ACUTE INFECTION FOLLOWING INJECTION OF PENILE BULKING AGENT
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(Presentation to be made by Dr. Tygenhof)

Introduction: Dissatisfaction of penile girth is an increasing phenomenon. We have noticed an increased number of patients presenting with complications following injection of bulking agents into the penis. In both the medical and non-medical setting, commonly injected bulking agents include paraffin, petroleum jelly, mineral oil, cod liver oil, metallic mercury, and petroleum jelly. Case reports from the literature have demonstrated various methods of injection, as well as short- and long-term complications, including foreign body reactions leading to penile scarring, skin necrosis, abscess formation, and Fournier’s gangrene. Here we present case of an acute, severe subcutaneous penile infection following injection of an unknown bulking agent.

Case Report: A 38-year old uncircumcised Hispanic male presented to clinic with severe penile pain, edema, and erythema two days after undergoing injection of a penile bulking agent. His urologic history was significant only for bulbomembranous urethroplasty for urethral stricture (perineal trauma) disease five years prior. The patient reported visiting a clinic in Tijuana, Mexico where a thick clear gel was injected in four different areas subcutaneously in the penis. He noted subjective increased girth. Later that night, however, after a spontaneous erection, he experienced “sudden pain and swelling,” which continued to worsen until presentation at clinic. He denied any voiding difficulty or dysuria. He was febrile to 38.0°C and hemodynamically stable. His physical exam revealed a marked swollen penile shaft and prepuce with fluctuance and cellulitis spreading into the suprapubic area. The preputial skin was not reducible. He was admitted and started on broad-spectrum intravenous antibiotics. His labs revealed leukocytosis (WBC = 16,000). He was taken to the operating room a dorsal slit, abscess drainage, bilateral subcutaneous penrose drain placement, and catheter placement. Opious amounts of purulent fluid and thick gel-like substance were expressed. Over the next two days, the wound continued to drain purulent fluid. His WBC normalized and his pain significantly improved. The penile edema also improved dramatically. Intraoperative biopsy revealed extensive acute inflammation and abscess formation with fibrovascular tissue, but no evidence of necrosis. The patient was discharged on hospital day six, with plans for follow-up in one week to second-stage surgical planning.

Discussion: Prospective reports of subcutaneous penile injections are limited and report results at short follow-up. Sequential subcutaneous injections of micro-droplets of liquid silicone 324 men resulted in short-term increase of 27% of penile girth with no significant complications at 24 months. The use of injectable hyaluronic acid gel in 50 patients showed significant enlargement in circumference lasting 18 months. These studies showed no complications at 18-24 months. While these positive results from medical centers performing penile injection exist, many disastrous complications of this practice in the nonmedical setting have been reported. Often, these complications require extensive resection and reconstruction with local skin flaps or graft reconstruction. With reported complications occurring beyond three years after injection, it is likely that complications are underreported. This case report offers a management strategy of an acute infectious complication after injection.

Conclusion: Subcutaneous penile injections with bulking agents may commonly be administered by non-medical personnel. This practice harbors a poorly-defined risk of infectious complications, which can be severely disfiguring. Public awareness of the complications of bulking agents needs to be promoted.

Source of Funding: None

REFERENCES
THE SLEEPING REVOLVER: AN ABSTRACT POEM
Matthew Mossanen M.D. and Bryan Voelzke M.D., M.S.
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Tick tock goes the grandfather clock
As families at home sleep, all quiet on the block
Until a piercing bang is heard, and above the din
A sharp flash in a home, and screams come from within.

A revolver was loaded and stuffed in the chair
It was kept for protection, every night it was there
Because a month prior the neighbors had robbers inside
So now a gun was loaded, for protection and pride.

A73-year-old Caucasian male presented to the emergency department with a penile gunshot wound from a low velocity bullet. His past medical history was notable for Parkinson disease managed with multiple medications, subtle hand tremor, mild dementia and non-insulin dependent diabetes mellitus. At the time of initial evaluation the patient was delirious and unable to provide detailed history. His wife was queried at the bedside and she stated that every night he slept a recliner with loaded handgun (Smith & Wesson revolver) wedged between the cushion and armrest of his recliner. Due to a previous history of thymus cancer, the patient had undergone a thymectomy several years earlier and could no longer lay supine due to precipitation of shortness of breath. Of note, the wife reported that within the last several months an armed intruder robbed their neighbors during the middle of the night. This had prompted the patient to begin sleeping with a loaded revolver for security, despite his wife’s admonition. She had been sleeping and heard a loud noise and after running downstairs she noticed a pool of blood and her husband shouting. She realized he had fired the handgun. She immediately called 9-1-1.

Thankfully, his wife was home and she ran to the spot
A pool of blood, and her husband had been shot
It seems he had been peacefully sleeping like a rock
When the gun went off and shot him in the penis.

They rushed to the ED and there, time was spent
Trying to get the story, but he was too incoherent
So the wife filled us in, an exam was done, with one choice to pick
Take him to the next OR to fix him up quick.

The patient was thermodynamically stable upon arrival in the trauma bay. Physical exam demonstrated an entry wound was through his right lower quadrant that tracked through his superficial tissue of the anterior abdominal wall, beneath the right inguinal canal, and tracked out through his corporal body and exited through his distal penile shaft (Figure 1). The trajectory then re-entered his left thigh and exited through the posterior part of his left popliteal space. He was unable to void per urethra and bladder scan was noted for 600ml. He was brought to the operating room for surgical management of his injuries.

Anesthesia was given and when we looked at him in more detail
A hole in the urethra, stratified columnar urothelium exposed and pale
We noticed an injury, with necrotic tissue and edges that were nasty
So we debrided them back to healthy tissue, and performed an anterior urethroplasty.

His corpora was repaired, the wounds were dressed
Then we placed an SP tube in case he tries to pull in duress
He was sent to the floor and sure enough he started to tug with every fit
So we placed him with a sitter and gave him each hand a mitt.

He underwent examination under anesthesia. There was an injury to the corpora along the mid-penile urethra, which then involved the ventral and dorsal aspect of his mid-penile urethra. Excision of a portion of the urethra with the bullet hole was performed and re-anastomosed the dorsal aspect of the patient's urethra after closing the corporal body injury. This was closed in a horizontal manner. The ventral penile urethra was closed in a vertical manner using running 5-0 Maxon. A suprapubic tube was placed in order to reduce the amount of tension on the patient's mid-penile urethra where the repair was performed and due to concern that the patient may be delirious and may pull on his catheters. Both testicles were narrow in a horizontal manner. The ventral penile urethra was closed in a vertical manner using running 5-0 Maxon. A suprapubic tube was placed in order to reduce the amount of tension on the patient's mid-penile urethra where the repair was performed and due to concern that the patient may be delirious and may pull on his catheters. Both testicles were visible. The patient was explored and were visibly healthy. Postoperatively the patient developed ATN thought to be due to baseline renal insufficiency, contrast administration from his CT scan, and dehydration. His renal function recovered fully with conservative management.

A VCUG and RUG were done, and he sought the final stamp
In clinic he was doing just fine and he voided like a champ
Without any tubes or drains, without a catheter or care
His wounds had healed up fine, just now, less hair.

His only concern was if we could make it bigger, please just do it he would plea
Place a device and extend it with a prosthesis, so it hangs by my by knee
Today he continues to go hunting with loaded shotgun he still has his fun
But now when he naps, he does it without his gun.

At two month follow up the patient was voiding without issues. The patient’s wound appeared clean, with well-healed edges. A retrograde urethrogram and voiding cystourethrogram were performed. The patient had very subtle narrowing at the site of prior anastomosis but was able to void standing and without any complaints. Recently, the patient was seen in clinic and continues to do well. He remains active and recently returned from a hunting trip in Montana. He is inquiring about penile prosthesis device placement.
SURGICAL RESECTION OF AN ARTERIOVENOUS MALFORMATION OF THE CORPORAL BODIES AND URETHRA
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Introduction: Arteriovenous malformations (AVM) of the genitals are rare. Symptomatic AVM’s are commonly treated with endovascular embolization. However, continued symptomatology after multiple embolizations is seldom addressed in the literature. Surgical resection and repair as described in this case of a 39 year-old male with an AVM between the corporal bodies, should be considered after failed embolization.

Case Description/Management: We present a 39 year-old male with a previous history of pelvic AVM brought to medical attention after developing recurrent and problematic urethral bleeding. An MRI of the abdomen/pelvis demonstrated a 2.5 cm x 1.5 cm x 1.5 cm AVM involving the corporal bodies, abutting the proximal bulb urethra. After multiple endovascular therapies, including coil embolization, Onyx™ (ethylene-vinyl alcohol copolymer) embolization, repeat coil embolization, and embolization with 95% ethanol, the patient’s initial symptomatology progressed and he developed chronic debilitating perineal pain, continued intermittent urethral hemorrhage, and erectile dysfunction. An MRI status post embolization therapies showed the AVM was unchanged in size. The patient was taken to the operating room for surgical resection of the AVM. The urethra was dissected free of the AVM, which was found to be within the crus of the corporal bodies. The AVM and associated necrotic tissue, from previous embolizations, was resected back to healthy erectile tissue, leaving an inverted 4 cm “V” shaped resection of the corporal bodies. Primary repair of the corporal bodies was performed and the suture lines were reinforced with Tutoplast™ bovine pericardium graft. A tunica vaginalis flap was mobilized from the right hemiscrotum and placed in between the urethra and the corporal bodies. Subsequently after his procedure, the patient reported no urethral bleeding and improved but not resolved genital pain, but developed complete loss of normal erectile function.

Discussion: Genital AVM’s are exceedingly rare, with only a few reports of glans penis or testicular involvement. Here we report the first ever published case of an AVM of the penis involving the corporal bodies and urethra. Although, endovascular therapy with embolization is the established primary treatment modality for AVM’s, surgical excision and repair may be considered when a patient’s symptoms are refractory to endovascular therapies.

Source of Funding: This project was supported in part by a generous reconstructive urology educational grant from American Medical Systems, Inc., Minnetonka, MN.
Purpose: Dyspareunia is a common complaint in the male urologic patient presenting with sexual dysfunction. While the differential remains fairly broad, congenital pelvic arteriovenous malformations (pAVMs) can be rarely associated with sexual dysfunction and other genitourinary complaints. The purpose of our study was to evaluate the symptomatology, diagnostics, and therapies for patients with genitourinary complaints associated with pAVMs.

Materials and Methods: The record of one patient with a symptomatic pelvic arteriovenous malformation was reviewed in order to identify the key findings on initial history, pertinent examination features, relevant studies and imaging, and appropriate therapeutic interventions to guide clinical decision making. Our patient’s clinical course was compared to cases currently reported in the literature.

Results: In our case, the patient presented with low back and perineal pain after sexual stimulation with associated urinary urgency, frequency, and dysuria. Literature review reports similar case presentations with pelvic pain, urinary complaints, and sexual dysfunction. Notable exam findings reportedly associated with pAVMs include a pulsatile abdominal wall mass, abdominal wall bruit, overlying skin erythema, perineal varicosities, hemorrhoids, and scrotal edema. None of these findings were evident in our patient. The diagnosis of this patient was established with a CT scan but further characterization of the pAVMs was obtained with MRI and angiography. The patient ultimately underwent treatment with transcatheter embolization which resulted in significant clinical improvement.

Conclusions: Pelvic arteriovenous malformations can present as a rare source of sexual dysfunction in a male patient. Although pelvic arteriovenous malformations commonly present as asymptomatic incidental findings, they can be associated with a wide array of genitourinary complaints. Imaging with CT, MRI, or angiography is essential to making the diagnosis. Transcatheter embolization of pelvic arteriovenous malformations is an effective treatment modality for this disease process.

Source of Funding: None
**Objectives:** Ischemic priapism is a common Urologic emergency. When injection of alpha-adrenergics and corporal irrigation is ineffective, the next step in treatment is typically a percutaneous distal shunt (PDS). The most common PDS techniques are the Winter shunt, Ebbehoj shunt and the T shunt. The Winter shunt uses a large-bore needle, angiocatheter or Tru-Cut® biopsy needle to create a distal fistula between the corpora cavernosum (CC) and the distal glans. This is minimally traumatic to the glans, but the small defect in the CC is easily susceptible to closure. The Ebbehoj and the T shunt use No. 11 and 10 blades respectively. The wedge shape of the No. 11 blade leaves a smaller incision in the CC and a large incision in the glans while the No. 10 blade leaves a larger incision in both. We present a new PDS technique, which creates a large CC defect while utilizing a minimally traumatic incision.

**Methods:** A Beaver® Mini-Blade® is scalpel blade that is long, narrow, and sharp along both sides. This scalpel blade is inserted with a stab incision into the glans bilaterally into the distal tip of the CC on each side. A back and forth motion is used to create a large incision into the CC without an associated increase in the size of the glans incision, and then the blade is turned 90 degrees and this is repeated creating a large cruciate defect in the CC using only a small glans incision. The glans incisions are closed using a single 5-0 absorbable suture.

**Results:** Our PDS technique yields a distal defect in the CC, which is equal if not greater in size compared to the Ebbehoj technique and equivalent to the CC incision size of the T shunt while utilizing a glans incision only slightly larger than the defect created by the Winter shunt.

**Conclusion:** This new minimally traumatic PDS technique should be considered as an alternative to other PDS techniques as it can create a similarly large CC defect while minimizing trauma to the glans penis.
Purpose: To describe a logical and easy method to control rage disorders in our patient population using everyday tools found on a ranch. While sure to leave a scar, both physical and emotional, the benefits are unquestionable.

Background: We present the case of a young rancher who suffered through life with uncontrollable rage and anger problems. After a cursory review of the available literature, he discovered the source for his wrath and remedied it without the need of an advanced degree, an operating room or even sterile technique.

Materials: 1 uniquely furious rancher, testicles, 1 Bull Castration Kit, a bottle of your favorite spirit.

Results/Discussion: Our rancher went about the management of his lifelong disorder in the only way he knew possible and his results were not surprising. After some minor damage control, he recovered quite well and was fit for a future career as a castrati, member of a religious cult, or as an even-tempered rancher. Incidentally, he will likely never suffer from male pattern baldness.

Source of Funding: None
HANDS-FREE VOIDING: THE NEXT FRONTIER IN PATIENT SAFETY
Matt S. Ashley, M.D., Charles Best, M.D.: Los Angeles, CA
(Presentation to be made by Dr. Ashley)

**Introduction:** The male genitalia faces a myriad of hazards on a daily basis. These threats range from bicycle crossbars, to punches from toddlers, to skinny jeans. The greatest danger, however, may be lurking closer than we ever imagined – one’s own hands.

**Case:** A 32 year-old male awoke in the early morning with a full bladder and proceeded to the restroom. Immediately upon beginning to void he recalled the demand from his female roommate to raise the toilet seat while urinating. In a heroic effort to comply with her wishes he pinched his urethral meatus to stop the flow. While the patient was holding pressure and reaching for the toilet seat he then sneezed. Upon releasing his grasp he experienced gross hematuria, which prompted a visit to the emergency room. During flexible cystoscopy the next day he was diagnosed with a small laceration of the distal penile urethra. The patient was treated conservatively and his symptoms resolved within 72 hours.

**Discussion and Recommendations:** This case underscores what has long been suspected in the field of urology: men are poorly qualified to handle their own genitalia. To mitigate the risk associated with manipulating one’s own penis we are proposing a hands-free voiding technique (see picture). We hope our strategy will reduce these unfortunate and preventable injuries. Additionally, we counsel all men that raising the toilet seat to urinate is prohibitively dangerous and should not be attempted under any circumstances.
Introduction and Objective: Pubic hair grooming behaviors have increased in recent years among both men and women. Although widespread, the risks, benefits and motivation for pubic grooming remain largely uncharacterized. Studies describe the potential for injury from grooming; yet, no large-scale study has been performed to establish the breadth of injuries and associated risks of injury during pubic hair grooming. We sought to elucidate potential factors associated with pubic hair grooming injuries.

Materials and Methods: A national web survey of men and women aged 18–65 years was conducted through GfK Custom Research, LLC’s Knowledge Panels, a probability-based web panel designed to be representative of the United States. Survey questions focused on pubic hair grooming behaviors and injuries sustained from this activity.

Results: A total of 7,570 subjects completed the survey, 55.5% men and 44.5% women. Almost three-quarters of subjects groomed their pubic hair (72.9%), with more women grooming (85.3%) than men (66.5%). One quarter of respondents reported grooming weekly and over half reported grooming between every 1-6 months (52%). Men started grooming at a later age than women (22.7 vs 20.1). An injury was reported by 25.6% of groomers. Laceration was the most common injury (58.3%) followed by burn (22%), and infection (9%). Of those injured 3.3% required antibiotics and 2.8% required surgical intervention. For men, injury was significantly associated with increasing age, older age when started grooming, lower education, decreased self-reported natural hairiness, low grooming frequency, use of scissors, and grooming in a standing position. For women, injury was significantly associated with younger age, younger age when started grooming, single relationship status, graduate degree, increased self-reported natural hairiness, high grooming frequency, use of nonelectric blade, and grooming in a squatting position.

Conclusion: Pubic hair grooming is widespread practice with 72.9% of survey respondents grooming. More women reported grooming than men. Injuries are common among groomers with 25.6% of people reporting an injury. Laceration is the most common form of injury. Risks for grooming related injury are different between male and female groomers. This may be a result of differences in grooming practices as well as genitourinary anatomy.
A NOVEL METHOD TO TREAT MALE INCONTINENCE…THE KRAGEL
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(Presentation to be made by Dr. Speir)

Purpose: We present a novel method to temporarily (or possibly permanently) treat male urge incontinence using a patient’s novel idea. While admittedly not a standard of care yet, this showed tremendous ingenuity and deserves a forum for discussion.

Background: Injectable agents have been previously described as treatments strategies for incontinence. With the uniform use of the internet among our patient populations, we often encounter methods for treatment not frequently taught in residency training. These methods can often be incredibly enlightening. They can even result in further case volume to treat this troublesome condition. Not all techniques are without complications, however, and the art can be in the management of the complications.


Results/Conclusion: Admittedly, our patient dreamt up a novel and not surprisingly, incredibly successful method to prevent incontinence with unintended consequences. He leaned on previous experience, although became over-zealous in future applications. This led to several future procedures and more importantly a thorough understanding of the physical states of super glue.

Source of Funding: None
As with all things unexpected, it occurred in the middle of the night. An elderly gentleman, not quite in his seventies, dependent on a suprapubic catheter for many years, decides to change his catheter in the wee hours of the morning after it stops draining. Unfortunately, he is unable to do so and makes his way into the trusty ER of his local VA.

And so it was, that two hours later, I found myself standing next to this elderly gentleman; staring at his catheter, face-to-face with the fabled Sasquatch of urology: a non-functioning foley balloon. Now of course, such things simply don’t really happen and so I turned to the nurse and asked for a syringe to simply deflate the balloon. “I’m sure they just didn’t deflate it properly…” I mused. “Oh I tried that already, but it didn’t work so I just cut the port off,” remarked the ER attending who poked her head in to “check on things.”

So there I stood, a cut foley balloon in hand and a not quite seventy year old gentleman looking at me expectantly. “Maybe if I just…” I thought as I tugged on the catheter, but was quickly stopped by his gasp of pain and discomfort. At this point, I recalled various stories told in passing by my elders and those that came before me. Whispers of advice barely tugged at my consciousness and I recalled tales of a wire used to pop the balloon. An hour and four wires later, I concluded that I must have heard incorrectly. I then remembered one particularly clever resident saying the port gets clogged and if you can keep cutting the foley down, eventually the balloon will deflate. And so I cut…and cut…and cut. Only 2 inches remained of catheter above the skin. Clearly this resident was not as clever as I remembered I thought to myself.

By this point our gentleman was feeling quite full. His catheter clearly didn’t drain well and so I asked the nurse to bring me a catheter to drain his bladder from below. “Don’t bother,” stated my patient “that hole is all blocked up, aint nothing gone through for years.” “Crap,” I thought. And so it was that in desperation I used a 22 gauge spinal needle to try and pop the balloon through the balloon port. I pushed as hard as I could against the balloon and…nothing. Crestfallen, I resigned myself to having to mobilize my superior and probably the operating room. Now they say that all true moments of genius are serendipitous. So it was that on a whim I removed the inner sheath of the 22 gauge spinal needle while it was in the balloon port. Immediately I saw the glorious sight of months old balloon port water flow out of the spinal needle retrograde. Halleluiah!
**Introduction:** Sudden onset gross hematuria in patients greater than fifty years of age with risk factors such as smoking warrants an evaluation for possible malignant etiologies. We present a case of gross hematuria from an unusual cause.

**Results:** Our patient was a 54-year old gentleman with diabetes who dutifully presented to the ER at the insistence of his primary care physician when routine labs showed his blood glucose to be nearly 500. In the ER, on review of systems he reported a 5-day history of gross hematuria, lower abdominal pain, and dysuria. The ER obtained a noncontrast CT scan to evaluate for stones. Instead, he had a very distended bladder containing a large amount of gas despite no recent instrumentation, with a focus of gas in the bladder wall concerning for emphysematous cystitis. There was no extension into the upper tracts. The patient denied fevers, chills, flank pain, prior urinary tract infections, pneumaturia, irritative or obstructive lower urinary tract symptoms, history of diverticulitis, or blood per rectum. He described only “white chunks” coming out in his urine.

He was started on broad-spectrum antibiotics, and an irrigation catheter was placed for urinary decompression and irrigation. Instead of clot, 100 ccs of pale tan soft spongy tissue was irrigated out, not unlike sautéed ground pork in appearance. He denied eating anything such as ground pork or burger or textured vegetable protein recently.

The tissue fragments did not appear to be necrotic bladder tumor. Indeed, pathology did not show sloughed urothelium nor malignancy, but Gram-positive cocci in chains. Blood cultures were negative. He proceeded to the OR for cystoscopy and cystolitholapaxy of this soft amorphous debris that could be smushed easily and removed with an Ellik evacuator. The debris was sent to both microbiology and pathology, and again it grew only colonies of Gram-positive cocci in chains: no fungus, no acid-fast bacilli.

He later underwent Urodynamics, showing initiation of voiding only with very strong detrusor overactivity, high pressure, low flow, and poor emptying with a post void residual of 600 ccs. Fluoroscopy demonstrated no funneling of the bladder neck during voiding. He was recommended a transurethral incision of the prostate, and is currently deciding if he wants to pursue surgery. He has also been working with a diabetic counselor to improve his Hemoglobin A1c of 13.5.

**Discussion:** There are scattered reports in the literature of fungus balls and candidal bezoars in the bladder and renal collecting system causing obstructive uropathy, but to our knowledge this is the first description of “bacterioballs.” Though microbiology was unable to speciate the organism, the Gram-positive cocci in chains point to a Streptococcal infection, which can be gas-forming. His uncontrolled diabetes and dysfunctional obstructed voiding created a favorable milieu for the proliferation and development of grossly visible large bacterial balls with the appearance of ground meat.

**Conclusion:** Though our patient did not have true emphysematous cystitis but did have a gas-forming infection, tight glycemic control, urinary decompression, and broad-spectrum antibiotics nevertheless are key in preventing progression to severe necrotizing cystitis.

**Source of Funding:** None
Purpose: Traditionally, during a TURBT or TURP, we use cutting current on a pure cut mode for resection with either a monopolar or bipolar machine. However, when resecting a very large and vascular bladder tumor or a very large prostate, we may encounter continuous bleeding, clouding the surgeon’s field of view and increasing the patient’s post-operative morbidity. It also increases the operating time since physicians would have to take time to stop and cauterize the bleeding vessels. By changing the resectoscope setting to monopolar with cutting at 180 and coagulation at 60 on a BLEND mode, we can achieve better hemostasis when resecting a large and vascular bladder tumor or a very large prostate. We present our technique with a video clip comparing the traditional pure cut resection with our BLEND mode side-by-side on the same large bladder tumor.

Materials and Methods: We have tried numerous settings: with pure cutting current, we experienced more bleeding whereas with more coagulating current, we had more dragging which did not cut through the tissue well. With the new bipolar resecting scope, there is no option for blend mode. We found that using monopolar resection with sorbitol or glycine as an irrigant on blend mode at 180 cutting and 60 coagulation, we can achieve better hemostasis with no dragging.

Results: I have used this technique on more than 50 patients with large vascular bladder tumors or very large prostates and have achieved excellent hemostasis. All cases concluded without any procedure related complications.

Conclusion: This is a simple technique that will allow the surgeon to achieve better hemostasis and decrease post-operative patient morbidity. This technique may also reduce the procedure time by maximizing the surgeon’s visibility.

Source of Funding: None
A SIMPLER ILEAL NEOBLADDER?
John M. Barry, MD: Portland, OR
(Presentation to be made by Dr. Barry)

Background: Continent urinary diversion is most commonly by orthotopic ileal neobladder. Technical problems are conceptualization of the pouch (demonstrated at last year’s Round Table), left > right ureteral strictures (reported last year by USC), the occasional short mesentery that compromises the ileo-urethral anastomosis, and development of robotic radical cystectomy with a need for a simple orthotopic ileal neobladder.

Materials and Methods: A 60 cm section of bicycle innertube with the same diameter as ileum, a Lone Star retractor, and two 2-0 monofilament sutures were used to construct a neobladder with two 10 cm chimneys, one for each ureter. A second 60 cm of bicycle innertube was used to construct a standard Studer pouch with one ileal chimney. The ileal chimneys were occluded and the pouches filled with water to determine neobladder volumes.

Results: The simple neobladder had an “ileo-urethrostomy” site 10 cm lower than that of the standard pouch. The pouch volumes were the same (275 mL).

Conclusions: This simple ileal neobladder may solve the problems of complicated pouch construction, left ureteral stricture from mobilization, and a short small bowel mesentery. It should be simple enough to be done robotically.
A NOVEL MINIMALLY INVASIVE TECHNIQUE OF INTERSTIM TINED LEAD REMOVAL
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Introduction: We describe a novel technique of complete removal of chronically implanted tined leads in patients with InterStim®. Fracture of the lead that leaves the electrodes behind can be hazardous in patients requiring MRI.

Methods: We performed a retrospective review of patients who underwent neuromodulation procedure for neurogenic bladder between 2001 and 2014. Patient demographics, indications for neuromodulation, installation and removal complications were recorded and analyzed. Briefly, the IPG is removed first and the connecting wire is cut at the incision. Gentle pulling on the wire will cause skin depression over the site of percutaneous implant where the lead goes directly to S3 foramen. 3 cm incision is made over the site and dissection is carried out to find the lead, which is then brought into the incision. Dissection is then continued deep to the level of the fascia till the marker is reached and clamped with right-angle clamp. A rocking movement with gentle pull will complete the extraction.

Results: A total of 16 patients were included in this study with the mean age of 60.3 years (32-81). Of these, 5 were male and 11 were female. Indications for lead installation were overactive bladder in 11 (69%) patients, mixed incontinence in 3 (19%) patients, and urinary retention in 2 (12%) patients. No patient with infection was included in this cohort. There were no complications at the time of initial lead placement. Mean time of stage II lead placement duration was 21.6 months (8-55 months). The procedure was a revision of lead wire in 8 (50%) patients secondary to migration (1) and ineffectiveness (4) and a removal of lead wire in 8 (50%) patients secondary to pain at the site in 3 patients, and sharp pain “jolts” radiating to leg in two patients. InterStim lead placement site was on the left lateral side of the S3 foramen in 9 (56%) patients and right lateral side in 7 (44%) patients. 15 (94%) of patients underwent successful lead removal using our novel technique. There were no perioperative or postoperative complications. One (6%) patient complained of pain in the buttocks from the IPG left implanted several months after the removal of the tined lead.

Conclusions: Revision and removal of tined leads can be associated with several adverse effects. This novel technique is safe and effective way to remove the tined leads in one complete piece with no complications.
A SIMPLE TECHNIQUE TO IDENTIFY A STENTED/CATHETERIZED URETER DURING ROBOTIC OR LAPAROSCOPIC PROCEDURES

(Presentation to be made by Jonathan M. Nguyen*, B.S.)

Purpose: Traditionally to identify a stented/catheterized ureter during open surgery procedures, the surgeon uses his hands to palpate the catheterized ureter. During laparoscopic and robotic surgeries, tactile feedback is diminished significantly. We present a video of our simple and novel technique to identify a stented/catheterized ureter during robotic or laparoscopic procedures.

Materials and Methods: A 5 or 6 Fr. ureteral catheter is placed cystoscopically into the ureter in a standard fashion. The ureteral catheter is anchored to the Foley catheter using either tape or ties. To identify the ureter, the surgeon will look carefully at the pelvis while the assistant holds the catheter between his index finger and thumb and gently moves it back and forth continuously, moving the catheter approximately 2 cm in either direction. The surgeon should be able to clearly see the movement of the stented ureter and be able to identify the path of the ureter.

Results: This technique has been used in 8 complicated, robotic, gynecologic procedures, involving 16 catheterized ureters. In these cases, the gynecologic surgeon requested the placement of ureteral catheters before the start of the gynecologic surgeries because of the complexity of the cases, which included severe endometrioses, scarring due to previous surgeries, and enlarged pelvic masses. All procedures concluded without incidence of post-operative ureteral injury or procedure-related complications. The first two cases, the urologist (CNP) was present during the identification of the four catheterized ureters. In the latter 6 cases, the gynecologic surgeon was instructed of the described technique. With the help of the assistant to move the catheter, the gynecologic surgeon was successfully able to identify the ureters without the presence of a urologist. The gynecologic surgeon reported that the technique was easily learned and was helpful for ureteral identification and preservation.

Conclusions: Our technique utilizes the visual superiority of the laparoscopic and robotic technique to detect the movement of the catheterized ureter. In our experiences, we found this technique easily learned and transferrable to surgeons in other specialties as well.

Source of Funding: None
RETRIEVAL OF ERRANT DOUBLE J STENTS WITH A STANDARD PULMONARY SINGLE-USE BIOPSY FORCEPS: A NEW TECHNIQUE
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Introduction: much of the literature on errant ureteral stents was published in the early days of ureteroscopy i.e. the 1990’s. It mentions an Amplatz goose necked snares, and stone baskets. But when these methods have been tried and failed, the literature offers little guidance. The following 2 cases offer a ‘work around’ with a standard pulmonary biopsy forceps.

Case Report #1: a 47 y.o. 5’ 3” female with a BMI of 30, diabetes, hypertension, and rheumatoid arthritis treated with Methotrexate and Prednisone presented with a 1.5 cm coin shaped stone in the renal pelvis. After a retrograde pyelogram showed distal ureteral atresia/adult megaureter, a #6 22 cm double J stent was placed preparatory to ureteroscopy and electrohydraulic lithotripsy in one week. Alas, when that day came, the double J was not to be seen. It had retreated 3 cm above the atretic ureter into the megaureter. Strenuous efforts over an hour’s time with a stone basket were not successful. A second double J was placed to dilate the atretic distal ureter and encourage the errant double J to protrude again.

She returned in 2 weeks eager to get rid of her stone and surplus double J. The kidney was painful. Another 15 minutes with the stone basket did not yield engagement but it did cause the open end of the double J to face the ureteroscopic lens. A glide wire was threaded into the double J but it could not be used to pull the double J out, as others have described.

Earlier in the week at a plan ‘B’ discussion, a surgical tech’ had suggested the Boston Scientific Radial Jaw #4 Pulmonary Standard Capacity Single Use Biopsy Forceps used by our pulmonary specialist. This was sent up the ureteral access sheath beside the glide wire threaded into the distal coil of the double J. With the fluoroscope on mag,’ the jaws could be seen and directed at the double J. The glidewire in the double J offered enough resistance so that the open jaws could be pushed against it. The jaws were closed and held the double J firmly enough to pull it out along with the ureteral access sheath and glide wire.

Case #2: a 48 y.o. (BMI 31) Asian had had a vaginal hysterectomy punctuated by an inadvertent ureterotomy with consequent leak of urine into the operative site. Urology placed a double J. This dried the operative field. Three weeks later she returned for removal of the double J. But, it had retracted into the ureter as in case #1. This time only 15 futile minutes were spent with the stone basket. The pulmonary biopsy forceps, as per case #1 two weeks before, was passed through the ureteral access sheath under fluoroscopic control and on mag’. The position of the jaws was easily seen. It grabbed the errant double J on the first try. It came out. The glidewire in the double J seemed unnecessary this time.

Conclusion: A pulmonary biopsy forceps through a ureteral access sheath and on fluor’ is far more effective than a stone basket + ureteroscopy for the recapture of an errant, double J.
**A HIGH PERCENTAGE OF STONE PATIENTS HAVE DISTAL URETERAL ATRESIA (DUA) IN THE SOUTHERN SAN JOAQUIN VALLEY**

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**Introduction:** distal ureteral atresia (DUA) is caused by the excessive action of two genes responsible for apoptosis at the junction of the ureter, bladder, and nephric duct when insufficiently unopposed by a third gene called Ret. This data from knockout mice means that DUA can no longer be called a fiction as it was 40 years ago in Emmett’s Clinical Urography. 30% of stone patients in southwest Wyoming (Appalachian Scotch-Irish) have been previously reported to the Western Section of the A.U.A. as having at least a forme fruste of distal ureteral atresia, DUA. If a similar or higher percentage were to be found in the different ethnicities of the southern San Joaquin valley of California (60% Mexican, 30% Phillipino 10% other), it would mean that malformation of the distal ureter is a common attribute of stone formers in most ethnic groups. This would imply an adjustment in ureteroscopic or ESWL technique, e.g. pre-stenting.

**Materials and Methods:** The AMS electronic medical record was interrogated for patients with both the code for congenital U.V. stricture (753.22) and ureteral /renal stones (592.1). Patients with ureteral calculus alone were also sought. The code for congenital U.V. stricture is used in this office for DUA for which there is no code either in ICD-9 or -10.

**Results:** As seen in Figure 1. 322 of a total of 586 stone patients, or 55%, had both the code for both DUA and ureteral stone.

**Conclusion:** DUA is so common in a variety of ethnicities that most stone patients should be pre-stented to dilate DUA and higher areas of atresia such as the ureteropelvic junction.

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Introduction and Objectives: In the current minimally invasive era dominated by the dogma of causing patients as little harm perioperatively as possible, we describe a maximally invasive treatment modality for proximal ureterolithiasis.

Materials and Methods: A 28 year-old female with history of systemic lupus erythematosus presented for surgery. The kidney was excised and placed on ice slush. Ureteroscopy was performed on the back table with the MR-6 ureteroscope to treat a 1cm proximal ureteral stone and the kidney was subsequently prepared and surgically placed in the pelvis. A 6-Fr JJ ureteral stent was left post-surgically.

Results: The patient tolerated the procedure well without any perioperative complications. Serum creatinine stabilized at 1.1mg/dL on discharge and the stent was successfully removed subsequently.

Conclusion: Maximally invasive treatment involving nephrectomy and bench top ureteroscopy should be considered among the armamentarium of the endourologist for treatment of ureterolithiasis.

Funding: There was no external funding source for this research.
Introduction and Objectives: Unexpected incarceration has been previously associated with an increase in overall morbidity and mortality; however, it generally does not lead to renal failure. In certain circumstances patients may be particularly susceptible to the adverse effects of incarceration and may require multidisciplinary treatment.

Materials and Methods: A 52 year-old male presented to the emergency department with a two-week history of bilateral lower extremity edema and was found to have acute kidney injury with a creatinine of 3.7 mg/dL. Unilateral hydronephrosis was seen on imaging, and a nephrostomy tube was placed for temporary decompression.

Results: Open surgical intervention was performed by the general surgery team, with subsequent relief of the obstructive uropathy. The patient was discharged, and his creatinine returned to his baseline value of 1.6 mg/dL by three weeks postoperatively.

Conclusion: In rare circumstances incarceration may contribute to acute renal failure in either a direct or indirect manner. Timely surgical intervention may prevent further deterioration in renal function.

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VENA CAVOSCOPY IN THE ASSESSMENT OF INTRALUMINAL VENA CAVAL TUMOR INVOLVEMENT
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Purpose: Patients with renal cell carcinoma (RCC) and testicular cancer (TC) with associated inferior vena caval (IVC) tumor involvement often benefit from aggressive surgical resection of the primary tumor and associated tumor thrombus. However, due to the nature of the location, resection of tumor thrombus extension above the infrahepatic IVC represents a unique technical challenge. This is particularly evident when the tumor thrombus is friable or involves the hepatic veins. Here we report on our experiences with intraoperative vena cavoscopy used to ascertain the completeness of tumor thrombus resection using a tool well known to the urologist, the cystoscope.

Methods: From 2006-2013, 30 patients underwent retroperitoneal surgery with IVC tumor thrombectomy and vena cavoscopy. All patients with supradiaphragmatic (15 RCC), intrahepatic (9 RCC, 1 TC), or infrarenal tumor thrombus (3 RCC, 2 TC) underwent continuous intraoperative transesophageal echocardiography to assess for potential cardiac changes related to thromboembolism as well as to evaluate the character and extent of the tumor thrombus. Following surgical resection of each mass and tumor thrombus, a flexible cystoscope was inserted into the vena cava for direct visual inspection of the inferior vena caval lumen with high flow heparinized saline irrigation. Medical records of each patient were then reviewed for several variables including estimated blood loss, transfusion requirements, residual tumor, and postoperative complications including postoperative edema and change in management due to findings at cavoscopy.

Results: All patients successfully underwent endoscopy of the vena caval lumen without complications. 6 of 30 patients were found to have residual tumor thrombus upon visualization of the lumen. Of these, four patients were noted to have tumor invasion of the intraluminal wall resulting in cavectomy. The other underwent blunt resection with no residual tumor on repeat endoscopy. Median estimated blood loss was 3L (0.5-16) with a median intraoperative transfusion requirement of 14 units (0-63 units). Median Pringle maneuver time in suprahepatic thrombus cases was 15 minutes (3-30 minutes). Median length of stay was 10 days (4-73 days). Postoperative edema was noted in 5 patients (3 following cavectomy) with resolution of edema in all patients and a median resolution time of 6 weeks (30-322 days). There were no complications associated with vena cavoscopy.

Conclusion: Vena Cavoscopy using a flexible cystoscope is a feasible technique that may be utilized intra-operatively in order to ensure clearance of residual thrombus burden within the inferior vena cava or hepatic veins and to assess for invasion of the caval wall.

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HELPFUL OBSERVATIONS REGARDING SAFETY IN A VIETNAMESE OPERATING ROOM
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Purpose: After a two week trip to Vietnam with IVUmed key differences were noted between the operating room environments between the United States and Vietnam. Some of those differences may help us improve safety in U.S. operating rooms.

Materials and Methods: We performed an informal qualitative analysis among residents and staff of both institutions to determine factors that may contribute to a safer environment in the operating room.

Results: We determined that the below factors should be investigated further.
In Vietnam radiological images were hard copies displayed on light boxes throughout the case. In the United States, the images were available, but often not visible as various staff logged into the computer and minimized the images.
The operating staff almost never received a phone call in the operating room in Vietnam whereas in the United States phone calls were incessant.
In Vietnam, there were no breaks except when the entire team took a break together for lunch. This had several consequences. There were no distracting counts as relievers came and went. The scrub technician was a full participant throughout the surgery, often coordinating with the circulating nurse prior to being asked by the surgeon to do so.

Conclusion: These differences need to be investigated in a more statistically rigorous fashion to determine if we should incorporate some of these manners of behavior here in the United States.
FACTORS INFLUENCING OPERATING ROOM TURNOVER TIME
(Presentation to be made by Dr. Myklak)

Introduction and Objectives: Inefficiencies in operating room (OR) turnover time (TT) may have significant economic and operational impact on the healthcare system. The objective of this study is to investigate the effect of different factors on OR TT.

Methods: A retrospective review of all surgical cases performed at a tertiary academic specialty hospital from February 2013 to June 2014 was performed. OR TT was defined as time between the previous patient exiting the OR and the current patient entering the room. Using published estimates of an average of $20/min fixed OR cost (F) and $55/min OR charges (C), potential cost savings from reduction in TT were calculated. T-tests and ANOVA were performed using SPSS with p<0.05 considered significant.

Results: Of 5126 total cases, 144 were excluded due to incomplete records and 2033 cases were first case starts (no turnover time). Of the 3093 remaining cases, the average TT was 55.3 ± 41.4 minutes. TT was significantly affected by a change in surgeon or service; the average TT when the same surgeon followed in the next case was 41.4 ± 20.0 min, compared to different surgeons within the same service (70.2 ± 49.6 min) or a change in service (86.0 ± 58.0 min), p<0.001. Additionally, TT was significantly affected by the day of the week. Monday had the longest TT of 65.8 ± 52.2 min compared to Tuesday (50.5 ± 34.2 min), Wednesday (50.4 ± 36.1 min), Thursday (55.7 ± 40.8 min), and Friday (55.6 ± 42.0 min), p<0.001. Surgeries started in the morning also had a shorter TT than those started in the afternoon (44.0 ± 23.5 min vs. 62.5 ± 48.2 min), p<0.001. Similar trends were observed when analyzing only urology cases. If TT could be reduced from the current average of 55.3 min to 41.4 min by eliminating changes in operating surgeon, potential savings of $644,960 (F) to $1,773,640 (C) per year could be realized. Moreover, if the mean TT on Monday (65.8 min) was reduced to the mean on other days (53.1 min), there could be potential savings of $102,119 (F) to $280,827 (C) per year. Lastly, if the mean TT for afternoon cases (62.5 min) was reduced to the mean TT for morning starts (44.0 min), $525,641 (F) to $1,445,513 (C) per year could be saved.

Conclusions: Highest TTs were seen with a change in operating service or surgeon between OR cases, as well as with surgeries performed on Mondays and in the afternoons. Increased use of block scheduling and quality improvement on Mondays and afternoons should be further studied as this may have a significant economic impact.

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