

Urology Services in the ASC

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Learning Objectives:

- ▶ Describe the numerous basic and advanced urology cases/lines of service that can be provided in an ASC setting
- ▶ Discuss various opportunities regarding clinical, operational and financial aspects of urology lines of service in an ASC setting

Why Offer Urology Services in Your ASC?

- ▶ Majority of urologic surgical services are already outpatient
- ▶ Many urologic procedures are high volume, short duration and low cost
- ▶ Increasing emphasis on movement of site of service for surgical cases from hospitals and insurance carriers to ASCs
- ▶ There are still some case types where patients are traditionally admitted or placed in extended recovery status that can be converted to strictly outpatient status and would be suitable for an ASC
- ▶ Potential core of fee-for-service case types (microsurgery, aesthetics, prosthetics, etc.)

Increasing Population of Those Aged 65 and Over

- ▶ As of 2018, it was estimated that there were 51 million persons aged 65 and over (15.63% of total population)
- ▶ By 2030, it is expected that there will be 72.1 million persons aged 65 and over

National ASC Statistics - 2017

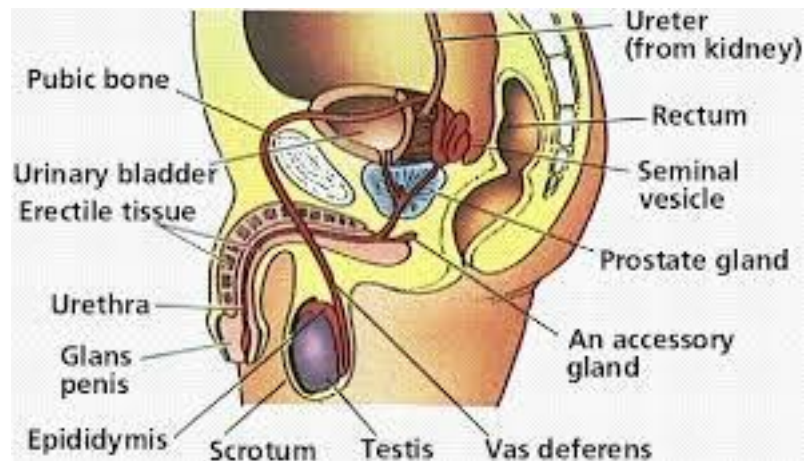
- ▶ Urology cases represented 6% of total case mix for ASCs
- ▶ Urology cases were 4th in median net revenue per case (approximately \$2,400) - behind Orthopedics, ENT and Podiatry
- ▶ Urology comprised 3% of single specialty ASCs (5th behind GI, Ophthalmology, Pain Management, Dermatology)
- ▶ Urology comprised a low % of involvement in multi-specialty ASCs
- ▶ Of the 20 most frequently provided ASC services, one was urology related (cystoscopy - 17th)

Common Urologic ASC Procedures

- ▶ Cystoscopy
- ▶ TRUS/Prostate biopsies
- ▶ Cystoscopy/stent removal
- ▶ Vasectomy
- ▶ Ureteroscopy +/- laser lithotripsy +/-stent
- ▶ ESWL
- ▶ Prostatic Urethral Lift (Urolift)
- ▶ Cystoscopy/Botox injection
- ▶ Cystoscopy/stent placement
- ▶ Laser vaporization of the prostate
- ▶ TURP/Plasma vaporization
- ▶ TURBT - medium, small, large
- ▶ Circumcision
- ▶ PCNL
- ▶ Hydrocelectomy
- ▶ Sacral Neuromodulation (PNE/InterStim)
- ▶ Cystoscopy/Internal urethrotomy
- ▶ Placement of inflatable penile prosthesis
- ▶ Female pelvic sling

Urology Services in the ASC

- ▶ By anatomic location
- ▶ By specific lines of service



Anatomic Location

- ▶ Urethra
- ▶ Prostate
- ▶ Bladder
- ▶ Ureter/kidney
- ▶ Abdomen/inguinal region
- ▶ Penis
- ▶ Scrotum/Testes
- ▶ Female Genitalia
- ▶ Vagina



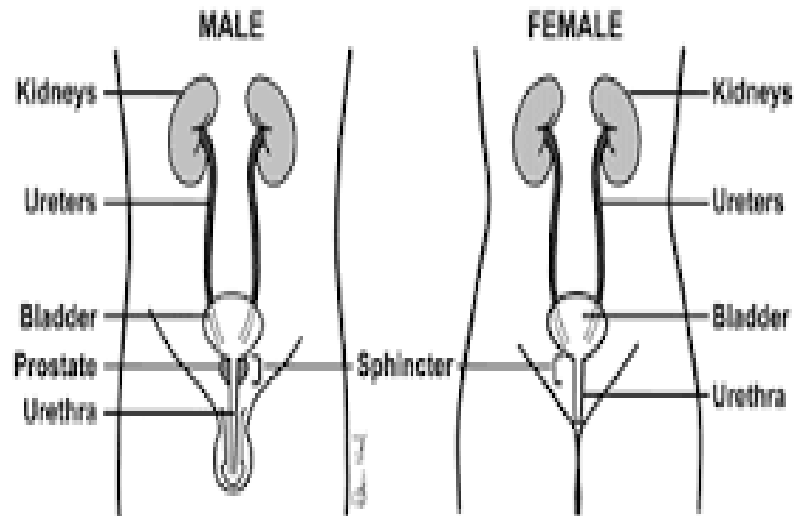
Specific Urologic Lines of Service

- ▶ Endoscopic (diagnostic and therapeutic)
 - ▶ Lower urinary tract - urethra, bladder (cystourethroscopy)
 - ▶ Upper urinary tract - (ureteroscopy/ureteropyeloscopy/nephroscopy)
- ▶ Laser
 - ▶ External
 - ▶ Internal
- ▶ Minimally invasive BPH therapy
- ▶ Pelvic health/incontinence - male, female
- ▶ ESWL
- ▶ PCNL

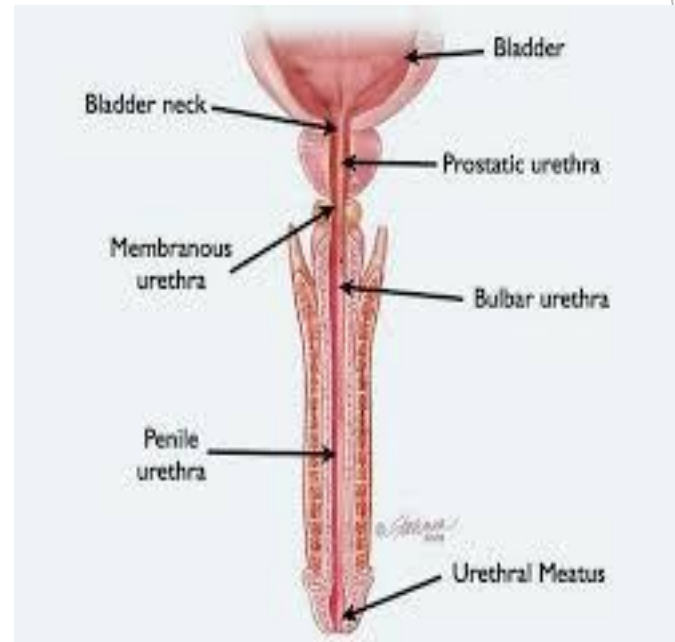
Specific Urologic Lines of Service

- ▶ Renal mass biopsy/ablation
- ▶ Prosthetics
- ▶ Radiation therapy
- ▶ Cryotherapy/HIFU
- ▶ Microsurgery
- ▶ Pediatric surgery
- ▶ Radiologic guidance and diagnostic procedures
- ▶ Other potential lines of service - laparoscopy, robotics

Urology Services in the ASC by Anatomic Location



Urethra



- ▶ Meatotomy

- ▶ Biopsy

- ▶ Urethral dilation

- ▶ Excision of urethral diverticulum

- ▶ Urethroplasty

- ▶ Pelvic sling

- ▶ Artificial urinary sphincter - placement, repair, removal

- ▶ Urethrography

Urethra - Endoscopic

- ▶ Cystourethroscopy with biopsy
- ▶ Cystourethroscopy with fulguration
- ▶ Cystourethroscopy with direct vision internal urethrotomy (DVIU)
- ▶ Cystourethroscopy with sphincterotomy
- ▶ Cystourethroscopy with urethral dilation
- ▶ Cystourethroscopy with insertion of urethral stent
- ▶ Cystourethroscopy with injection (steroid, implant material)

Prostate

- ▶ Biopsies (traditional and using MRI fusion technology)
- ▶ Transperineal placement of needles for interstitial radioelement application (brachytherapy)
- ▶ Fiducial marker placement
- ▶ Space OAR
- ▶ Cryosurgical ablation
- ▶ HIFU
- ▶ Electroejaculation

Prostate - Endoscopic

- ▶ Cystourethroscopy with fulguration
- ▶ Cystourethroscopy with TUR/incision of ejaculatory duct
- ▶ Transurethral incision of prostate
- ▶ Transurethral resection of bladder neck
- ▶ Transurethral resection of prostate (TURP)
- ▶ Laser/plasma vaporization of prostate
- ▶ Transurethral laser enucleation of prostate
- ▶ Transurethral hot water vaporization (Rezüm)
- ▶ Transurethral prostatic urethral lifts (Urolift)

Bladder

- ▶ Aspiration of bladder
- ▶ Insertion of suprapubic tube
- ▶ Cystotomy/cystostomy
- ▶ Cystolithotomy
- ▶ Anterior vesicourethropexy or urethropexy
- ▶ Urodynamics
- ▶ Cystogram/loopogram/pouchogram

Bladder - Endoscopic

- ▶ Cystourethroscopy - diagnostic
- ▶ Cystourethroscopy with injection of implant material
- ▶ Cystourethroscopy with biopsies/fulguration
- ▶ TUR/fulguration/vaporization of tumors
- ▶ Cystourethroscopy with stent placement/removal
- ▶ Cystourethroscopy with botox injection
- ▶ Cystourethroscopy with removal of bladder stones
- ▶ Cystourethroscopy with retrograde ureteropyelogram

Bladder - Endoscopic

- ▶ Cystourethroscopy with dilation of bladder (hydrodistention)
- ▶ Cystourethroscopy with ureteral meatotomy
- ▶ Cystourethroscopy with irrigation/evacuation of clots
- ▶ Cystourethroscopy with treatment of ureteral/UPJ/intra-renal stricture

Penis

- ▶ Circumcision/other foreskin procedures
- ▶ Destruction of penile lesions (electrodessication, cryosurgery, laser surgery, surgical excision)
- ▶ Biopsy
- ▶ Excision of penile plaque (Peyronie's disease)
- ▶ Partial penectomy
- ▶ Injection/irrigation procedures
- ▶ Plastic operation for straightening of penis
- ▶ Urethroplasty/hypospadias repair

Penis

- ▶ Insertion of penile prosthesis
 - ▶ Semi-rigid
 - ▶ 2 piece inflatable
 - ▶ 3 piece inflatable
- ▶ Removal of penile prosthesis
- ▶ Removal/replacement of penile prosthesis
- ▶ Repair of penile prosthesis

Scrotum

- ▶ Excision of lesions
- ▶ Drainage of scrotal wall abscess
- ▶ Scrotal exploration
- ▶ Scrotoplasty
- ▶ Puncture aspiration of hydrocele
- ▶ Excision/repair of hydrocele

Testis

- ▶ Biopsy of testis - needle, excisional
- ▶ Excision of extraparenchymal lesion of testis
- ▶ Orchiectomy - partial, simple
- ▶ Fixation of testis
- ▶ Insertion of testis prosthesis
- ▶ Repair of testicular injury

Epididymis

- ▶ Incision and drainage
- ▶ Biopsy
- ▶ Exploration
- ▶ Excision of lesion
- ▶ Excision of spermatocele
- ▶ Epididymectomy
- ▶ Epididymovasostomy
- ▶ Epididymal sperm aspiration

Vas deferens/Spermatic Cord

- ▶ Vasotomy/cannulization/vasogram
- ▶ Vasectomy
- ▶ Vasovasostomy (vasectomy reversal)
- ▶ Vasovasorrhaphy
- ▶ Excision of lesion of spermatic cord

Inguinal / Abdominal

- ▶ Orchidopexy
- ▶ Radical orchiectomy
- ▶ Varicocele ligation
- ▶ Hernia repair
- ▶ Spermatic cord denervation

Female Genital

- ▶ Incision and drainage of abscess
- ▶ Marsupialization of cyst
- ▶ Lysis of labial adhesions
- ▶ Destruction of lesions
- ▶ Biopsy of lesions
- ▶ Hymenotomy/partial hymenectomy
- ▶ Cosmetic procedures - labiaplasty, clitoral hood reduction, etc.

Vagina

- ▶ Destruction of lesions
- ▶ Biopsy
- ▶ Partial vaginectomy
- ▶ Repair of injury
- ▶ Colporrhaphy - anterior, posterior, combined
- ▶ Enterocele repair
- ▶ Colpopexy

Vagina

- ▶ Sling operation for stress incontinence
- ▶ Closure of fistula
- ▶ Colposcopy

Kidney/Ureter

- ▶ ESWL
- ▶ Injection studies - retrograde ureteropyelogram, nephrostogram
- ▶ Renal endoscopy thru established tract
- ▶ Percutaneous nephrostolithotomy (PCNL)
- ▶ Percutaneous biopsy/ablation of renal masses
- ▶ Ureteroscopy/pyeloscopy/nephroscopy
 - ▶ Diagnostic
 - ▶ With biopsy and/or fulguration
 - ▶ With removal or manipulation of stone
 - ▶ With lithotripsy
 - ▶ With resection of tumor
 - ▶ With removal of foreign body
 - ▶ With treatment of stricture

Specific Urologic Lines of Service

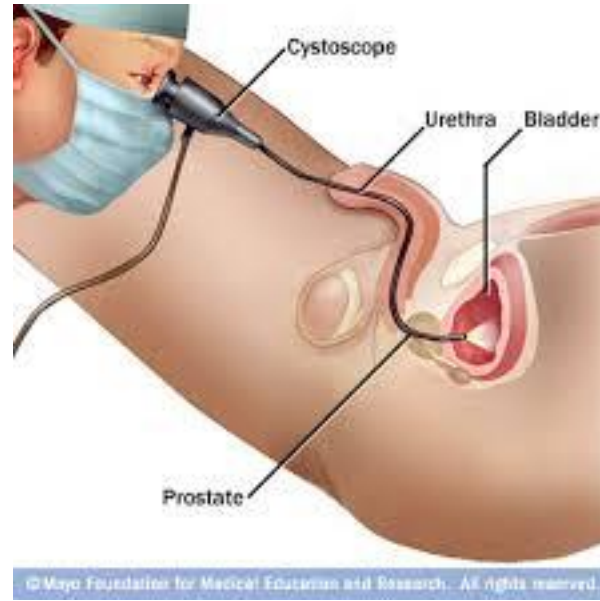
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Urologic Endoscopy

- ▶ Cystoscopes
 - ▶ Rigid
 - ▶ Flexible
- ▶ Ureteroscopes
 - ▶ Rigid
 - ▶ Flexible
 - ▶ Disposable



Rigid Cystoscopes

▶ Rigid

- ▶ Standard diagnostic/therapeutic
- ▶ DVIU scopes
- ▶ Laser scopes
- ▶ Injection scopes
- ▶ Resectoscopes



Rigid Cystoscopes

- ▶ Sheaths - various sizes
 - ▶ Typically ≥ 17 Fr to allow passage of a rigid and/or flexible accessory
- ▶ Obturators
 - ▶ Non-visual
 - ▶ Visual
- ▶ Bridges - single, double, deflectable
- ▶ Lenses - 0, 5, 12, 30, 70, 120 degree options
- ▶ Working elements for resectoscopes
- ▶ Accessories - some can be rigid or flexible: graspers, biopsy forceps; electrodes



Flexible Cystoscopes

- ▶ Standard - with or without digital technology
- ▶ Scope with disposable sheath
 - ▶ Direct vision
 - ▶ Videoscope
 - ▶ Issues
 - ▶ Saves time with cleaning, disinfection, sterilization
 - ▶ Can potentially reduce case turnover time
 - ▶ May reduce capital equipment cost but adds disposable costs



Ureteroscopes

- ▶ Rigid
 - ▶ Short
 - ▶ Long
- ▶ Flexible
 - ▶ Direct vision
 - ▶ Videoscope
 - ▶ Disposable
 - ▶ With or without digital technology
- ▶ Accessories - graspers, biopsy forceps, electrodes, wires, sheaths, catheters, stents, baskets
 - ▶ Disposable vs. non-disposable items



Urology Scope Issues

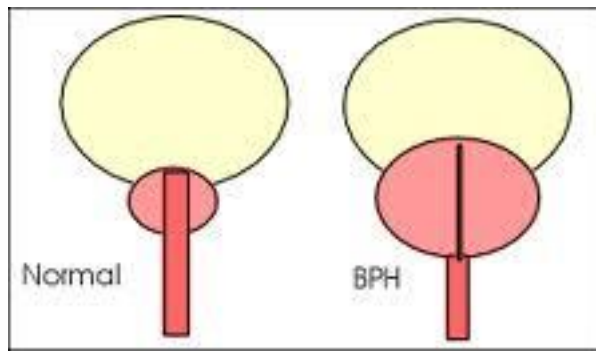
- ▶ Brand, type and quantity
- ▶ Digital or non-digital technology (fiberoptic)
- ▶ Scopes/Accessories - disposable and/or non-disposable
- ▶ Processes for cleaning, disinfection, sterilization
- ▶ Storage
- ▶ Outright purchase vs. placement/consumable agreement
- ▶ Repair/replacement agreements
 - ▶ Per occurrence
 - ▶ Annual fee per scope with set threshold of allowed number of incidents before additional costs accrue
 - ▶ Annual fee per scope with unlimited number of incidents
 - ▶ Risk/share

Laser Services

- ▶ External
 - ▶ Treatment of cutaneous lesions - CO2, Yag
- ▶ Internal
 - ▶ Lower urinary tract - Greenlight, Holmium, Evolve, Thullium, Yag
 - ▶ Incision of urethral stricture/bladder neck
 - ▶ Vaporization of prostate
 - ▶ Enucleation of prostate
 - ▶ Lithotripsy of bladder stones
 - ▶ Vaporization of bladder tumors
 - ▶ Upper urinary tract - Holmium, Yag
 - ▶ Lithotripsy of stones/lesion ablation

Minimally Invasive Treatment of BPH

- ▶ Laser vaporization/ablation
- ▶ Laser enucleation of prostate
- ▶ Plasma vaporization (bipolar cautery)
- ▶ Transurethral resection (mono/bipolar cautery)
- ▶ Prostatic urethral lift (Urolift)
- ▶ Hot water vaporization (Rezum)



The Changing Face of TUR Surgery for BPH/Bladder Tumors

- ▶ Traditionally all TUR surgery was performed using monopolar cautery
- ▶ Bipolar TUR/plasma vaporization and laser vaporization of the prostate both have advantages over monopolar TUR for treatment of BPH
- ▶ Bipolar TUR/plasma vaporization has advantages over monopolar TUR for treatment of bladder tumors

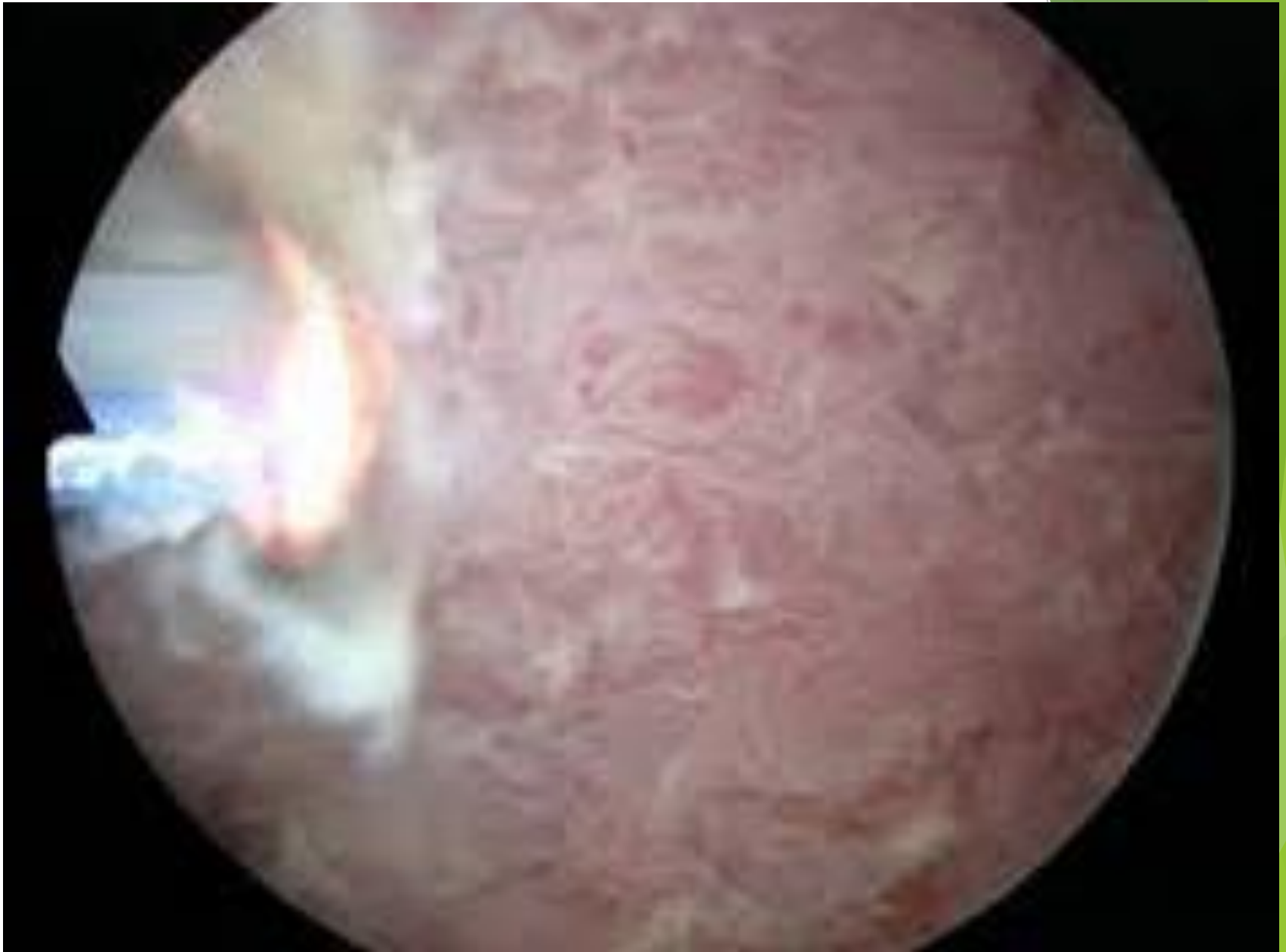
Advantages vs. Monopolar TUR

- ▶ Can be performed safely on an outpatient basis
- ▶ Can sometimes be performed under IV sedation and local anesthesia
- ▶ Lower risk of complications - bleeding, perforation
- ▶ Laser and plasma vaporization can safely be used on patients on anti-platelet and/or anti-coagulant agents

Bipolar TUR/Plasma Vaporization

- ▶ When used for bladder tumors, there is a lower risk of obturator nerve stimulation, bladder perforation
- ▶ Lower risk of interfering with implantable electronic devices
- ▶ Other benefits
 - ▶ Grounding pad not needed
 - ▶ Generator can be used with either monopolar or bipolar settings
 - ▶ Resection of tissue is cleaner and faster
 - ▶ Provides the ability to resect tissue as well as coagulate and/or vaporize





Bipolar TUR/Plasma and Laser Vaporization

- ▶ Improve patient care and safety
- ▶ High potential to increase case volumes and decrease OR times
- ▶ May increased costs related to additional capital equipment and disposables
- ▶ May increase revenue by moving cases from the hospital setting
 - ▶ BPH
 - ▶ Bladder tumors (especially large tumors)

Pelvic Health/Incontinence

▶ Male

▶ Diagnostic

- ▶ Urodynamics
- ▶ Cystoscopy

▶ Therapeutic

- ▶ Pelvic sling
- ▶ Artificial urinary sphincter
- ▶ Cystoscopy/injection of bulking agent
- ▶ Cystoscopy/injection of botox
- ▶ Sacral Neuromodulation (PNE/InterStim)



Pelvic Health/Incontinence

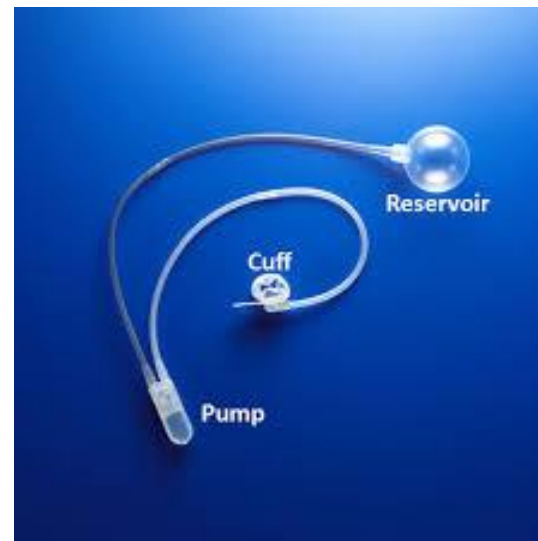
- ▶ Female
 - ▶ Diagnostic
 - ▶ Urodynamics
 - ▶ Cystoscopy
 - ▶ Therapeutic
 - ▶ Pelvic sling
 - ▶ Artificial urinary sphincter
 - ▶ Cystoscopy/injection of bulking agent
 - ▶ Cystoscopy/injection of botox
 - ▶ Repair of cystocele and/or rectocele
 - ▶ Sacral neuromodulation (PNE/InterStim)

Extracorporeal Shock Wave Lithotripsy (ESWL)

- ▶ Used for ureteral and/or renal stones
- ▶ Can be performed under fluoroscopic and/or US guidance
 - ▶ Approximately 10-15% of stones are radiolucent
- ▶ Units can be fixed or mobile
- ▶ Strict protocol for identification of stones needed (radio-opaque or radiolucent)
 - ▶ All patients should undergo a KUB x-ray which is viewed by the treating physician prior to the procedure

Genitourinary Tract Prosthetics

- ▶ Penile prostheses
 - ▶ Semi-rigid (malleable)
 - ▶ 2 piece inflatable (self contained)
 - ▶ 3 piece inflatable (multi-component)
- ▶ Testicular implants
- ▶ Artificial urinary sphincters

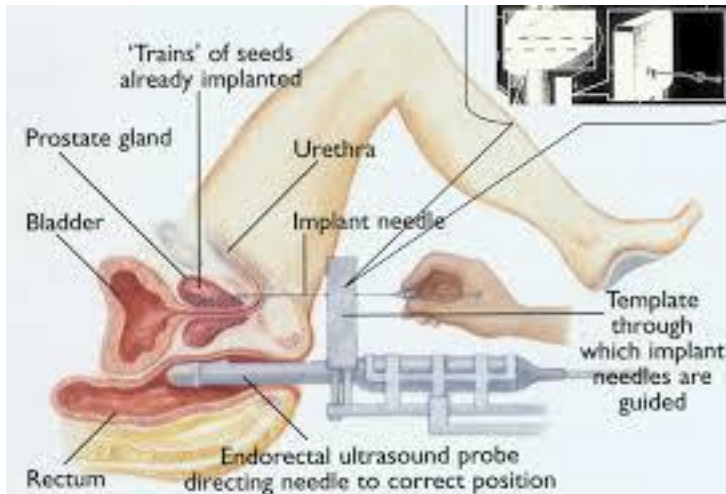


Specific Issues Related to GU Prosthetics

- ▶ Traditionally, have been done in a hospital setting but can safely be done in an ASC setting
- ▶ Strict following of infection control guidelines is crucial
 - ▶ Should follow evidence based protocols for skin prep, pre/post-op antibiotics, antibiotic irrigation, etc.
- ▶ Limited number of vendors
 - ▶ Cost of implant
- ▶ Reimbursement

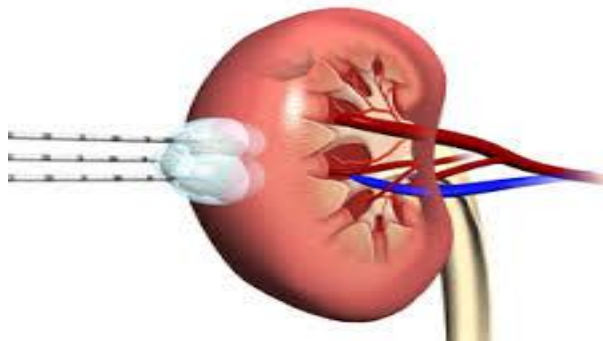
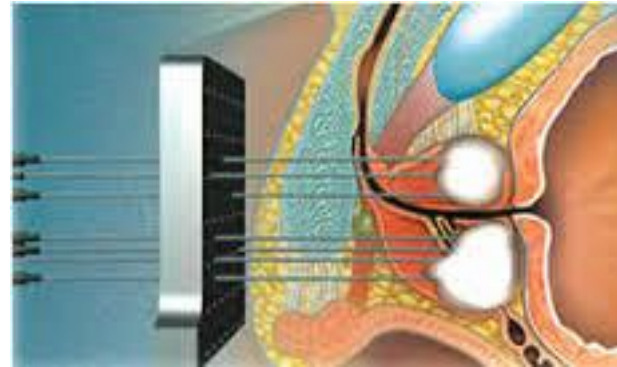
Radiation Therapy

- ▶ Brachytherapy
- ▶ Fiducial marker/Space OAR placement prior to IMRT/IGRT
- ▶ High dose radiation therapy (HDR)



Cryosurgery

- ▶ Prostate cancer
 - ▶ Salvage therapy
 - ▶ Primary therapy
 - ▶ Focal therapy
 - ▶ Non-targeted
 - ▶ Targeted
- ▶ Kidney cancer
 - ▶ Percutaneous guidance - CT, US



Prostate Cancer: Diagnostics and Focal Therapy

- ▶ Newer diagnostic technology with dedicated MRI of prostate and high resolution US
 - ▶ Allows for determination of distinct identifiable lesions which can be targeted
 - ▶ Increased detection of high risk cancer
- ▶ Use of 3D ultrasound/MRI fusion prostate biopsies versus 2D ultrasound guidance is rapidly increasing
- ▶ Current focal therapy of prostate cancer is non-targeted using cryotherapy or HIFU
- ▶ Technology for focal targeted therapy is rapidly evolving
- ▶ 3D and high resolution US technology currently require higher capital costs with longer case lengths without higher reimbursement (may result in higher case volumes)

Microsurgery

- ▶ Vasovasostomy
- ▶ Epididymovasostomy
- ▶ Testicular micro dissection
- ▶ Spermatic cord denervation
- ▶ Varicocele ligation



Microsurgery

▶ Issues

- ▶ Cost of microscope, instruments, sutures
- ▶ Length of cases
- ▶ Need for 1st assistant with microsurgery expertise
- ▶ Majority of cases except varicocele ligation are fee-for-service
 - ▶ Ability to set a fixed fee for surgeon, facility and anesthesia care

Pediatric Urology Surgery

- ▶ General
 - ▶ Hernia repair
 - ▶ Hydrocelectomy
 - ▶ Varicocele ligation
 - ▶ Meatotomy
 - ▶ Meatoplasty
 - ▶ Circumcision/other foreskin procedures
- ▶ Advanced
 - ▶ Hypospadias repair
 - ▶ Chordee/penile straightening procedures

Radiologic Guidance and Diagnostic Procedures

▶ Fluoroscopy

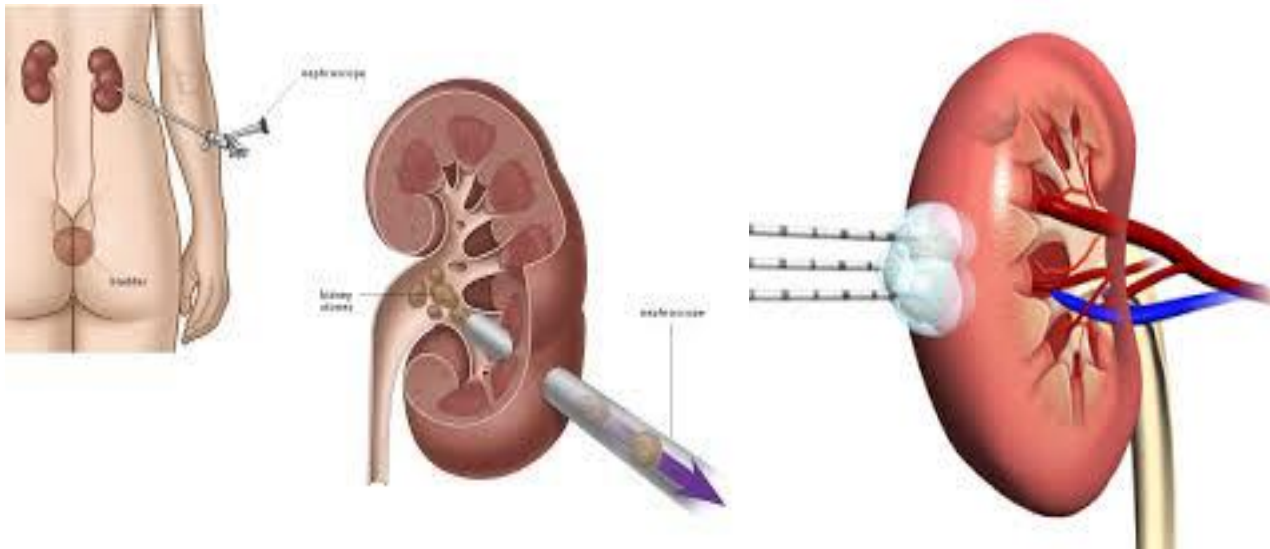
- ▶ ESWL
- ▶ Sacral Neuromodulation
- ▶ Ureteroscopy
- ▶ PCNL
- ▶ Injection procedures
 - ▶ Urethrogram
 - ▶ Cystogram, loopogram
 - ▶ Ureteropyelogram
 - ▶ Nephrostogram
 - ▶ Vasography

▶ Ultrasound

- ▶ ESWL
- ▶ TRUS, without or with biopsies
- ▶ Prostate cryotherapy, brachytherapy, HIFU
- ▶ Renal biopsy, percutaneous ablation of tumors

Advanced Renal Procedures

- ▶ Percutaneous removal of stones
- ▶ Percutaneous biopsy/ablation of renal masses



Potential New Lines of Service

Robotics



Laparoscopy



Vendor Considerations

- ▶ Cost of devices/disposables
 - ▶ Tiered (lower costs based on volume) vs. non-tiered
 - ▶ Rebate program
 - ▶ Earned purchase credits
- ▶ Duration of agreement
- ▶ Terms of payment
- ▶ Consignment vs. buy and stock vs. just in time ordering
- ▶ Exclusive vs. non-exclusive
- ▶ Tie in to placement agreement for capital equipment
- ▶ Preventive maintenance/service agreements for capital equipment

Conclusions

- ▶ There are numerous urology lines of service that can be made available in an ASC setting
- ▶ There are multiple potential opportunities to increase urology case volumes and lines of service in an ASC setting
- ▶ Opportunities to negotiate with insurance carriers exist to increase facility fee reimbursement for procedures that have traditionally been done in a hospital setting
- ▶ Multiple options can be considered when negotiating with vendors concerning the use of devices/disposables

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