



COURSE SYNOPSIS

2011 Kimbrough



Resident Competition

Clinical Research

EFFECT OF PERIOPERATIVE BENZODIAZEPINE ON VASECTOMY PAIN AND ANXIETY DURING A ROUTINE IN OFFICE PROCEDURE

Guillermo Patino, DO; Jason Durbin, DO; Brian Auge, MD; Charles Marguet, MD
NMC San Diego

- “The use of oral benzodiazepines prior to vasectomy appears to have no significant impact on patient anxiety or pain when compared to placebo. Vasectomy can be performed under local anesthetic without need for intraoperative or postoperative monitoring in the office setting.”



Resident Competition

Clinical Research

EFFECTS OF STRESS ON URINARY SYMPTOMS

Chong Choe, MD; Michael Santomauro, MD; Emily Cole, MD

NMC San Diego

- There is an association with stress and increased urinary symptoms in military recruits in a controlled environment



Resident Competition

Clinical Research

TREATMENT EFFICACY OF VIRTUAL REALITY DISTRACTION IN THE REDUCTION OF PAIN AND ANXIETY DURING CYSTOSCOPY

George Kallingal, MD, MPH¹, Melba Stetz, PhD¹; John Musser, MD¹, Justin Meyers¹;
Patricia Nishimoto, BSN, MPH¹; Raymond Folen, PhD¹; Joseph Clark, MD²

¹Tripler Army Medical Center, Honolulu, Hawaii; ²Geisinger Medical Center, Danville, Pennsylvania

- “We conclude that there is no benefit to VR distraction to mitigate pain in male patients undergoing flexible cystoscopy. “



Resident Competition

Clinical Research

ASSOCIATION OF OCCUPATION AND IDIOPATHIC MALE FACTOR INFERTILITY DIAGNOSES IN THE AIR FORCE POPULATION

Joseph Kuebker, MD; Celan Alo MD, MPH; Steven Baughman, MD

SAUCHEC

- A significant association exists for select Air Force Specialty Codes career groups and idiopathic male infertility diagnoses (ie aircraft mechanics).
- Surgeons more virile



Resident Competition

Basic Science

DETERMINATION OF RADIATION DOSE DURING PERCUTANEOUS NEPHROLITHOTOMY USING A VALIDATED PHANTOM MODEL

John Mancini, MD; Michael Lipkin, MD; Agnes Wang, MD; Michael Ferrandino, MD;
Glenn Preminger, MD

Duke University, Durham, NC

- The effective dose rate is higher for a left sided PNL compared to a right sided PNL.
- Effective dose is a way of reporting radiation dose risks as it takes into account organ doses and relative radio-sensitivities.
- The distribution of radiation exposure during PNL is not uniform.



Resident Competition

Basic Science

NOVEL INTEGRATED EMG CATHETER FOR COMPREHENSIVE URODYNAMICS

Toby Lees, MD; Necia Pope, MD; Steven Baughman, MD
Wilford Hall Medical Center, Lackland AFB, TX

- An integrated EMG urodynamics catheter works well and is safe in a female porcine model.
- The accuracy and ease of its use has potential to absolve the need for cumbersome and often inaccurate EMG pads or needles.



Resident Competition

Basic Science

CHARACTERIZATION OF TISSUE CRUSH INJURY AFTER ROBOTIC MANIPULATION OF URETER, BLADDER, UTERUS AND BOWEL

Necia Pope, MD; Toby Lees, MD; Ammon Brown, VC; Kyle Weld, MD; Steven
Baughman, MD

Wilford Hall Medical Center; TX

- **No clinically significant injury was noted** in any tissue type at time interval up to 5 minutes in porcine ureter, bladder, uterus or bowel.
- These findings suggest that tissue damage from robotic grasper manipulation may be negligible (at 2 weeks).



Resident Competition

Basic Science

TRAKSTAR TOOL TIP TRACKER VALIDATION

Timothy Tausch, MD

Madigan Army Medical Center

- This study demonstrates that the daVinci-trakSTAR Tool Tip Tracker is a face, content, and construct valid reality-based simulation platform that can be used for objectively measuring robotic task performance.



Laparoscopy

Open Donor Nephrectomy

John Barry, MD

- Open donor nephrectomy is a safe and reliable procedure.
- Graft function (late) may be compromised in lap donor nephrectomy.
- In lap donor nephrectomy, because of left kidney preference, the better kidney may not be left with the donor.

Lap Donor Nephrectomy

George Stackhouse, MD

- Lap donation increases pool.
- Quicker return to work in lap donor nephrectomy.



Laparoscopy

RENAL MASS IN THE OCTOGENARIAN: ABLATION, EXTIRPATION AND OBSERVATION

Joe Miller, MD; Bradley Schwartz, DO, FACS
SIU School of Medicine

- Ablation and laparoscopic extirpation of renal masses can be performed in octogenarians with outcomes similar to younger patients.
- Those electing surveillance were older and had smaller tumors than those electing treatment.
- Extirpation results in a higher mean post-operative creatinine than ablation.
- **Observation is an alternative considering the competing medical comorbidities and as many as 20% of patients dying from other causes.**



Laparoscopy

COMPARISON OF SINGLE-CONSOLE VERSUS DUAL-CONSOLE ROBOTIC SURGERY SKILL PERFORMANCE IN UROLOGY RESIDENTS

Amy Burns, MD; Lauren Wood, BS; Jennifer Dávila-Aponte, PhD; Tracey Krupski, MD; Craig Peters, MD; Chad Tracy, MD; Noah Schenkman, MD

University of Virginia

- Teaching and practice produce faster times and improved ability to complete the task.
- Although there was no statistically significant difference between groups in mean CV change, subjects preferred DC.



Stone

Intervention for Nonobstructing Nephrolithiasis in the Deploying Soldier

Glenn Preminger, MD

- Endoscopic techniques are effective:
 - Stone free rates superb even for lower pole stones
 - With urs, stone relocation
 - Clot placed in the lower pole
- Endoscopic techniques have minimal morbidity:
 - Decreased intrarenal pressures with sheaths

Non-Intervention for Nonobstructing Nephrolithiasis in the Deploying Soldier

Rhonda Cornum, MD

- Few evacs are necessary due to urolithiasis
- Stone free success rates may not be as great as what is reported from stone centers
- Doctrine has to be written in a way that does not incentivize symptoms



Stone

IN VIVO STONE FRAGMENTATION AND TISSUE INJURY USING A NEW ACOUSTIC LENS DESIGN FOR ELECTROMAGNETIC SHOCKWAVE LITHOTRIPTERS

John Mancini, MD; Michael Lipkin, MD; Michael Ferrandino, MD; Glenn Preminger, MD
Duke University, Durham, NC

- Using the new acoustic lens, the Siemens Modularis shows significantly improved stone fragmentation in the porcine model.
- Tissue injury from the new lens appeared less and was not significantly different from the original lens.
- This new technology could potentially be retrofitted to existing lithotripters, thereby improving the clinical effectiveness of EM lithotripsy devices.



Stone

METAL URETERAL STENTS: A SINGLE INSTITUTION EXPERIENCE

Aaron Benson, MD; Eric Taylor, MD; Joe Miller, MD; Bradley Schwartz, DO, FACS

SIU School of Medicine

- Metal ureteral stents are effective for both benign and malignant ureteral obstruction in the absence of urolithiasis.
- Good tolerability and annual stent exchanges make metal stents an appealing alternative for patients with chronic ureteral obstruction treated by indwelling ureteral stents.



Trauma and Reconstruction

Penetrating Missile Trauma

Jack McAnich, MD

- Kidney
 - Exposure
 - Control bleeding
 - Debridement
 - Reconstruction
 - Preserve 50% of one kidney
- Ureter
 - Suspect
 - Debride
 - Spatulate
 - Stent
 - Consider damage control
 - Ligate, nephrostomy
- Bladder
 - Closure
 - Debridement seldom necessary
- Urethra
 - SP Tube
 - Preserve tissue (most is viable)
- Penis
 - SP tube
 - Primary repair
 - Preserve tissue



Trauma and Reconstruction

Bulbar Urethral Stricture: Old and New Point of View of the Current Surgical Techniques

Guido Barbagli, MD

- Repair choice by pathophysiology of disease
 - Trauma
 - EPA
 - Augmented (2-4cm)
 - Instrumentation
 - Oral Mucosa Only
- Morbidity and EPA
 - Subjective
 - 31% with some sexual dysfunction
 - 23% with ejaculatory dysfunction
 - Objective
 - 91% success



Trauma and Reconstruction

Bulbar Urethral Stricture: Old and New Point of View of the Current Surgical Techniques

Guido Barbagli, MD

- Procedure Planning:
 - Bulbar Onlays
 - Distal – Dorsal onlay
 - Proximal – Ventral onlay
- The procedure
 - Positioning - Simple lithotomy
 - Oral graft – double team, close mucosa, single cheek well tolerated
 - Sensor wire, methylene blue
 - May leave bulbospongiosus muscle intact



Trauma and Reconstruction

ROLE OF THE 3.5 CM ARTIFICIAL URINARY SPHINCTER CUFF IN THE SURGICAL TREATMENT OF MALE STRESS URINARY INCONTINENCE

Steven Hudak, MD; Celeste Valadez; Allen Morey, MD

UT Southwestern Medical Center, Dallas, TX

- “At this center, the 3.5cm AUS cuff has become the predominant device used for primary and revision treatment of male stress urinary incontinence”.
- Transcorporal cuff placement is rarely necessary, and if so, only in the context of a re-operative urethra. Dual cuff placement has been abandoned. Limiting the need for these adjunctive maneuvers has greatly improved the simplicity and safety of AUS placement.

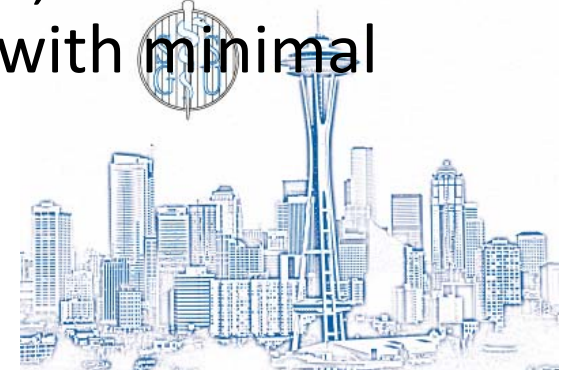


Trauma and Reconstruction

CENTRAL ROLE OF THE BOARI BLADDER FLAP PROCEDURE IN URETERAL RECONSTRUCTION

Ryan Mauck, MD; Steven Hudak, MD; Ryan Terlecki, MD; Allen Morey, MD
UT Southwestern Medical Center, Dallas, TX

- The Boari bladder flap procedure is a highly versatile and reliable technique for the reconstruction of ureteral defects in virtually any location.
- Downward nephropexy is a useful adjunctive maneuver for proximal defects.
- Postoperative complications are common, most of which are managed nonoperatively and with minimal long term morbidity.



Trauma and Reconstruction

THE TRANSOBTURATOR MALE SLING IN PATIENTS WITH MODERATE TO SEVERE STRESS URINARY INCONTINENCE

Paul McAdams, MD; Edward Houser, MD; Jennifer Bepple, MD; Kurt McCammon, MD

Eastern Virginia Medical School

- In men with moderate to severe SUI who refuse or are not candidates for an AUS, the transobturator sling offers satisfactory results with a minimally invasive procedure.
- Neither preoperative pad use nor history of prior radiation was a predictor of poor outcome.
- The durability of the transobturator sling needs to be confirmed with longer follow-up, but short-term results appear promising.



Pediatrics

Update on Vesicoureteral Guidelines

Craig A. Peters, MD

- Child with bowel/bladder dysfunction (BBD) must be treated differently, affects uti risk, reflux resolution and surgical outcomes
- The clinical scenario will guide the choice of treatment alternatives
 - VUR grade
 - Degree of scarring
 - BBD
- Cannot simply treat simply based on grade



Pediatrics

Update on Vesicoureteral Guidelines

Craig A. Peters, MD

- **The Child Younger Than 1 Year With VUR**
 - **CAP (continuous antibiotic prophylaxis) is recommended for the child less than one year of age with VUR with a history of a febrile UTI**
 - **In the absence of a history of febrile UTI, CAP is recommended for the child less than one year of age with VUR grades III–V who is identified through screening**



Pediatrics

Update on Vesicoureteral Guidelines

Craig A. Peters, MD

- **The Child Older Than 1 Year With UTI and VUR**
 - If clinical evidence of BBD is present, treatment of BBD is indicated, preferably before any surgical intervention for VUR is undertaken.
 - CAP is recommended for the child with BBD and VUR due to the increased risk of UTI while BBD is present and being treated.

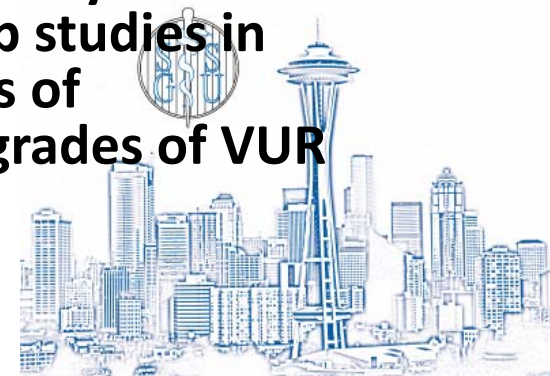


Pediatrics

Update on Vesicoureteral Guidelines

Craig A. Peters, MD

- **Followup Management of the Child with VUR**
 - General evaluation, including monitoring of blood pressure, height and weight is recommended annually.
 - Urinalysis for proteinuria and bacteriuria is indicated annually, including a urine culture and sensitivity if the urinalysis is suggestive of infection.
- **Cystography and Ultrasonography**
 - Ultrasonography is recommended every 12 months to monitor renal growth and any parenchymal scarring.
 - Voiding cystography (radionuclide cystogram or low-dose fluoroscopy, when available) is recommended every 12 to 24 months with longer intervals between follow-up studies in patients in whom evidence supports lower rates of spontaneous resolution (i.e. those with higher grades of VUR [grades III–V], BBD and older age).



Pediatrics

Update on Vesicoureteral Guidelines

Craig A. Peters, MD

- **Postoperative Imaging for Patients Receiving Definitive Interventions**
 - Following open surgical or endoscopic procedures for VUR, a renal ultrasound should be obtained to assess for obstruction.
 - Postoperative voiding cystography following endoscopic injection of bulking agents is recommended.



Pediatrics

Observation of Ureteropelvic Junction Obstruction

Martin A. Koyle, MD

- First do no harm
- Imaging is not reliable for obstruction
- Minority of patients on observation go on to need surgery
- Family and pediatrician must be on board
- Best candidate: SFU I-III
- Intervene: symptoms, deterioration of function

Early Pyeloplasty for Ureteropelvic Junction Obstruction

Craig A. Peters, MD

- Obstruction is damaging
- Current diagnostic methods are imprecise at determining function and obstruction
- Modern surgical methods are effective at correcting obstruction



Pediatrics

Minimally-Invasive Open Surgery in Pediatric Urology: An Option to “Our Friend” the Robot

Martin A. Koyle, MD

- Minimally invasive surgery somewhat consumer driven
- Benefits to laparoscopic approach includes an expanded operating field
- Traditional definition has incorporated use of an endoscope
- Minimally-invasive open surgery may be done with smaller incisions and less division of muscle



Pediatrics

Minimally-Invasive Open Surgery in Pediatric Urology: An Option to “Our Friend” the Robot

Martin A. Koyle, MD

- Minimally-invasive open surgery may be faster than laparoscopic surgery
- Minimally-invasive open surgery is safe
- Minimally-invasive open pyeloplasty is effective with a low narcotic requirement in young, and non-obese children
- Minimally-invasive open u-u may be a reasonable approach to an obstructed, duplicated moiety



Pediatrics

THE RELATIONSHIP BETWEEN OBESITY AND COMPLICATIONS AFTER NEONATAL CIRCUMCISION

Douglas Storm, MD; Cheryl Baxter, RN, MS; Stephen Koff, MD; Seth Alpert, MD
Naval Medical Center, San Diego, CA

- Newborn W/L ratio does not predict future development of penile skin bridges or hidden penis.
- One should not base the indication for a newborn circumcision on these parameters alone.
- As the child grows, the development of childhood obesity does appear to be a risk factor for the development of these circumcision complications.
- When evaluating an obese child for a hidden penis, weight loss rather than surgical intervention may be a more prudent initial solution to this problem.



Infertility

SLEEVE VERSUS FORCEPS GUIDED TECHNIQUE FOR MASS CIRCUMCISION EFFORTS FOR HIV PREVENTION

Suzanne Gudeman, MD; Ronald Wandira, MD; Tigistu Adamu, MD; Brian Auge, MD; Dino Rech, MD; James L'Esperance, MD
NMCSO, San Diego, CA

- The forceps guided technique for circumcision is a faster, more efficient technique in mass circumcision efforts.
- This is true even for surgeons who are primarily adept with the sleeve technique, as the technique can be readily adopted.
- Depending on the surgical volume of the program, performing sleeve technique can add from 90 to 150 minutes to a day, with the possibility of patients being turned away.



Infertility

ROBOTIC VASOVASOSTOMY: DESCRIPTION OF TECHNIQUE AND REVIEW OF INITIAL RESULTS

Brian Auge, MD; Chong Choe, MD; Michael Santomauro, MD; James L'Esperance, MD

NMCSO, San Diego, CA

- Single layer and double layer robotic vasovasostomy is technically feasible demonstrating adequate results on follow-up semen analysis.



General Urology

Dr. Laurence Levine – Scrotalgia

- **Etiology – Wallerian degeneration?**
- **Source**
 - **Direct**
 - Trauma
 - Celes
 - **Referred**
 - Stone
 - Hernia
 - AAA
 - Nerve entrapment
 - **Idiopathic (up to 50%)**
 - **Secondary gain**
 - **Psychiatric**
 - **Post vasectomy pain syndrome (PVPS)**



General Urology

Dr. Laurence Levine – Scrotalgia

- Evaluation
 - In addition to ua, uc, US, etc, consider cord block at pubic tubercle level at time of physical exam
 - Standardized questionnaire



General Urology

Dr. Laurence Levine – Scrotalgia

- Treatment
 - Pharmacologic
 - NSAIDS – consider Celebrex
 - Avoid additional abx, but if appears to have active infn – 4-6 wks doxy or levofloxacin
 - Antidepressants, but not for PVPS
 - Ie. Amitriptyline
 - Anti-convulsants, but not for PVPS
 - Ie. Neurontin
 - Nerve blocks
 - TMR (topical pulsed electromegnetic energy)
 - TENS (1-3mos)
 - Accupuncture
 - Psychiatric counselling
 - Kusuda's House of Pain



General Urology

Dr. Laurence Levine – Scrotalgia

- Treatment
 - Surgery
 - Epididymectomy
 - Only when pain is localized to epididymis
 - Vasectomy reversal – PVPS
 - Falling out of favor
 - Neurolysis
 - Divide ALL structures +/- vas except for arteries and a lymphatic or two
 - Consent – “I will not be a source of pain meds”
 - 71% complete relief, 12% no benefit
 - Orchiectomy
 - Appropriate 1% of the time
 - Inguinal more effective than scrotal



General Urology

Dr. Anton Bueschen – The Evolution of Imaging

- 1951 – Epidydimography
- 1953 – Angiography – Seldinger, percutaneous needle
- 1952 – Reflux in a neurogenic bladder (Hutch)
- 1970 – Voiding cystogram (Schofer)
- 1972 – Nuclear cystogram (Conway)



General Urology

Dr. Anton Bueschen – The Evolution of Imaging

- Nuclear Medicine
 - 1956 renal function (Taplin)
 - 1970's bone scan
- Ultrasound
 - 1960's – medical applications
 - No ionizing radiation



General Urology

Dr. Anton Bueschen – The Evolution of Imaging

- CT – concept – Cormack
 - 1972 – Sir Hounsfield – first clinical use
 - 1974 – Whole body scanning
 - 1979 – Cormack and Hounsfield – Nobel Prize



General Urology

Dr. Anton Bueschen – The Evolution of Imaging

- MRI
 - 1973 – first reported
 - 1977 – first studies in humans
 - Pros:
 - No radiation
 - No iodinated contrast
 - Better soft tissue resolution
 - Cons:
 - Expensive
 - Causes claustrophobia
 - Motion causes artifact
 - Nephrogenic Systemic Fibrosis
 - » GFR<30



General Urology

Dr. Anton Bueschen – The Evolution of Imaging

- The future
 - Dual energy ct
 - Prostate MRI
 - MRI as a biomarker for RCC
 - Urography in CT and MRI
 - Minimizing radiation dose
- Bottom line:
 - Evolution of urology mirrors (and probably follows) the evolution of imaging



Poster Session

FACTORS INFLUENCING FLUID INTAKE BEHAVIOR AMONG KIDNEY STONE PATIENTS

Lipika R. McCauley, MD; Anthony J. Dyer, MD; Karen Stern, MD; Thomas Hicks, MD;
Mike M. Nguyen, MD

The University of Arizona Health Sciences Center

- Stone formers consistently voiced feeling susceptible to forming another stone.
- Most patients were highly motivated and felt capable of being able to increase their fluid intake to prevent future stones, however not all were successful with suggested interventions.
- Barriers preventing success were aligned into three stages with most patients progressively passing through each stage.
- The findings of this study can help guide the development of more effective patient-centered approaches to kidney stone prevention using increased fluid intake.



Poster Session

HUMAN HERPESVIRUS-8 (HHV-8) INFECTION PROMOTES THE DEVELOPMENT OF AN ANDROGEN-INDEPENDENT PHENOTYPE IN THE LNCAP HUMAN PROSTATE CANCER CELL LINE

Justin Mygatt, MS; Johnan Kaleeba, PhD
Uniformed Services University

- HHV-8 infection of LNCaP cells results in a pro-inflammatory cellular environment and causes increased AR expression and transcriptional activity, as evidenced by elevated PSA expression.
- **To our knowledge, this is the first evidence of an infectious agent promoting the development of androgen-independence in the LNCaP cell line.**
- HHV-8 infected LNCaP cells could potentially serve as a model to study the mechanisms by which an infectious agent can incite chronic inflammation, resulting in prostate cancer progression and the development of an androgen-independent phenotype.



Oncology

Surveillance for Clinical Stage 1 NSGCT

Craig Nichols, MD

- The majority of patients with CSI are indeed pathological stage I (75%)
- Any adjuvant therapy (RPLND or adjuvant chemotherapy) results in significant overtreatment.
- There are no modern data that suggests there is an increase rate of death or long term reduction in quality of life in those CSI patients undergoing surveillance or those receiving adjuvant treatments. (Long term survival approaches 100% in all modern series)
- Although compliance is strongly encouraged, there is no evidence that spotty compliance leads to increased risk of death with either surveillance, RPLND or adj chemotherapy.
- Emerging guidelines around the world have eliminated primary RPLND from the treatment algorithms for CSI nonseminoma. Adjuvant therapy, if selected should be two cycles of BEP

Adjuvant Therapy for Clinical Stage 1 NSGCT

Edith Canby-Hagino, MD

- CSI NSGCT comprises wide spectrum of risk for occult metastatic disease, > 50% for some subgroups.
- Current staging techniques are insensitive for occult metastatic disease
- RPLND after orchiectomy is effective for both staging and treatment
- Adjuvant chemotherapy after orchiectomy is highly effective at preventing relapse
- Intensity of treatment is higher for individuals who relapse while on surveillance compared to individuals managed with adjuvant therapy
- Surveillance is not without “toxicity”, including psychological burden and risk from radiation exposure



Oncology

Open Cystectomy

Sia Daneshmand, MD

- 1) Quality of Lymph Node Dissection
- 2) Quality of Surgery (i.e. margins, etc.)
- 3) Differences in morbidity/complications
- 4) Survival

Robotic Cystectomy

Dipen Parekh, MD

- Lower transfusion rate
- Possible shorter hospitalization
- Comparable short term oncologic outcome
- Selection bias – RCT underway



Oncology

STANDARD VS. EXTENDED PELVIC LYMPH NODE DISSECTION DURING ROBOTIC PROSTATECTOMY

Dave Dhiren, MD; James Porter, MD
Seattle, WA

- Extended pelvic lymph node dissection can be performed robotically when indicated with minimal complications.
- The lymph node yield and rate of positive nodes are greater with extended PLND as compared to standard.
- More experience is needed with extended PLND to determine which patients will benefit from this procedure.



Oncology

Intermittent Hormone Therapy for PSA Progression after Localized Treatment for Prostate Cancer

Dan Lin, MD

- Decreased morbidity from intermittent hormone therapy
- Possibly equal efficacy – RCT results soon
- Initial 6-9mo androgen ablation

Continuous Hormone Therapy for PSA Progression after Localized Treatment for Prostate Cancer

Javier Hernandez, MD

- The whole concept of intermittent androgen deprivation therapy is based on the assumption that early androgen deprivation therapy is superior to delayed hormonal therapy for improved survival of patients with advanced prostate cancer.
- Studies more often quoted looked at different clinical settings (Messing, Bolla, MRC, Studer, etc...)



Oncology

Not to Screen for Prostate Cancer **Dipen Parekh, MD**

1. Overdetection of inconsequential cancer
2. We use the wrong cutoff for screening
3. Increasing rates of infection with biopsy
4. Overall cost of screening
5. Downstream costs of treatment
6. Downstream side effects of treatment

To Screen for Prostate Cancer **Greg Thibault, MD**

1. Fall in prostate cancer mortality
2. Improved survival in ERSPC. Very high contamination rate in PLCO prevents it from showing a mortality improvement
3. Patients want it - >75% of men over 50 have had a PSA and > 50% get it done annually
4. There really isn't overdetection if you utilize active surveillance
5. For the patients who have bad cancers and whom you will treat, there is clear cut evidence that there are better treatments (adjuvant XRT, cancer mortality advantage of surgery versus observation in Scandinavian series, advantage of XRT plus hormones to hormones alone)
6. Fall in rates of metastatic disease across the US



Oncology

SENTINEL LYMPH NODE MAPPING OF THE PROSTATE USING OPTICALLY-LABELED TILMANOCEPT IN A PIG MODEL

Sean Stroup, MD; Anne Wallace, MD; Richard Orahood, MD, Christopher Kane, MD; David Vera, MD

University of California, San Diego, CA

- In this feasibility study, pelvic SLNs attained high signal-to-background radioactivity within 10 minutes.
- Image guided tumor resection and lymphadenectomy remain promising future directions for surgical oncology and warrant further investigation.





Make Plans to Join Us for the
59th Annual
James C. Kimbrough Urological Seminar

January 15 - 20, 2012
Charleston Marriott
Charleston, South Carolina
Naval Medical Center Portsmouth (Host Institution)

