative risk among those who have stopped smoking for more than 15 years. Active smokers at the time of diagnosis have an increased risk for local recurrence with NMIBC and increased risk of bladder cancer death with muscle-invasive bladder cancer (MIBC). continued smoking increases the risk of a second primary cancer and the risk of

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other smoking-related diseases, including peripheral vascular disease and chronic obstructive pulmonary disorder

83. The criteria for high grade urothelial carcinoma in urine cytology as per the Paris Reporting System for urinary cytology includes all of the following except:

- a. N:C>0.5
- b. Hyperchromasia
- c. Coarse or irregular chromatin
- d. > 10 atypical cells

Ans:A

P.No:3079

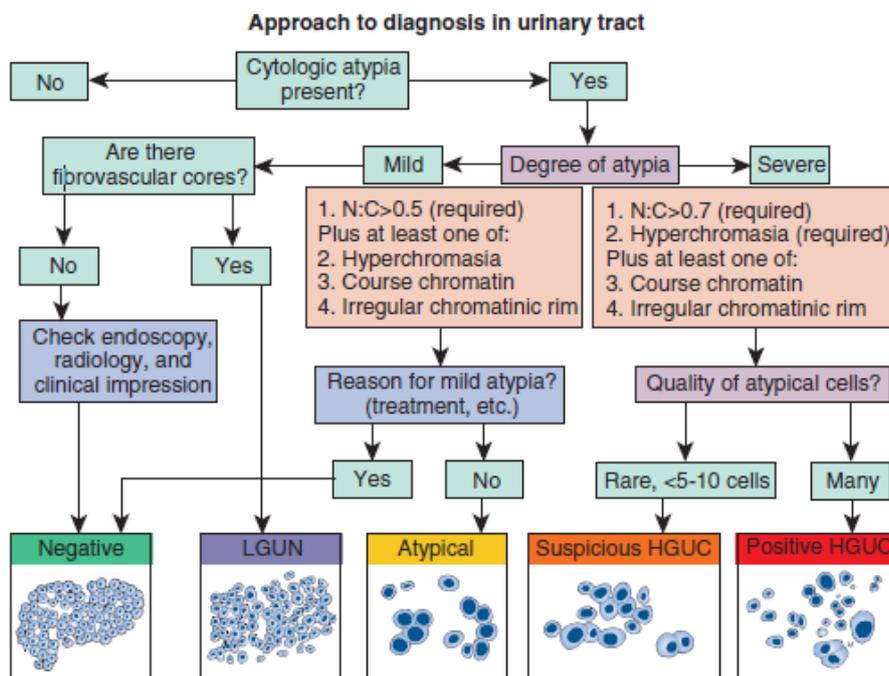


Fig. 135.5. Paris system for urine cytology. HGUC, High-grade urothelial carcinoma; LGUN, low-grade urothelial neoplasm; N:C, nucleus to cytoplasm ratio. (Modified from Barkan GA, Wojcik EM, Nayar R, et al.: The Paris System for reporting urinary cytology: the quest to develop a standardized terminology. *Acta Cytol* 60:185–197, 2016.)

84. All are true about cystitis cystic/glandularis except:

- a. Cystitis cystica and/or glandularis associated with inflammation or chronic obstruction.
- b. represent cystic nests that are lines by columnar or cuboidal cells and are associated with proliferation of Von Brunn nests

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- c. Cystitis glandularis can transform into transitional cell carcinoma
- d. regular endoscopic evaluation is recommended

Ans:C

P.No:3082

Cystitis cystica and/or glandularis is a common finding in normal bladders, typically associated with inflammation or chronic obstruction. These benign lesions represent cystic nests that are lined by columnar or cuboidal cells and are generally associated with proliferation of Von Brunn nests (Fig. 135.8). Although cystitis glandularis can transform into adenocarcinoma, the risk is low; however, regular endoscopic evaluation of these entities is recommended. Treatment is transurethral resection and relief of the obstruction or inflammatory condition.

85.Squamous cell carcinoma bladder-All are true except:

- a. Chronic infection and foreign bodies can lead to bladder cancer formation
- b. The incidence of Sq.CC in patients with spinal cord injury requiring chronic catheterization is 0.3%
- c. Sq.CC bladder has higher incidence of nodal and metastatic disease compared to TCC bladder.
- d. Radical cystectomy is the mainstay treatment for SCC.

Ans:C

P.No:3089

Chronic infection with *S. haematobium* or other bacteria leads to SCC of the bladder. Accounts for 2% to 5% of all bladder cancers. The central factor contributing to the development of SCC is chronic inflammation of the urinary tract. Historically patients with spinal cord injury requiring chronic catheterization had an incidence of SCC of 2.3%; however, this incidence rate has declined to 0.39% in contemporary series likely because of the trend toward intermittent self-catheterization. Despite having a lower incidence of nodal and metastatic disease, SCC often is seen initially at more advanced local stages than conventional urothelial carcinoma. Radical cystectomy is the mainstay treatment for SCC, and there is no clear consensus regarding the use of neoadjuvant chemotherapy before surgery. Preoperative radiation therapy was associated with worse survival. Adjuvant and intraoperative radiation therapy have also been proposed but there is no clear consensus on how or when it should be used.

86.Urachal adenocarcinoma bladder-All are true except:

- a. Urachal adenocarcinoma is a rare cancer that arises from the allantoic remnant that connects the bladder to the umbilical cord during embryogenesis.

- b. urachal remnants are typically lined by cuboidal cells and urachal cancer is almost always adenocarcinoma in origin.
- c. Sheldon's Staging of urachal carcinoma is used as TNM staging is not applicable here.
- d. The standard treatment for urachal adenocarcinoma is en bloc resection of the bladder dome, urachal ligament, and umbilicus.

Ans:B

P.No:3090

Urachal adenocarcinoma is a rare cancer that arises from the allantoic remnant that connects the bladder to the umbilical cord during embryogenesis. Although urachal remnants are typically lined by urothelial cells, urachal cancer is almost always adenocarcinoma in origin. The 2016 WHO classification introduced criteria for the diagnosis of urachal adenocarcinoma: the tumor should be located in the bladder dome or anterior abdominal wall, with the epicenter of the tumor occurring in the bladder wall; the tumor could not have widespread cystitis cystica, and there should be a thorough investigation for a secondary source for the adenocarcinoma. Sheldon's Staging of urachal carcinoma -Stage I tumors are carcinomas confined to the urachal mucosa, stage II tumors are confined to the urachus, stage III tumors are urachal tumors that extend locally into the bladder (IIIA), abdominal wall (IIB), or peritoneum (IIC), and stage IV tumors are metastatic. The standard treatment for urachal adenocarcinoma is en bloc resection of the bladder dome, urachal ligament, and umbilicus.

87.A 32 year old male is being evaluated for primary infertility.What is the optimal period of abstinence needed before giving a semen sample for semen analysis?

- a. No abstinence required
- b. 1-2 days
- c. 3-4 days
- d. minimum 5 days

Ans:B

Semen parameters peak after 1 or 2 days of abstinence and then decline. Long periods of abstinence results in poorer sperm quality .For an optimal characterization of semen, a man should be instructed to wait 1 or 2 days after an ejaculation to submit a specimen for semen analysis.

Ref: Campbell Walsh 12th Ed P.NO: 1422

88.A 28 year old gym instructor, presents to andrology clinic with complaints of primary infertility for 2 years.On evaluation he gives history of intake of anabolic steroid intake to maintain his body physique. His semen analysis reveals a sperm count of 8 million/ml. his oligospermia may be linked to his exogenous steroid intake. Exogenous testosterone impairs spermatogenesis by:



- RRM'S NEET SS-UROLOGY-AIIMS MODEL EXAM-1ST NOVEMBER-2020 -

- a. directly acting on testes
- b. Feedback inhibition FSH production of pituitary
- c. Feedback inhibition LH production of pituitary
- d. Feedback inhibition GNRH production of hypothalamus

ANs:C

Primarily through conversion to estradiol by aromatase and consequent inhibition of luteinizing hormone (LH) secretion by the pituitary, exogenous testosterone acts to decrease intratesticular testosterone synthesis and reduce spermatogenesis.

P.No:1429

89. Identify this:

- a. testicular prosthesis
- b. Prader orchidometer
- c. Seager orchidometer
- d. vaginal cones



Ans:B

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P.No:1435



Figure 24-1. Caliper (Seager) orchidometer.

90. A 30 year old young man has come for evaluation for primary infertility for 4 years with a semen analysis report with a sperm count of 11 million /ml. what is the next step in evaluation?

- a. he is diagnosed with oligospermia and need endocrine evaluation
- b. repeat semen analysis after one week with 5 days abstinence.
- c. USG scrotum with Doppler
- d. repeat semen analysis after 2 weeks with 1 day abstinence.

Ans:D

Semen analysis parameters are highly variable, and investigators typically recommend a minimum of two analyses separated by 2 to 3 weeks for assessment. Historically, men were instructed to wait 2 to 5 days after an ejaculation to submit a sample for semen analysis. Most investigators observe a linear decline in bulk seminal parameters with increasing days of abstinence. More recent studies suggest that a single day of abstinence is optimal for assessing bulk seminal parameters.

P.No:1439

91. A 26 year old male, married for 1 year presents to andrology clinic with primary infertility and a semen analysis commenting as azoospermia done elsewhere. You subject him to clinical examination and order for hormone profile keeping in mind that Combination of testis size as measured by caliper orchidometer and FSH is an accurate predictor of whether azoospermia is a result of obstruction or spermatogenic dysfunction. Find the correct statement:

- a. testis >4.6 cm and FSH > 7.6 IU/L indicate obstructive azoospermia
- b. testis >4.6 cm and FSH > 7.6 IU/L indicate spermatogenic dysfunction
- c. testis >4.6 cm and FSH < 7.6 IU/L indicate obstructive azoospermia
- d. testis >4.6 cm and FSH < 7.6 IU/L indicate spermatogenic dysfunction

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Ans:C

Ref: Campbell Walsh 12th Ed P.NO: 1437

96% of men with obstructive azoospermia had FSH assay values of 7.6 IU/L or less and testis long axis greater than 4.6 cm, whereas 89% of men with azoospermia caused by spermatogenic dysfunction had FSH values greater than 7.6 IU/L and testis long axis 4.6 cm or less

92. Pressure flow studies are not mandatory in evaluation of LUTS in male. However, there are few indications for PFS in such patients. PFS is indicated in all of the following cases except:

- Patients with previously unsuccessful invasive treatments for LUTS
- Patients with PVR volume greater than 300 mL
- Patients who cannot void more than 150 mL
- Patients older than 60 years of age with predominantly voiding LUTS

Ans:D

Ref: Campbell Walsh 12th Ed P.NO: 3347

As invasive diagnostic modalities, both the European and the American guideline panels do not routinely suggest the use of urodynamic tests to assess men with LUTS (Gratzke et al., 2015; McVary et al., 2011). However, PFS is suggested before invasive treatments in some specific scenarios:

- Patients with previously unsuccessful invasive treatments for LUTS
- Patients who cannot void more than 150 mL
- Patients with PVR volume greater than 300 mL
- Patients older than 80 years of age with predominantly voiding LUTS
- Patients younger than 50 years of age with predominantly voiding LUTS

Moreover, the AUA consensus panel stated that PFS may be performed in patients with a Qmax greater than 10 mL/s before surgical treatment is considered.

93. Evaluation of post void residual (PVR) urine is an important tool in initial evaluation of a male with LUTS. All of the following are true except:

- PVR volume is defined as the volume (mL) of urine left in the bladder at the end of micturition.
- In clinical practice, a PVR volume persistently greater than 50 mL could be regarded as important.
- transurethral catheterization is considered the gold standard to assess PVR volume



d. The presence of an abnormal PVR volume is highly correlated with BOO.

Ans:D

Ref: Campbell Walsh 12th Ed P.NO: 3346

PVR volume is defined as the volume (mL) of urine left in the bladder at the end of micturition. Currently, there is no standardized definition for a normal PVR volume. In clinical practice, a PVR volume of less than 30 mL is usually considered nonsignificant, whereas PVR volume persistently greater than 50 mL could be regarded as important. Transurethral catheterization is considered the gold standard to assess PVR volume. The presence of an abnormal PVR volume is not highly correlated with BOO. Indeed, an abnormal PVR volume could be the consequence of either BOO or DUA.

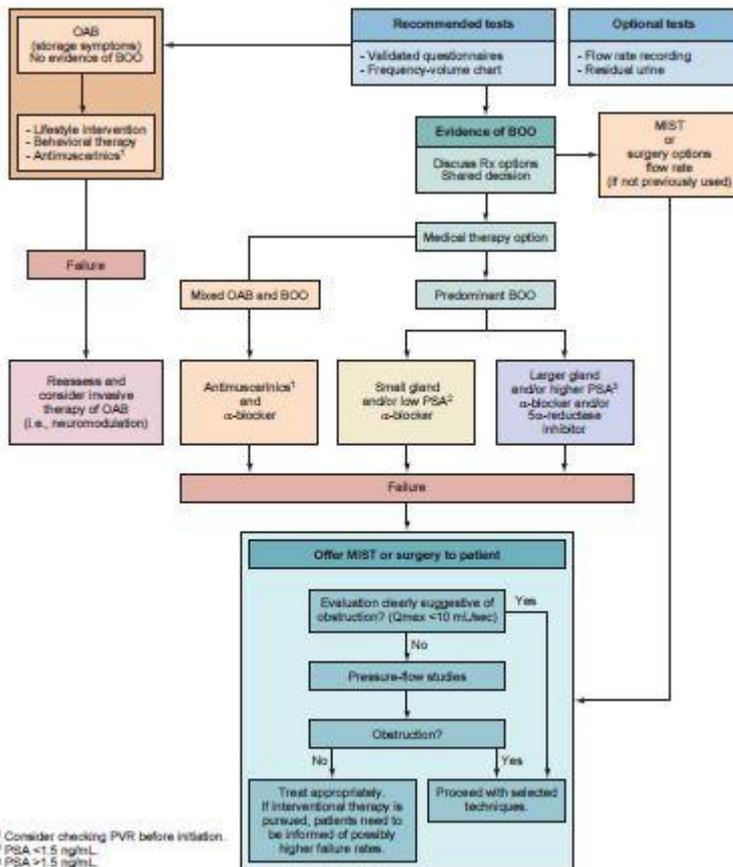
94. A 50 year old non diabetic, otherwise healthy male with no other co morbidities was diagnosed with 30ccBPH and was on Cap.Tamsulosin 0.4 mg once bedtime for more than 6 month. He now comes back with with no improvement of LUTS. His uroflow shows a VV-220 ml, Qmax-13ml/sec and PVR -70ml. What is the next step?

- a. switch over to more potent silodosin 8 mg
- b. Add 5 alpha reductase inhibitors
- c. Offer TURP
- d. plan for a urodynamic evaluation

Ans:D

Ref: Campbell Walsh 12th Ed P.NO: 3379 & 3406

International clinical guidelines suggest therapy with 5ARIs for patients with an enlarged prostate (>40 mL) and moderate to severe symptoms. (P.No.3379)



¹ Consider checking PVR before initiation.
² PSA < 1.5 ng/mL.
³ PSA > 1.5 ng/mL.

Fig. 148.2. Detailed management for persistent, bothersome lower urinary tract symptoms (LUTS) after basic management. BOO, Bladder outlet obstruction; MIST, minimally invasive surgical treatment; OAB, overactive bladder; PSA, prostate-specific antigen; PVR, postvoid residual; Rx, treatment. (Modified from McVary KT, Roehrborn CG, Aho AL, et al. Update on AUA guideline on the management of benign prostatic hyperplasia. *J Urol* 185(5):1793-1803, 2011.)

95. Circulating tumor cells (CTCs) are considered as potential prognostic biomarkers and treatment response indicators in carcinoma prostate. All of the following are true except:

- a. Circulating tumor cells (CTCs) is considered as a real time Liquid biopsy in men with cancer prostate.
- b. Typically, CTCs are defined as being CD45- and positive for an EpCAM and cytokeratin 8, 18, and 19.
- c. a CTC count of 5 or more cells per 7.5 mL of blood at any time during the course of the disease has been associated with a poor prognosis in prostate cancer.
- d. detection of the androgen receptor splice variant 7 (AR-V7) in CTCs predicts good response to abiraterone and enzalutamide in metastatic castration-resistant prostate cancer.

Ans: D

Ref: Campbell Walsh 12th Ed P.NO: 3484, 3485

Circulating tumor cells (CTCs) have long been touted as potential prognostic biomarkers and treatment response indicators. Typically, CTCs are defined as being CD45- and positive for an EpCAM



and cytokeratin 8, 18, and 19. With this system, a CTC count of 5 or more cells per 7.5 mL of blood at any time during the course of the disease has been associated with a poor prognosis in prostate cancer. In 2014 a seminal study published in the New England Journal of Medicine demonstrated that detection of the androgen receptor splice variant 7 (AR-V7) in CTCs predicts resistance to abiraterone and enzalutamide in metastatic castration-resistant prostate cancer. Patients with nuclear expression of AR-V7 in CTCs responded better to taxane therapy than abiraterone or enzalutamide.

96. The Epstein Criteria remains one of the most commonly used tools for predicting insignificant prostate cancer and determining candidates for active surveillance. It includes all of the following except:

- PSA density < 0.35 ng/mL/g
- presence of prostate cancer in fewer than 50% cores samples
- no more than 50% prostate cancer involvement in any of the cores
- absence of adverse pathological findings on biopsy

Ans: A

Ref: Campbell Walsh 12th Ed P.NO: 3526

Epstein et al. developed PSA and needle biopsy-related criteria (PSA density < 0.15 ng/mL/g, absence of adverse pathological findings on biopsy, presence of prostate cancer in fewer than 3 cores (in 6-core biopsy samples), no more than 50% prostate cancer involvement in any of the cores for identifying insignificant prostate cancer. According to these criteria the accuracy of predicting organ-confined ($< pT3$ stage) tumors with volume less than 0.5 mL and without high-grade components is 79%.

97. A 55 year old diabetic male was diagnosed with BPH and a TURP was done. His TURP histopathology comes out as adenocarcinoma prostate-Gleason score 6/grade I in 15 % of resected prostate chips. His pre-operative serum PSA was 3.5 ng/ml. according to NCCN 2018 guidelines, his risk stratification group is _____.

- very low
- low
- intermediate-favourable
- intermediate-unfavourable

Ans: B

Ref: Campbell Walsh 12th Ed P.NO: 3526



TABLE 153.1 Risk Stratification and Staging Workup

NCCN RISK GROUP	CLINICAL/PATHOLOGIC FEATURES	IMAGING
Very low	<ul style="list-style-type: none"> T1c AND Gleason score ≤ 6/grade group 1 AND PSA < 10 ng/mL AND Fewer than 3 prostate biopsy fragments/cores positive, $\leq 50\%$ cancer in each fragment/core AND PSA density < 0.15 ng/mL/g 	<ul style="list-style-type: none"> Not indicated
• Low	<ul style="list-style-type: none"> T1–T2a AND Gleason score ≤ 6/grade group 1 AND PSA < 10 ng/mL 	<ul style="list-style-type: none"> Not indicated
• Favorable intermediate	<ul style="list-style-type: none"> T2b–T2c OR Gleason score 3+4=7/grade group 2 OR PSA 10–20 ng/mL AND Percentage of positive biopsy cores $< 50\%$ 	<ul style="list-style-type: none"> Bone imaging: not recommended for staging Pelvic \pm abdominal imaging: recommended if nomogram predicts $> 10\%$ probability of pelvic lymph node involvement
Unfavorable intermediate	<ul style="list-style-type: none"> T2b–T2c OR Gleason score 3+4=7/grade group 2 or Gleason score 4+3=7/grade group 3 OR PSA 10–20 ng/mL 	<ul style="list-style-type: none"> Bone imaging: recommended if T2 and PSA > 10 ng/mL Pelvic \pm abdominal imaging: recommended if nomogram predicts $> 10\%$ probability of pelvic lymph
• High	<ul style="list-style-type: none"> T3a OR Gleason score 8/grade group 4 or Gleason score 4 +5=9/grade group 5 OR PSA > 20 ng/mL 	<ul style="list-style-type: none"> Bone imaging: recommended Pelvic \pm abdominal imaging: recommended if nomogram predicts $> 10\%$ probability of pelvic lymph
• Very high	<ul style="list-style-type: none"> T3b–T4 OR Primary Gleason pattern 5 OR > 4 cores with Gleason score 8–10/grade group 4 or 5 	<ul style="list-style-type: none"> Bone imaging: recommended Pelvic \pm abdominal imaging: recommended if nomogram predicts $> 10\%$ probability of pelvic lymph

98. Ask Upmark kidney - All are true except:

- Segmental renal hypoplasia or Ask-Upmark kidney refers to situations of extreme congenital reflux nephropathy.
- Most patients are 10 years of age or older at diagnosis & are associated with severe hypertension.
- Deep, narrow, segmental scars (slit-scars) found in the midzone are the classic radiographic finding.
- In patients with unilateral disease, partial or total nephrectomy may control the hypertension.

Ans: A

Ref: Campbell Walsh 12th Ed P.NO: 744

Segmental renal hypoplasia or Ask-Upmark kidney refers to situations of extreme acquired reflux nephropathy. Abnormal renin secretion has been proposed as the cause of the hypertension; however, nephrectomy has been shown to normalize BP regardless of plasma renin activities.

99. Which of the following is true regarding treatment options in posterior urethral valve?

- Circumcision is not advisable with concomitant valve ablation as there is no added benefit

- Prepared by: Dr. U. Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-
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- b. Ureteric reimplantation is advisable in all cases of PUV with reflux
- c. High urinary diversion has a great renoprotective effect
- d. Overnight bladder drainage proves to be a cornerstone in the management of children with valve bladder syndrome

Answer d

Ref: Campbell Walsh 12th Ed P.NO: 618

100. A 22 year old female presents to urology OPD with history of recurrent right loin pain since childhood. An IVP was done on her. This classical radiological sign in IVP is seen in _____.



- a. PUJO
- b. Bifid renal pelvis
- c. Retrocaval ureter

- Prepared by: Dr.U.Venkatesh M.Ch, DNB (Uro), Urology Team leader, RRM'S NEET SS UROLOGY-
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d. Megacalycosis

Answer c

Ref: Campbell Walsh 12th Ed P.NO: 824

Sea horse sign or fish hook sign

Excretory urography often fails to visualize the portion of the ureter beyond the J hook (i.e., extending behind the vena cava), but retrograde ureteropyelography demonstrates an S curve to the point of obstruction with the retrocaval segment lying at the level of L3 or L4.