

**UNDERSTAND  
UROLOGY**

***EXPLANATIONS OF  
CONFUSING UROLOGY  
ABBREVIATIONS***

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*We hope you find our introduction to urology lingo helpful. We attempted to be thorough yet concise. Please email omissions or suggestions for improvement to [kenneth-nepple@uiowa.edu](mailto:kenneth-nepple@uiowa.edu)*

## — A —

**ADT** = **Androgen Deprivation Therapy**: a form of prostate cancer treatment that works by decreasing testosterone levels to castrate levels (castration=bilateral testicle removal). Injections may be used in combination with radiation therapy for intermediate/high risk prostate cancer or as a palliative (not curative) therapy for metastatic prostate cancer. ADT was studied prior to prostatectomy and decreased positive surgical margin rate but did not improve any other outcome so is not used in that setting.

**AMH** = **Asymptomatic Microscopic Hematuria**: blood in the urine that is only found on microscopic examination and not visible to the naked eye (vs. visible gross hematuria - [GH](#)). The AUA guidelines define MH as >2 RBC per high powered field on a single microscopic exam. The standard workup is a CT urogram (CT without contrast, then with contrast and delayed imaging) and a cystoscopy. Cytology is recommended in patients with risk factors. [Link to AUA Guidelines for AMH.](#)

**AML** = **Angiomyolipoma**: a benign renal mass composed of blood vessels (angio), muscle (myo), and fat (lipoma). Can be sporadic or seen as part of TS. Identified by fat on CT scan (negative HU); however, not all AMLs have fat visible on CT (fat-poor AML) and might not be identified until renal mass biopsy or surgery. AMLs are not cancer, but do have a risk of bleeding. Typically managed conservatively if <3cm then treated with selective angioembolization by interventional radiology if >3 cm.

**ARF** = **Acute Renal Failure**: abrupt loss of kidney function (synonym: acute kidney injury). Urologists typically

just make this diagnosis based on impression without using a strict definition. Many definitions exist, for example one criteria requires:

- Rapid time course (<48 hours) with reduction of kidney function defined by increase in serum creatinine (absolute increase of  $\geq 0.3$  mg/dl OR increase of  $\geq 50\%$ ) OR reduction in urine output to  $< 0.5$  ml/kg/h for more than 6 hours

Compare to chronic kidney disease ([CKD](#)).

**AS** = Active Surveillance: Not immediately treating very low risk or low risk prostate cancer, but instead monitoring for cancer progression. The ideal candidate has PSA  $< 10$ , 2 or fewer cores,  $< 50\%$  involvement of any core, and PSA density of  $< 0.15$ . AS can be employed because many prostate cancers grow slowly and may not progress (although prostate biopsy undergrades about one-third of prostate cancer compared to prostatectomy specimen). Progression is assessed with [PSA](#) and DRE (typically every 3-6 months) and repeat prostate biopsy (at 12-18 months). Treatment may be initiated in patients that progress on monitoring. AS involves repeating prostate biopsy in men who are still felt to potentially benefit from treatment, in contrast to [watchful watching](#) where no treatment is done and men are watched until progression to metastatic disease or rise in PSA prompts ADT.

**AUASI** = American Urologic Association Symptom Index (synonym [IPSS](#)): 7-question validated patient questionnaire designed to assess the severity of [BPH](#) symptoms of incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Scored on a scale of 0-35 with scores of: 1-7 mild, 8-19 moderate, 20-35 severe. [Link to AUA Score/IPSS form](#).

**AUR** = **A**cute **U**rinary **R**etention: common urological emergency (“can’t pee”), presents as sudden and typically painful inability to urinate. Most commonly due to [BPH](#) and not uncommon after surgery; other causes include urethral stricture, neurological disturbances (cauda equine syndrome), constipation, prostate or bladder cancer, diabetes, or medications (sympathetic cold medicine, anticholinergics, psych drugs). Initial management involves bladder drainage by urethral catheter (or suprapubic tube if unable to place a catheter).

**AUS** = **A**rtificial **U**rinary **S**phincter: implantable device that mimics the biological urinary sphincter by closing during urinary storage with a cuff that opens during voiding. An inflatable balloon cuff is surgically placed at the bulbar urethra and a pump in the scrotum to regulate its pressure with a fluid reservoir placed in the abdomen. Treatment for post-prostatectomy [SUI](#) due to intrinsic sphincter deficiency. [Link to picture of AUS](#)

**AZF** = **A**zospermia **F**actor: gene on the Y chromosome involved in spermatogenesis. Deletions within this region are associated with spermatogenic failure and male infertility. Genetic testing to identify AZF or chromosomal abnormalities is typically done if men have a sperm count <10 million/cc.

## — B —

**BC** = **B**ladder **C**ystoscopy: diagnostic procedure that allows examination of the urethra (including visualization of the prostatic urethra), bladder, and ureteral orifices. A long, thin, flexible fiberoptic tube (15 French) or a larger rigid metal scope with a lens may be used. Cystoscope is inserted into the urethra under direct visualization. Used to

find cause of blood in urine, bladder stones, urethral blockages, or with various tools can be used for treatment (remove tissue for biopsy, remove bladder stones, place catheters, etc.).

**BCG** = **B**acillus **C**almette-**G**uérin: intravesical (into the bladder) immunotherapy prepared from attenuated bovine tuberculosis bacillus. Used to decrease recurrence risk in non-muscle invasive bladder cancer (CIS or Ta or T1 high grade; typically not used for low grade.) The exact mechanism is unknown, but it is theorized that the bacteria in the bladder may trigger a localized immune reaction. Given as induction course (few weeks after TURBT give once weekly x 6 weeks) then later as maintenance (weekly x 3 weeks).

**BCR** = **B**iochemical **R**ecurrence: Rise in the [PSA](#) in prostate cancer patients after treatment with surgery or radiation (external beam or brachytherapy) which indicates prostate cancer recurrence. There are different definitions following prostatectomy (PSA >0.20 ng/ml) or following radiation (PSA 2.0 ng/ml above the lowest PSA level detected following treatment = nadir + 2, called the Phoenix definition as the radiation meeting was in Phoenix when this was decided on).

**BN** = **B**ladder **N**eck: opening connecting the bladder to the urethra composed of layered sphincter muscles that control micturition. The bladder funnels to the bladder neck, thus the name.

**BNC** = **B**ladder **N**eck **C**ontracture: dense scar tissue at the bladder neck resulting in a stricture, can be asymptomatic or cause obstruction. A complication from radical prostatectomy, [TURP](#), or radiation therapy. Patients can present with a decreased stream, urinary retention, or

incontinence. Typically treated with urethral dilation or a transurethral incision of the bladder neck contracture (TUIBNC).

**BOO** = **B**ladder **O**utlet **O**bstruction: blockage of the bladder that reduces or prevents urine outflow. [BPH](#) is the most common cause; other common causes include bladder stones, bladder or pelvic tumors, urethral stricture, tumor, pelvic organ prolapse, or other less common causes (ureterocele=dilation of ureter). Patients present with [LUTS](#) symptoms. [UDS](#) testing can be done to avoid misdiagnosis in patients where history is unclear. UDS helps to differentiate BOO from detrusor failure, which is when the bladder does not generate a contraction. BOO can be treated by relieving the cause of obstruction, while detrusor failure is typically managed by [CIC](#) to periodically drain the bladder (or by InterStim nerve stimulator in select patients).

**BPH** = **B**enign **P**rostatic **H**ypertrophy/hyperplasia: common nonmalignant proliferation of stromal cells in the transitional zone of the prostate. Prostate growth increases with age and presence of DHT. Prostate hyperplasia can constrict the urethra (prostate sits like a donut around the urethra) and cause obstructive and irritative urinary symptoms. Severity of symptoms can be assessed with the [AUASI](#) (also called IPSS). Medical treatment involves alpha blockers to relax the prostate and bladder neck smooth muscle and/or 5 alpha reductase inhibitors to decrease DHT stimulated prostate growth. [Link to AUA guidelines for BPH](#)

**BVI** = **B**ladder **V**olume **I**ndex (synonym [PVR](#)): volume of urine remaining in the bladder after urination when measured by ultrasound (called a “bladder scan,” i.e., to

nurse, “please get a bladder scan on room 4 after he urinates”).

Interpretation of values:

0 mL	normal
10-100 mL	usually not clinically significant
>100 mL	abnormal
>999 mL	because the digital display on the bladder scanner only has 3 digits, when the volume is greater than 999, this is what displays

This value is typically pretty accurate, but can be confirmed by catheterization with a catheter without a balloon (straight cath) if you suspect the BVI is wrong or patient is obese or has ascites, which can make BVI inaccurate. A high PVR may reflect bladder outlet obstruction or poor bladder contractility. [UDS](#) may be performed to distinguish between them.

## — C —

**CaP** = Prostate Cancer (synonym: PCa): Carcinoma originating in the male prostate (vast majority adenocarcinoma but can be small cell carcinoma). The most common solid organ (non-skin) cancer in men which affects 1 in 6 men during lifetime (16%). The second leading cause of cancer death in men. Risk factors include age, African-American descent, family history, and high fat diet. Cancer usually arises in peripheral zone (70%) so symptoms do not occur until it is very advanced disease, hence the consideration of PSA screening. Signs of prostate cancer can include [LUTS](#), renal failure, bone pain, or, rarely, lower extremity edema if marked lymphadenopathy. Diagnosis is made by TRUS-guided prostate biopsy and is graded according to Gleason grade ([GG](#)). Prostate cancer spreads via lymphatics to the



obturator and hypogastric nodes and can cause osteoblastic bone metastasis.

**CAB** = **C**ombined **A**ndrogen **B**lockade: some men with metastatic prostate cancer may be treated with combined ADT injection (typically LHRH agonist like Trelstar or Lupron or Zoladex) plus an oral anti-androgen bicalutamide (androgen receptor blocker).

**CBAVD** = **C**ongenital **B**ilateral **A**bsence of **V**as **D**eferens: failure to form both vas deferens in utero; results in male infertility. Patients produce sperm in the testicles but are unable to transport them to the ejaculate so semen lacks sperm (obstazospermia). CBAVD is associated in patients with cystic fibrosis due to a mutation in the CFTR gene and unilateral lack of vas can be seen in men with unilateral renal agenesis.

**CIC** = **C**lean **I**ntermittent **C**atheterization: insertion of a catheter through the urethra into the bladder to empty the bladder of urine and then immediate removal of the catheter. This is repeated daily or several times a day for patients with urinary retention or incomplete bladder emptying. Lower risk of infection than indwelling catheter or suprapubic catheter. The concept of CIC revolutionized the management of neurogenic bladder, where UTI used to be a leading cause of death.

**CKD** = **C**hronic **K**idney **D**isease: loss of kidney function over a time period greater than 3 months. Classified into stages 1 -5 based on:

- |            |   |
|------------|---|
| Stage 1    | Evidence of kidney parenchymal damage (stage 1) |
| Stages 2-5 | Glomerular filtration rate                      |
| Stage 2    | GFR 60 – 89                                     |

Stage 3	GFR 30 – 59
Stage 4	GFR 15 – 29
Stage 5	GFR <15

Patients with advanced CKD (stage 3 or higher) may develop disturbances of electrolytes, fluid, acid base balance, as well as endocrine dysfunction resulting in anemia or vitamin D deficiency.

Compare to [ARF](#).

**CMG** = **C**ysto**M**etro**g**ram: Diagnostic procedure as part of [UDS](#) to evaluate contractile force of the bladder while filling and voiding. The study requires the insertion of two catheters into the body: a small rectal catheter to measure abdominal cavity, and a small urethral catheter to measure intravesical pressure. The calculated difference between those two pressures is the detrusor pressure (bladder). The PDetMax (maximum detrusor pressure during voiding) can then be used with the qmax (urine flow max) to evaluate for obstruction. This is in contrast a uroflow done in clinic, which only measures urine flow which can give you a qmax only (thus a low flow could be due to bladder outlet obstruction or failure of the bladder to squeeze).

**CPPS** = **C**hronic **P**elvic **P**ain **S**yndrome (kind of a synonym for **chronic prostatitis or interstitial cystitis**, not commonly used). Chronic prostatitis is >3 month history of localized pain (perineal, suprapubic, penile, groin, or external genitalia) without evidence of UTI. May also present with painful ejaculations, [LUTS](#), [ED](#), arthralgia, myalgia, and fatigue. Typically affects men 30-50, and may be caused by unidentified microbes, prostate nerve dysfunction, an autoimmune reaction, or stress-driven HPA axis malfunction (we don't really know).

[Interstitial cystitis](#) is characterized by chronic bladder pain with [lower urinary tract symptoms](#), negative urine cultures.

**CRPC** = **C**astrate **R**esistant **P**rostate **C**ancer: Prostate cancer with a rising PSA despite treatment with [ADT](#). For research study purposes, this requires a PSA >2, but clinically men may be treated as CRPC with PSA values <2. A major treatment difference exists if men have no metastatic disease (no treatments) versus metastatic CRPC (Provenge, chemotherapy, oral agents). Metastatic disease evaluation includes bone scan and CT. [Link to AUA guidelines on CRPC.](#)

**CTU** = **CT U**rogram: computed tomography (CT) to visualize the kidneys, ureters, and bladder in 3 phases: non-contrast, nephrogenic, and excretory. The unenhanced phase is done prior to IV contrast administration to detect stones. Nephrogenic phase is done 90-100 seconds after IV contrast and identifies renal masses. Excretory phase is 5-15 minutes after contrast administration to detect filling defects ([UTUC](#).) CTU is considered the best diagnostic test to investigate hematuria. While the bladder is seen on CT, it is not sensitive enough to rule out bladder cancer and thus cystoscopy is still performed.

— **D** —

**DMSA** = **D**imercaptosuccinic **A**cid (no one uses whole phrase): radioisotope used in radionucleotide renal scan (others are MAG3 and DTPA). It is retained in the renal cortex for several hours and thus provides information regarding renal morphology and structure. It is the most reliable test for the diagnosis of acute

pyelonephritis but is not typically used as that diagnosis is primarily clinical (UTI, fever, flank pain). Beneficial for detecting renal scars in patients with recurrent UTIs. Evaluation with DMSA is more commonly used in kids than adults.

**DTPA** = Diethylene Triamine Pentaacetic acid (no one uses whole phrase): radioisotope used in radionucleotide renography scan (other common agents are [MAG3](#) and [DMSA](#)). After venous injection, it is quickly filtered by the glomerulus and can be used to measure the [GFR](#). The extraction fraction of DPTA is less than half of MAG3 so it should not be given to patients with impaired renal function, suspected obstruction, or neonates. Almost never used.

**DVC** = Dorsal Venous Complex: A large complex of veins that run anterior (dorsal) to the prostatic surface and returns blood from the dorsal veins of the penis. The DVC is ligated during prostate removal to minimize blood loss.

**DVIU** = Direction Vision Internal Urethrotomy: endoscopic procedure to treat urethral stricture or bladder neck contracture. Cystoscope is inserted into the urethra and forwarded until the stricture is located. DVIU scope is then inserted and stricture is cut open with a knife (urethrotome) to open the urethra. Urethral dilation or DVIU is less invasive than open surgery (urethroplasty) for urethral stricture, but also less successful over the long term.

## — E, F —

**EBRT** = External Beam Radiation Therapy: form of radiation therapy that directs high intensity radiation beams

to treat prostate cancer. Treatment is administered daily over a 6-8 week time period. Most centers currently give [IMRT](#) (intensity modulated radiation therapy). A treatment option for localized prostate cancer.

**ED** = **Erectile Dysfunction**: sexual dysfunction due to the inability to achieve or maintain an erection during sexual arousal. It may result from impairment of one or more factors: psychological, neurologic, hormonal, arterial, and venous.

**ERSPC** = [European Randomized Study of Screening for Prostate Cancer Trial](#): Largest randomized controlled trial of prostate cancer screening to determine if early detection and treatment reduces prostate cancer mortality. 162,000 men aged 55-69 were divided into a screening and control group. Screening group individuals had [PSA](#) measured every 4 years and were offered a biopsy if it was  $\geq 3.0$  ng/ml. Results from the screening group show 39% more cancers detected and 29% reduction in prostate cancer mortality. [\[N Engl J Med. 2012\]](#)

**ESRD** = **End Stage Renal Disease**: Stage 5 of [CKD](#). Patients require dialysis and may be evaluated for renal transplant.

**ESWL** = **Extracorporeal Shock Wave Lithotripsy**: Non-invasive kidney stone treatment that involves focused external shock waves that fragment the stone. The patient then passes the smaller fragments in their urine. Good for kidney stones  $< 1.5$  cm diameter located in the upper ureters or kidney, but not as good for lower pole stones which are harder to pass the fragments.

## — G —

**GCT** = **G**erm **C**ell **T**umor: cancer arising from the germ cells within the seminiferous tubules in the testes.

Testicular cancer is the most common solid organ cancer in men 20-34 years old and 90-95% of testicular cancer is GCT origin. Germ cell tumors can be further classified as seminoma and non-seminoma germ cell tumor ([NSGCT](#)).

**GFR** = **G**lomerular **F**iltration **R**ate: indicator of renal function of the volume of fluid that passes through the glomerular capillaries into Bowman's capsule. Normal GFR is 100-130 ml/min/1.73m<sup>2</sup> in men and women and it slowly declines after the age of 40. An estimated GFR (eGFR) is calculated by the lab using gender, race, age, and creatinine ([link to calculator](#)) but may be an over- or underestimate. A 24-hour urine sample can be obtained to measure more accurately.

**GG** = **G**leason **G**rade (same as Gleason score): system of grading prostate cancer based on microscopic appearance to predict prognosis and guide treatment. A pathologist examines the biopsy specimen and assigns grades 1-5 based on the pattern (1 is the most well differentiated and 5 is the least differentiated). A primary grade is assigned to the dominant pattern of the tumor and a secondary grade is assigned to the next most frequent pattern. The primary and secondary grades are summed for the final Gleason score. Gleason scores in theory range from 2 to 10, but currently in clinical practice values are from 6 to 10. Prostate cancers with a lower Gleason score have a better prognosis.

**GH** = **G**ross **H**ematuria: Blood that is visible to the naked eye in the urine requires full evaluation. Compare to asymptomatic microscopic hematuria ([AMH](#))



**HAL** = **H**and **A**ssisted **L**aparoscopy (HAL nephrectomy): surgical technique during nephrectomy that allows direct surgeon contact with the operative field during a laparoscopic procedure. The surgeon inserts a hand into the abdomen through a Gelport while pneumoperitoneum is maintained and the hand can be used to explore, retract, assist laparoscopic instruments, and apply immediate hemostasis if needed.

**HGUC** = **H**igh **G**rade **U**rothelial **C**arcinoma: the term “urothelial carcinoma” has replaced “transitional cell carcinoma” ([TCC](#)) although you may still hear that term. Urothelial can be low grade or high grade, which has a high degree of nuclear atypia. Most invasive urothelial carcinomas are high grade.

**HIFU** = **H**igh **I**ntensive **F**ocused **U**ltrasound: minimally invasive prostate cancer treatment that utilizes high intensity ultrasound wave energy to heat and ablate diseased tissue. Not FDA approved in the US.

**HoLEP** = **H**olmium **L**aser **E**nucleation of the **P**rostate: minimally invasive [BPH](#) treatment that utilizes a laser to enucleate the prostate gland tissue while leaving the capsule in place. The excised prostate gland tissue is pushed into the bladder and then uses a morcellation device to grind and remove the tissue. This procedure

offers the advantage of more complete resection compared to [TURP](#).

**HU** = **Hounsfield Units**: quantitative scale for describing radiodensity on CT scan. It is a normal index of X-ray attenuation on a scale of -1000 for air to >1000 for bone, with water at 0. Used in urology to assess if renal masses enhance with contrast (increase >15 HU with contrast). Can also be used to estimate how hard a stone will be at ureteroscopy. HU of common substances:

Air	-1000
Fat	-100 to -50
Water	0
Soft Tissue	30 – 300
Bone	700 (cancellous bone) to 3000 (dense bone)



**IBE** = **Incomplete Bladder Emptying**: the diagnosis that goes with having an elevated [PVR](#) confirmed by ultrasound [\(BVI\)](#) or catheterization. IBE can be caused by an inadequate bladder contraction or bladder outlet obstruction, or both.

**IC** = **Interstitial Cystitis** (synonym **painful bladder syndrome**): Form of [CPPS](#) that is a chronic inflammatory bladder condition of the submucosal and muscular layers, typically affecting women. Patients have symptoms of pain and pressure originating from the bladder associated with urinary urge and frequency. Symptoms range from mild to severe and intermittent to constant, usually exacerbated by



intercourse. It is a diagnosis of exclusion. Treatment is symptom management.

**ICSI** = Intracytoplasmic Sperm Injection: direct injection of a single sperm into a single egg to fertilize it. ICSI is an [IVF](#) procedure with direct injection of a single sperm into a single egg to fertilize it. The fertilized egg (embryo) is transferred to the woman's uterus for implantation. Used in patients with abnormal semen analysis and some genetic conditions (Klienfelter's).

**IMRT** = Intensity-Modulated Radiation Therapy: current form of external beam radiation therapy [EBRT](#) that uses computer-controlled devices to manipulate multiple small radiation beams of varying intensities to radiate a tumor location. The beam shape adjusts and changes to the evolving cancer shape throughout each treatment.

**IPP** = Inflatable Penile Prosthesis: surgically implantable device for treatment of [ED](#). The IPP consists of cylinders, reservoir, and pump. A cylinder is surgically implanted in each corpus cavernosum of the penis, the pump is placed in the scrotum, and the reservoir below the rectus fascia. To achieve an erection, the man pushes on the pump and fluid is transferred from the reservoir to the cylinder. Pressing on the deflation valve on the pump returns the fluid from the cylinder to the reservoir, deflating the penis and returning it to the flaccid state.

**IPSS** = International Prostatic Symptom Score (synonym [AUASI](#)): 7-question validated patient questionnaire designed to assess the severity of [BPH](#) symptoms of incomplete emptying, frequency, intermittency, urgency, weak stream, straining, and nocturia. Scored on a scale of 0-35 with scores of: 1-7

mild, 8-19 moderate, 20-35 severe. [Link to AUA Score/IPSS form.](#)

**IUG** = Injecting Urethrogram (synonym [RUG](#)):

Diagnostic imaging procedure performed for males for evaluation of suspected urethral stricture or trauma. Radiopaque contrast dye is injected retrograde into the urethra followed by X-rays to assess urethra pathology.

**IUI** = Intrauterine Insemination: procedure involving injection of semen inside a woman's uterus during ovulation to facilitate fertilization *in vivo*. Requires millions of sperm; semen analysis must have >10 million/mL concentration. IUI is useful when there is male factor infertility due to motility. Less invasive and cheaper than [IVF](#) but lower success rate.

**IVF** = In-vitro Fertilization: procedure that fertilizes a sperm and egg outside the body *in vitro* and then the fertilized egg (embryo) is introduced into the uterus. Requires only one viable sperm; sperm can be isolated from a semen sample or collected by [TESE](#). More invasive and expensive than [IUI](#) but higher success rate.

**IVP** = Intravenous Pyelogram: radiological procedure to visualize the kidneys, ureters, and bladder. Iodine-based contrast is injected into the arm and a series of X-rays are taken at specific times to view how the contrast travels through the renal system. It provides a view of the renal anatomy and some information on renal function. IVP is not commonly performed as it has been replaced by CT urogram.

— J, K, L —

**JP** = **Jackson-Pratt**: closed suction drain placed postoperatively for collecting bodily fluids from a surgical site. The drain consists of thin rubber tubing and a soft round squeeze ball. One end of the tubing is placed at the site of anticipated fluid accumulation and the other end comes out of the body through an incision and is attached to the suction bulb. Squeezing the bulb when empty creates a vacuum that creates a suction to continue drawing fluid from the surgical site.

**KUB** = **Kidney Ureter Bladder**: frontal supine plain radiograph of the abdomen. Despite the name, it does not provide good visualization of the renal system. However, KUB can detect radio-opaque stones (calcium, cysteine, and struvite stones) but will miss radiolucent uric acid stones, small stones, stones overlying bony structures. Sensitivity and specificity for nephrolithiasis is 45-70% and 77%, respectively.

**LUTS** = **Lower Urinary Tract Symptoms**: Nonspecific term for storage, voiding, and post-urination symptoms. Symptoms can be categorized as irritative or obstructive. Irritative symptoms are urinary frequency, urgency, and dysuria; obstructive symptoms are decreased stream, hesitancy, straining, and incomplete bladder emptying. Causes for LUTS include [BPH](#), UTI, chronic prostatitis, urinary stone, detrusor instability, and prostate or bladder cancer. Severity of symptoms are assessed with the [AUASI/IPSS](#).

## — M —

**MC DK** = **Multicystic Dysplastic Kidney**: malformed kidney caused by abnormal interaction between the uterine bud and metanephric mesenchyme in utero. This results in

a non-functional kidney consisting of cysts and mesenchyme. This condition is often suspected prenatally with ultrasound; usually unilateral and asymptomatic with compensatory hypertrophy of the contralateral kidney. Confirmed with a renal ultrasound and a renal scan, which shows no function. The term “dysplastic” is a misnomer as there is not an increased risk of malignancy.

**MAG-3** = **M**ercapto**a**cetyl**t**riglycine (no one uses whole phrase): radioisotope used in radionucleotide renography scan (other common agent is [DTPA](#)). After venous injection, it is quickly extracted by the proximal tubules and secreted into the tubular lumen. MAG-3 renal scan is commonly used to evaluate for UPJ obstruction or for evaluation of hydronephrosis.

**MFL** = **M**ultifunction **L**ithotripsy suite: University of Iowa urology procedure suite where endourological treatments, including fluoroscopy and [ESWL](#) are performed.

**MMC** = **M**yelomeningocele: most common and severe form of spina bifida where the meninges and spinal cord herniate through the spinal canal defect. Nearly all patients have bladder dysfunction ([neurogenic bladder](#)) and complications include urinary stasis, recurrent UTIs, and progressive deterioration of the upper urinary tract. Patients should be evaluated with renal and bladder ultrasound, [VCUG](#). [UDS](#) is used to assess bladder function. (**MMC** is also abbreviation used for **m**itomycin **C**, an agent that can be put into the bladder for intravesical chemotherapy. Mitomycin is a larger molecule and does not have infection risk of BCG, so mitomycin can be given immediately after TURBT to reduce recurrence risk.)

**MTOPS** = Medical Therapy of Prostatic Symptoms  
 trial: Large randomized clinical trial [[JN Engl J Med. 2003](#)]  
 designed to assess the long-term benefits of drug  
 treatment of [BPH](#). Results showed that combination  
 therapy with a selective 5 $\alpha$  reductase inhibitor (finasteride)  
 and  $\alpha$ -1 blocker (doxazosin) was superior to monotherapy  
 of either drug in terms of symptom improvement and  
 overall disease progression.

— N, O —

**NED** = No Evidence of Disease: no signs, symptoms,  
 or tests indicate cancer in a patient previously treated for  
 cancer.

**NGB** = Neurogenic Bladder: loss of normal bladder  
 function as a result of damage to the nervous system in the  
 brain, spinal cord, or nerves (examples: [MMC](#), stroke, MS,  
 diabetes, Parkinson's, spinal cord injury). Symptoms  
 depend on the underlying cause. It is possible for the  
 bladder to become overactive (frequent contraction without  
 inhibition) or underactive (unable to contract and hence  
[incomplete bladder emptying](#)). [UDS](#) can be obtained for  
 evaluation.

**NSGCT** = Non-Seminomatous Germ Cell Tumor:  
 testicular cancers of embryonic cell origin that are not pure  
 germ cell seminoma tumors. There are 4 histologic classes  
 of NSGCT: embryonal carcinoma, teratoma,  
 choriocarcinoma, and yolk sac tumor.

**Nx** = Nephrectomy (can also mean nodal stage  
 unknown in the TNM stage): surgical removal of a kidney

(radical nephrectomy) or a section of a kidney ([partial nephrectomy](#)).

## — P, Q —

**PCN** = **P**ercutaneous **N**ephrostomy tube: A small catheter placed through the skin and into the renal pelvis to drain urine. This may be done to relieve ureteral obstruction or for access for PCNL. PCN tubes must be changed every 12 weeks.

**PCNL** = **P**ercutaneous **N**ephrolithotripsy (=nephrolithotomy): surgical procedure to remove larger kidney stones through a puncture in the skin. The surgeon makes an incision in the back and then places a sheath into the kidney, through which larger instruments can be used to fragment and then extract the stone. Indicated in kidney stones >1.5 cm diameter located within the kidney or upper ureter.

**PDE5** = **P**hosphodiesterase type **5**: enzyme that catalyzes hydrolysis of cGMP in the corpus cavernosa and the retina. It is of pharmaceutical interest because inhibition of PDE5 can prolong the vasodilatory effect of cGMP in the corpus cavernosa and be used to treat [ED](#) (sildenafil, vardenafil, tadalafil).

**PLCO** = [Prostate Lung Colon Ovarian trial: \[J Natl Cancer Inst. 2012\]](#) Large trial to determine the effects of screening on cancer-related mortality. Data at this time show men that undergo prostate cancer screen with [PSA](#) test and DREs have a 12% higher incidence of prostate cancer than men in the control group, but a similar rate of rate of death from the disease in prostate cancer screening vs. normal care. Limited by contamination of the non-

screening arm (52% of patients received PSA screening in the control arm).

**PLND** = **P**elvic **L**ymph **N**ode **D**issection: surgical removal of the pelvic lymph nodes performed for detection of lymph node metastasis for accurate staging or for cancer treatment. May include external iliac lymph nodes, internal iliac lymph nodes, and common iliac lymph nodes. Most commonly done in bladder and prostate cancer.

**PN** = **P**artial **N**ephrectomy (OPN = open, LPN = laparoscopic, RAPN = robotic-assisted): surgical removal of a portion of the kidney. The goal is to remove only the renal mass and spare the healthy, functioning part of the kidney. This is in contrast to the [RN](#).

**POP-Q** = **P**elvic **O**rgan **P**rolapse **Q**uantification score: objective staging system for describing and quantifying pelvic support in women. Staging is determined by measuring defined points on the midline vaginal wall using the hymenal ring as the fixed point of reference.

**PSA** = **P**rostate **S**pecific **A**ntigen: serine protease glycoprotein secreted by the epithelial cells of the prostate into seminal fluid that is responsible for the liquefaction of semen. Elevated can occur with prostate cancer, prostate enlargement, or inflammation. PSA gradually increases with age, such that cutoffs based on age have been suggested.

<u>Age</u>	<u>Normal</u>
40 – 49	0 – 2.5
50 – 59	0 – 3.5
60 – 69	0 – 4.5
70 – 79	0 – 6.5

The serum PSA test is a controversial screening test for detection of prostate cancer.

**PUV** = **P**osterior **U**rethral **V**alves: obstructing membranous folds within the lumen of the prostatic urethra that causes congenital bladder outlet obstruction. The degree of obstruction affects disease presentation. Severe obstruction can cause oligohydramnios in utero and can result in pulmonary hypoplasia and respiratory distress immediately after birth. Milder obstruction can present in older children with recurrent UTI or urinary incontinence. One-half to one-third of boys with PUV also have [VUR](#) and/or renal dysplasia. Bladder [US](#) may show a distended thick-walled bladder and bilateral hydronephrosis. The diagnosis of PUV is made by [VCUG](#).

**PVR** = **P**ost-**V**oid **R**esidual (synonym [BVI](#) if assessed by ultrasound): volume of urine remaining in the bladder after urination. Can be measured by ultrasound or post-void catheterization. Interpretation of values:

0 mL	normal
10-100 mL	usually not clinically significant
>100 mL	abnormal
>999 mL	because the digital display on the bladder scanner only has 3 digits, when the volume is greater than 999, this is what displays

A high PVR may reflect bladder outlet obstruction or poor bladder contractility. [UDS](#) must be performed to distinguish between them.

— R —



**RA** = **Robotic-Assisted**: prefix to describe a surgery completed with the assistance of a surgical robot. Common urological surgeries that utilize robotic technology are: laparoscopic prostatectomy (RALP), partial nephrectomy (RAPN), and radical cystectomy (RARC). Robotic surgeries offer the advantage of three-dimensional vision from the dual camera system.

**RC** = **Radical Cystectomy**: surgical removal of the bladder. In men the prostate, seminal vesicles, and part of the vas deferens are removed. In women the cervix, uterus, ovaries, fallopian tubes and part of the vagina are removed.

**RCC** = **Renal Cell Carcinoma**: adenocarcinoma originating from the kidney. RCC is the most common renal malignancy and the most lethal urological tumor. The most common subtype is clear cell (75%) which originates from the proximal tubules. Other types are papillary and chromophobe. Risk factors include cigarette smoking, [VHL](#), [TS](#), and [ESRD](#). RCC may present with hematuria, palpable mass, flank pain, fever and weight loss. It is nicknamed the “internist’s tumor” because it can cause paraneoplastic syndrome by ectopic secretion of EPO, ACTH, or PTHrP. Contrast CT an enhancing renal mass (benign masses can have a similar appearance).

**RPLND** = **Retroperitoneal Lymph Node Dissection**: surgical removal of the retroperitoneal lymph nodes performed to stage and treat urogenital malignancies. Most commonly indicated for testicular cancer.

**RRP** = **Radical Retropubic Prostatectomy**: surgical procedure for localized prostate cancer that removes the prostate through a midline incision in the lower abdomen.

The most common complications are impotence and incontinence.

**RTG** = **R**etrograde pyelogram (synonym **retrograde**): radiologic procedure to visualize the ureters and collecting system of the kidney by injecting contrast into the ureters. It is called retrograde because the dye flows toward the kidneys in the direction opposite to the normal direction of urine flow. Procedure requires cystoscopy and dynamic fluoroscopy for visualization. Used to evaluate ureteral or [UPJ](#) obstruction, aid in stent placement and ureteroscopy, or if contrast CT is contraindicated in a patient.

**RUG** = **R**etrograde **U**rethrogram (synonym [IUG](#)): diagnostic imaging procedure performed for males for evaluation of suspected urethral stricture or trauma. Radiopaque contrast dye is injected retrograde into the urethra followed by X-rays to assess urethra pathology.

## — S —

**SHIM** = **S**exual **H**ealth **I**nventory for **M**en: a screening and diagnostic questionnaire for erectile dysfunction. The 5-question survey gauges sexual function over the last 6 months by having men rate statements on a scale of 0-5 or 1-5 depending on the question. The scores are summed to give a score between 1-25. A score of <21 could be suggestive for ED. [Link to SHIM form](#)

**SUI** = **S**tress **U**rinary **I**ncontinence: urinary leakage with exertion. The etiology of the urethral dysfunction can occur because of urethral hypermobility or intrinsic sphincter defect (ISD). Urethral hypermobility is also referred to as anatomic incontinence because it is caused by malposition

of the proximal urethra below the pelvic floor. ISD refers to the inability of the urinary sphincter to close completely and can be due to surgery or anatomic abnormality.

**SPP** = **S**uprapubic **P**rostatectomy: surgical procedure for [BPH](#) that involves enucleation of the prostate through an extraperitoneal approach and opening the bladder. Bladder stones can be removed at the same time.



**TCC** = **T**ransitional **C**ell **C**arcinoma: cancer arising from the transitional epithelium (tissue lining of the inner surface) of the kidneys, ureter, bladder, or urethra. This is the “old” name for urothelial carcinoma, but the term TCC is sometimes used in clinical practice. It is the most common type of bladder cancer, ureter cancer, and urethral cancer and the second most common type of kidney cancer. Pattern of growth for TCC can be papillary, sessile or carcinoma-in-situ. Malignancy is highly associated with environmental carcinogenic exposure including cigarette smoking, aniline dyes, cyclophosphamide and phenacetin.

**TESE** = **T**esticular **E**xtraction of **S**perm: minor surgical procedure to retrieve testicular sperm via open testicular biopsy. Sperm are isolated from the tissue and fertilize an egg by [ICSI](#), a form of [IVF](#) technology. Since there is only a small number of sperm isolated, [IU](#) is not possible. This infertility treatment is used in cases of male infertility where sperm is not present in the ejaculate but still produced in the testicles (azoospermia, [AZF](#) microdeletion, [CBAVD](#), Klinefelters, obstruction).

**TNM** = Tumor Node Metastasis: cancer staging system that describes the extent of the disease. T describes the size of the original tumor, N describes regional lymph node involvement, and M describes the presence of distant metastasis.

**TRUS** = Transrectal Ultrasound: procedure that allows visualization of the prostate via a rectally inserted ultrasound transducer. Used to guide a prostate biopsy.

**TS** = Tuberous Sclerosis: rare autosomal dominant genetic disorder that causes benign tumors to form in many different organs, primarily in the brain, eyes, heart, skin and kidneys. Patients with TS commonly have urologic manifestations; 60-80% develop [angiomyolipoma](#), 20-30% have renal cysts, and they are at an increased risk for [RCC](#).

**TUI** = Transurethral Incision, can be of prostate (TUIP) or of bladder neck contracture (TUIBNC): surgical procedure to relieve obstructive urinary symptoms. A cystoscope is inserted through the urethra and knife (urethrotome) is used to cut open the lumen of the urethra. TUIP is only performed in men with a relatively small prostate and is much less frequently performed than [TURP](#).

**TURBT** = Transurethral Resection Bladder Tumor: endoscopic surgical procedure to diagnose and treat bladder cancer. A resectoscope is inserted through the urethra; the tumor is transected by electrocautery and retrieved.

## **TURP** = Transurethral Resection Prostate:

Endoscopic surgical procedure to treat [BPH](#). A resectoscope is inserted through the urethra and the prostate is removed by electrocautery. The pieces of tissue flow into the bladder and are irrigated out at the end of the operation. This procedure is reserved for patients who have failed medical management, have recurrent acute urinary retention, have renal impairment due to chronic urinary retention, recurrent hematuria, or bladder stones from chronic obstruction. This is more invasive than [transurethral incision of the prostate](#).

**TVT** = Tension-free Vaginal Tape: minimally invasive surgical procedure to treat [stress urinary incontinence](#) caused by a hypermobile urethra. The synthetic polypropylene-mesh tape is placed mid-urethra and acts as a sling to support the urethra. The tape is inserted and positioned through small incisions on the abdomen and vagina wall.



**UA** = Urinalysis: a number of tests performed on urine looking at specific gravity, pH, glucose, nitrite level, protein, ketone presence, and microscopic analysis in order to test for abnormalities, or determine a cause for certain symptoms the patient may be experiencing (such as diabetes, glomerulonephritis, or UTIs).

**UDS** = Urodynamics: diagnostic procedure that assesses bladder and urethra function during storage and voiding phase of micturition. Involves the use of a catheter to fill the bladder and various measurements are recorded. The tests performed depend on the presenting problem but can include:

- Uroflowmetry
- Post-void residual ([PVR](#))
- Cystometry
- Electromyography (EMG)
- Fluoroscopy

**UOP** = **U**rine **O**utput: The volume of urine produced by a patient. A decreased output is known as oliguria, which is a urine output of less than 30 cc per hour.

**UPJ** = **U**reteropelvic **J**unction: the junction between the ureter and the renal pelvis of the kidney. Intrinsic stenosis of the UPJ is commonly congenital; this is the last portion of the renal system to canalize during embryological development. Failure for this segment to become patent is the most common cause of bilateral hydronephrosis in neonates. Obstruction can also be caused by lower pole crossing vessels (renal artery).

**URS** = **U**reteroscopy: a urinary tract endoscopy of the ureter. This is performed by passing an endoscope through the urethra, bladder, and then into the upper urinary tract. Ureteroscopes also contain a channel through which a wire or laser can be used to break up a stone.

**US** = **U**ltrasound: a method of imaging that uses high-frequency sound (ultrasound) waves which reflect and echo off tissue and organs, producing a precise image of the structures within the body. These images can then be used in diagnosing and treating diseases. There is no radiation exposure with ultrasound.

**UTUC** = **U**pper **T**ract **U**rothelial **C**arcinoma: cancer of the urothelium of the ureters or renal pelvis. It is the most common type of malignant tumor found in the renal pelvis

and ureters. The major prognostic factor is the depth of infiltration into or through the uroepithelial wall.

**UVJ** = **Ureterovesical Junction**: the location in the urinary tract where the ureter joins the bladder. This junction is at an angle so that the urine typically does not reflux upwards towards the kidneys during urination when pressure in the bladder is high. This is also the narrowest part of the ureter, and as such the location of where many stones cause an obstruction. UVJ obstruction can cause megaureter and hydronephrosis.

## — V, W, X, Y, Z —

**VCUG** = **Voiding Cystourethrogram**: diagnostic radiographic study that images the bladder and urethra during urination. The study consists of catheterizing the patient and filling the bladder with a radiocontrast agent and then voiding the radiocontrast under fluoroscopy. If contrast moves into the ureters or kidney, the diagnosis of vesicoureteral reflux ([VUR](#)) is made. Also used to make the diagnosis of posterior urethral valves ([PUV](#)).

**VHL** = **Von Hippel-Lindau**: rare autosomal dominant genetic disease that predisposes an individual to benign and malignant tumors. Most common tumors are hemangioblastomas of the retina/cerebellum/medulla, endolymphatic sac tumors of ear, pheochromocytomas, and [renal cell carcinoma](#). Associated with mutation of the VHL tumor suppressor gene on chromosome 3p that results in the constitutive expression of hypoxia induced factor (HIF) and activation of angiogenic growth factors.

Renal masses in patients with VHL are typically followed until >3cm.

**VUR** = Vesicoureteral Reflux (synonym **reflux**):

retrograde flow of urine from the bladder into the ureter and possibly into the renal collecting system. Primary VUR results from a congenital abnormality of the UVJ; secondary VUR is caused by high pressure voiding due to neuropathic bladder, posterior urethral valves or dysfunctional elimination syndrome. Radiographic diagnosis of VUR is made by observing reflux on [VCUG](#). Identified on workup for UTI. May be managed conservatively with antibiotic prophylaxis or by surgery.

**WW** = Watchful Waiting: monitoring of prostate cancer progression in patients who are not felt to be candidates for definitive therapy. WW does not include repeat prostate biopsy, in contrast to [active surveillance](#). Patients on WW are watched until symptomatic progression, metastatic disease, or substantial rises in PSA prompt consideration of [ADT](#).

**XGP** = Xanthogranulomatous Pyelonephritis: rare form of chronic pyelonephritis characterized by granulomatous abscess formation and severe kidney destruction. The most common organisms causing XGP are *E. coli* and *Proteus*. Patients typically present with recurrent fevers and urosepsis, anemia, and a painful renal mass. Can be confused with renal malignancy on imaging. Treatment is drain placement and antibiotics or nephrectomy.



