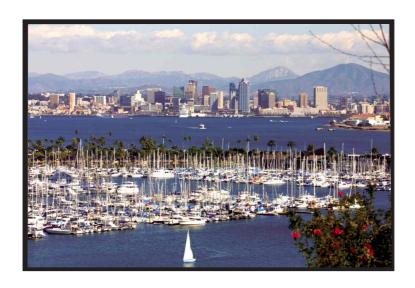
64th ANNUAL JAMES C. KIMBROUGH UROLOGICAL SEMINAR



2017 PROGRAM & ABSTRACT BOOK

January 11-15, 2017 Sheraton Harbor Island Hotel, San Diego, California



Society of Government Service Urologists

2017 PROGRAM BOOK



Scientific Program Committee:

CDR R. Chanc Walters, MC, USN LCDR Paul R. Womble, MC, USN

Disclosure: The views and opinions expressed in this program book are those of the authors and do not necessarily reflect the official policy or position of the US Navy, Army, Air Force, the Department of Defense, or the U.S. Government.



Welcome from the President, Harold (Hal) A. Frazier, MD

Dear SGSU Members,

Welcome to San Diego and the 64th Annual Kimbrough Seminar. It is a distinct honor to serve as the President of the Society of Government Service Urologists. Dr. Chanc Walters and Dr. Paul Womble have put together an outstanding academic and social program, and the DeSantis Management Group continues to provide exceptional administrative leadership and support. This should be a fabulous meeting. As the field of Urology, military medicine, and VA medicine evolve, the Kimbrough Seminar will likewise change with the times. However, the meeting remains a foundation for Urologists in the service of our government, an excellent forum for education and training, and a wonderful opportunity to socialize and network with one another. The leadership and dedication of our active duty, VA and retired membership ensures that the wonderful tradition of the Kimbrough meetings will continue to support the mission and camaraderie that is unique to military and VA urology. Enjoy the meeting and your time in San Diego.

With Best Regards,

Hal Frazier, MD



Welcome from the
Program Chairmen
CDR R. Chanc Walters, MC, USN
LCDR Paul R. Womble, MC, USN



Dear SGSU Members,

We would like to welcome you to the 64th Annual Society of Government Service Urologists, James C. Kimbrough Urological Seminar in San Diego. We thank our colleagues at the Naval Medical Center San Diego who assisted us in planning. We look forward to keeping our important traditions alive while maintaining a robust academic program this year.

Please join us at the Welcome Reception on Wednesday to kick off the meeting. We will have three full meeting days and Sunday is dedicated to the Mock Oral Boards and course summary for a total of 21.25 hours of CME. Thursday evening is always a highlight with the GU Bowl and Friday evening will be a free night to enjoy San Diego scenery and restaurants.

Our Scientific Program continues to allow every resident and staff the opportunity to present original research at podium and poster sessions. We are also honored to have a distinguished group of visiting faculty that will focus on state-of-the art discussions and highlight best practices and new research in urology. Special topic lectures and industry programs will round out our meeting. As usual, we will include ample time for audience questions and discussions of challenging clinical scenarios.

Finally, please join us on Saturday at 6:30 PM for the Kathy and Preston Littrell Awards Dinner, where keynote speaker Kurt McCammon, MD, FACS, Chairman of the Department of Urology at Eastern Virginia Medical School will speak on "Surgical Volunteerism".

We look forward to renewing old friendships and making new ones.

Best Regards,

CDR R. Chanc Walters, MC, USN LCDR Paul R. Womble, MC, USN Naval Medical Center Portsmouth

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Robert C. Dean, MD
Walter Reed Medical Ctr., Washington, DC

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Brooke Army Medical Center, Dept. of Urology, Fort Sam Houston, TX

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Walter Reed National Military Medical Center Bethesda

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Sean P. Stroup, MD

Naval Medical Center San Diego

Air Force Urology Liaison

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Eastern Virginia Medical School

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Audit Committee

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DeSantis Management Group
1950 Old Tustin Avenue, Santa Ana, CA 92705

JAMES CLAUDE KIMBROUGH, MD

Colonel, Medical Corps, United States Army -1887-1956



olonel Kimbrough was the "Father of U.S. Army ■Urology". A native of Madisonville, Tennessee, he graduated from Vanderbilt University School of Medicine in 1916 and entered the U.S. Army Medical Corps in July 1917. served a total of forty-one months in Europe during World Wars I and II. His career from 1921, was spent almost exclusively as Chief Urologist in many Army hospitals and included four tours, totaling eighteen years, at Walter Reed General Hospital where he initiated the urology residency program in 1946. His military awards include a MOS prefix of "A", Bronze

Star, Legion of Merit, Purple Heart, and a Meritorious Service Citation from General Pershing. He was immediately recalled to active duty after his statutory retirement in 1948. In 1953 an Act of Congress appointed him a Permanent Consultant in urology at Walter Reed. In addition, COL Kimbrough was a Diplomat of the American Board of Urology, a member of the American Urological Association (AUA), a Fellow of the American College of Surgeons, and a member of the American Medical Association. He served as President of the Mid-Atlantic Section of the AUA from 1955 to 1956. From 1949 to 1950 he was President of the Washington, D.C. Urologic Society. He held honorary memberships in the Western Section of the AUA, Royal Society of Medicine of London, Academic de Chirugie of Paris and Alpha Omega Alpha. Colonel Kimbrough was a 32d degree Mason and Shriner. His intense interest and enthusiasm in Urology made him an authority in the field of urologic oncology; he contributed fifty-eight papers to the urological literature. In 1953 this seminar was established in his honor. In 1957, after his death, the official name became the James C. Kimbrough Urological Seminar. On 29 June 1961, Kimbrough Army Hospital, Fort George G. Meade, was dedicated to his memory.

JAMES C. KIMBROUGH MEMORIAL AWARDS - PREVIOUS WINNERS

In 1957, Mrs. Pauline Kimbrough established the Kimbrough Memorial Award for the best presentation by a military resident. Starting in 1972, first place awards began to be presented to the two armed forces urology residents making the best presentations in clinical urology and basic science research. The competition was expanded to include all residents in government service affiliated urology residency programs in 2007. A plaque is given to each award winner.

PREVIOUS AWARD WINNERS 1957 MAI Gerald Mahaffe

1957	MAJ Gerald Mahaffey, USAF	Letterman Gen Hospital
1958	MAJ A.A. Borski, USA	Fitzsimons Gen Hospital
1959	LT Carter E. Carlton, USN	Baylor U. College of Medicine
1959	CPT Frank E. Ceccarelli, USA	Brooke Gen Hospital
1960	CPT Herbert Levin, USA	Walter Reed Gen Hospital
1961	CPT Richard C. Macure, USA	Brooke Gen Hospital
1962	LCDR R.M. Busch, USN	San Diego Naval Hospital
1963	CPT Richard Finder, USA	Walter Reed Gen Hospital
1964	MAJ Mauro P. Gangai, USA	Walter Reed Gen Hospital
1965	MAJ Thomas Shown, USA	Letterman Gen Hospital
1966	LCDR Robert E. Julian, USN	US Naval Hospital, PA
1967	MAJ Robert Wright, USA	Brooke Gen Hospital
1968	MAJ John C. Wurster, USA	Tripler Gen Hospital
1969	MAJ Joseph A. Bruckman, USA	Tripler Gen Hospital
1970	MAJ Davis F. Gates, USA	Tripler Gen Hospital
1971	MAJ Charles T. Swallow, USA	Brooke Gen Hospital
1972	CPT Tarver B. Bailey, USA	Walter Reed AMC
1972	MAJ Peter A. Leninger, USA	Walter Reed AMC
1973	MAJ George E. Deshon, Jr., USA	Walter Reed AMC
1973	MAJ Gerald L. Levisay, USA	Fitzsimons AMC
1974	MAJ H. David Cox, USA	Walter Reed AMC
1974	LTC Jan Hull, USA	Brooke AMC
1975	MAJ Shannon McMillen, USA	Madigan AMC
1975	LCDR Clifford J. Nemeth, USN	National Naval Med Ctr
1976	MAJ Phillip H. Beck, USA	Letterman AMC
1976	MAJ Patrick W. Kronmiller, USA	Madigan AMC
1977	MAJ William D. Belville, USA	Walter Reed AMC
1977	MAJ David W. Bentley, USA	Fitzsimons AMC
1978	MAJ Victor J. Kiesling, USA	Letterman AMC
1978	Torrence M. Wilson, USA	Fitzsimons AMC
1979	MAJ Jack R. Pence II, USAF	Wilford Hall MC
1979	MAJ Rene Sepulveda, USA	Walter Reed AMC
1980	MAJ George G. Mygatt, USA	Tripler Army AMC
1980	MAJ Jack R. Pence II, USAF	Wilford Hall MC
1981	LCDR Kathryn S. Buchta, USN	Naval Med Ctr, San Diego
1981	MAJ Gary A. Wikert, USA	Brooke AMC
1982	MAJ Louis R. Cos, USA	Univ of Rochester MC
1982	CPT August Zabbo, USAF	Cleveland Clinic Foundation
1983	CPT Robert G. Ferrigni, USAF	Wilford Hall MC
1983	CPT Ian M. Thompson Jr., USA	Brooke AMC
1984	CPT Stephen M. Dresner, USAF	WA Univ, St. Louis, MO
1984	CPT Julius L. Teague, USA	Brooke AMC
1985	LCDR Thomas F. Huisman, USN	Naval Medical Ctr, San Diego
1985	CPT Indd W. Maril, USA	Madigan AMC
1986	CPT Judd W. Moul, USA	Walter Reed AMC

JAMES C. KIMBROUGH MEMORIAL AWARDS - PREVIOUS WINNERS (cont.)

1986	CPT Thomas A. Rozanski, USA	Madigan AMC
1987	LCDR Thomas J. Stilwell, USNR	Mayo Clinic, Rochester, MN
1987	LT Harold A. Frazier II, USNR	Nat'l Naval Med. Ctr.
1988	CPT Anurag K. Das, USAFR	Duke Univ Med Ctr
1988	LT Jeffrey Twidwell, USNR	Naval Medical Ctr, San Diego
1989	MAJ Kurt L. Hansberry, USA	Brooke AMC
1989	CPT Leonard G. Renfer, USA	Madigan AMC
1990	Cancelled (Desert Shield/Storm)	Wadigati Aivic
1991	CPT Wilfred S. Kearse, Jr. USAF	Wilford Hall MC
1991	MAJ Timothy K. Dixon, USA	Brooke AMC
1992	CPT Richard W. Knight, USA	Madigan AMC
1992	MAJ Donald J. Lewis, USA	Walter Reed AMC
1993	MAJ M. David Bomalaski, USAF	Wilford Hall MC
1993	MAJ Thomas M. Seay, USAF	Wilford Hall MC
1994	CPT R. Duane Cespedes, USAF	Wilford Hall MC
1994	MAJ Joseph Y. Clark, USA	Brooke AMC
1995	CPT Jay T. Bishoff, USAF	Wilford Hall MC
1995	PT Ted O. Morgan, USA	Walter Reed AMC
1996	CPT Jay T. Bishoff, USAF	Wilford Hall MC
1996	CPT Raymond S. Lance, USA	Madigan AMC
1997	MAJ John G. Anema, USAF	Wilford Hall MC
1997	LTC Rhonda Cornum, USA	Brooke AMC
1998	MAJ John G. Anema, USAF	SAUSHEC*
1998	MAJ George B. Stackhouse, USA	Walter Reed AMC
1999	LT Melody A. Denson, USN	University of Iowa
1999	CPT Kyle J. Weld, USAF	University of Tennessee
2000	LCDR Prodromos G. Borboroglu,USN	Naval Medical Ctr, San Diego
2000	CPT Michael L. Gallentine, USAF	SAUSHEC*
2001	MAJ Kevin J. Gancarczyk, USA	Walter Reed AMC
2001	CPT Barak Perahia, USAF	SAUSHEC*
2002	CPT Ann S. Fenton, USAF	SAUSHEC*
2002	CPT Kenneth H. Ferguson, USAF	SAUSHEC*
2004	CPT Eric J. Hick, USAF	SAUSHEC*
2004	MAJ Stacey G. Koff, USA	Walter Reed AMC
2005	MAJ Mark Noller, USA	SAUSHEC*
2005	CPT Thomas Novak	Walter Reed AMC
2006	MAJ Inger Rosner, USA	Walter Reed AMC
2006	LT R. Chanc Walters, USN	Naval Medical Ctr, San Diego
2007	LT Alison M. Lake, USN	University of Michigan
2007	LT R. Chanc Walters, USN	Naval Medical Ctr, San Diego
2008	LT Alison M. Lake, USN	University of Michigan
2008	CPT L. Andrew Evans	SAUSHEC*
2009	CPT Chad DeRosa, MC, USA	Walter Reed AMC
2009	CPT Forrest C. Jellison, MC,USAF	Loma Linda Medical Center
2012	CPT Timothy Tausch, MC USA	Madigan AMC, WA
2012	MAJ Patrick McDonough, MC, USA	Madigan AMC, WA
2013	CPT Nicholas J. Kuntz, MC, USA	Duke University
2013	CPT Mark R. Anderson, MC, USA	Duke University
2014	CPT Ryan W. Speir, MC, USA	Madigan Army Medical Center
2014	CPT Nicholas J. Kuntz, MC, USA	Duke University

JAMES C. KIMBROUGH MEMORIAL AWARDS - PREVIOUS WINNERS (cont.)

2015	CPT Raffaella DeRosa, MC, USA	Tripler Army Medical Center
2015	CPT Nicholas J. Kuntz, MC, USA	Duke University
2016	MAJ Stephen Overholser, MC, USA	Univ. of TX Hlth. Sci. Ctr.
2016	LT Travis C. Allemang, MC, USN	Naval Medical Center Portsmouth

^{*}San Antonio Uniformed Services Health Education Consortium

PRINCE D. BEACH, MD

Colonel, Medical Corps, United States Army -1918-1992



olonel Beach was a native of New Bedford, Massachusetts, a graduate ■of Colby College and Jefferson Medical College, and was commissioned in the US AMEDD in 1945. Over the next several vears he served as a battalion surgeon and medical officer with varied and multiple commands of dispensaries and station hospitals, primarily in Europe. During the Korean War he received the Bronze Star while commanding officer and division surgeon of the 24th Medical Battalion. After completion of his urology residency in 1955 at Brooke Army Medical Center, he was the Assistant Chief of Urology at Fort Carson and Brooke, and Chief of Urology, 2nd General

Hospital, Landstuhl, Germany. He returned to Brooke General Hospital in 1963 and was Chief of Urology from 1965 until his retirement in 1968, after 23 years of active service. Subsequently, he became an Associate Professor in the Department of Urology at Baylor College of Medicine, Chief of Urology at the VA Hospital in Houston, Texas, and Co-chairman of the VA Cooperative Urological Research Group. He was Executive Secretary of the Society of Government Service Urologists (SGSU) from its inception until his death in 1992. He was known for his great sense of humor, administrative expertise, wise counsel and sound clinical acumen.

PRINCE D. BEACH AWARD PREVIOUS WINNERS

Established in 1992 for the best paper presented by a Society Member Staff Physician, as judged by Chief Residents attending the Seminar.

PREVIOUS AWARD WINNERS

1993	MAJ Samuel Peretsman, USAF, MC	Wilford Hall Medical Center
1994	MAJ J. Brantley Thrasher, MC, USA	Madigan Army Medical Center
1995	MAJ J. Brantley Thrasher, MC, USA	Madigan Army Medical Center
1996	MAJ Allen F. Morey, MC, USA	UCSF San Francisco Gen.Hospital
1997	MAJ Ronald S. Sutherland, MC, USA	Tripler Army Medical Center
1998	LTC Burkhardt H. Zorn, MC, USA	Walter Reed Army Medical Ctr.
1999	COL Rhonda Cornum, MC, USA	Eisenhower Army Medical Center
2000	LCDR Stephen V. Jackman, MC, USN	Naval Medical Ctr. Portsmouth
2001	COL Thomas A. Rozanski, MC, USA	Brooke Army Medical Center
2002	MAJ(P) Douglas W. Soderdahl, MC,USA Eis	senhower Army Medical Center
2004	LCDR Brian Auge, MC, USN	Naval Medical Center San Diego
2005	COL Edward Mueller, MC, USA (Ret.)	San Antonio, TX
2006	LCDR Emily Cole, MC, USNR	Naval Medical Center San Diego
2007	MAJ R. Clay McDonough, III, USAF, MC	University of Iowa Hosp.& Clinics
2008	James A. Brown, M.D.	Medical College of Georgia
2009	LTC Andrew Peterson, MC, USA	Madigan Army Medical Center
2010	LCDR Douglas W. Storm, MC, USN	Naval Medical Center San Diego
2011	MAJ Steven Hudak, MC, USA	San Antonio Military Med. Ctr.
2012	LCDR Joe Miller, MC, USN	Univ. of California, San Francisco
2013	LTC Timothy Brand MC, USA	Madigan Army Medical Center
2014	LCDR Douglas W. Storm, MC, USN	University of Iowa Hosp.& Clinics
2015	Col (Ret) Drew Peterson, MC, USA	Duke University
2016	LCDR Eric T. Grossgold, MC, USN	Washington Univ. Medical Ctr.

H. GODWIN STEVENSON

SGSU Administrator - 1920-1992



. Godwin Stevenson, a native of Philadelphia, graduated from Cornell University with a B.S. in zoology. He was a naval aviator and flight instructor during World War II. In 1946 he joined Eaton Laboratories as their first salesman and was in charge of government sales from 1952 until his retirement in 1982. He was a naturalist throughout his life, an expert in falconry, an avid birdwatcher, and published authority on moths. Known affectionately as "Tibbie," he was a trusted friend, confidant, and supporter of all Armed Forces and VA urologists. His numerous contributions to government service urology remain his legacy, and include: administrator of the SGSU from its inception in 1972 until his death in 1992, organization and

publication of the "Proceedings of the Kimbrough Seminar," solicitation of multiple corporate sponsors for the annual James C. Kimbrough Urological Seminar, resident grants to professional meetings, SGSU Membership Directory, and hotel conference agreements for the yearly Kimbrough meeting.

H.G. STEVENSON AWARD PREVIOUS WINNERS

In 1992 the Society established this award, which is presented annually for outstanding support and dedicated service to the Society. The recipient of this award can be a Corporate Member, physician, or other individual as determined by the Board of Directors.

PREVIOUS AWARD WINNERS

1992	COL Evan Lewis, MC, USA (Ret)
1994	Preston N. Littrell
1995	COL John N Wettlaufer, MC, USA (Ret)
1996	COL Leonard Maldonado, MC, USA (Ret)
1997	F. Kash Mostofi, M.D.
1998	Lester Persky, M.D.
1999	Charles A. Hulse, M.D.
2000	COL Donald E. Novicki, USAF, MC (Ret)
2001	Harry Tarr
2002	COL Martin L. Dresner, MC, USA (Ret)
2004	COL Robert M. Dobbs, MC, USA (Ret)
2005	COL Ian M. Thompson, MC, USA (Ret)
2006	Kathryn S. Littrell
2007	COL Howard E. Fauver, MC, USA (Ret)
2008	COL David G. McLeod, MC, USA (Ret)
2009	COL David McLeod, MC, USA (Ret)
2010	COL Thomas A. Rozanski, MC, USA (Ret)
2011	Isabel Sesterhenn, MD
2012	John Weigel, MD
2013	BGEN James T. Turlington, MC, USAF (Ret)
2014	John M. Barry, MD
2015	DeSantis Management Group
2016	MAJ GEN Thomas P. Ball, USAF, Ret.

CHRISTINE MANTHOS

Major, Medical Corps, United States Army - 1961-1999



ajor Manthos, a native of Leesburg, Virginia, commissioned in the USAR in 1985. was a graduate with distinction of University of Virginia and the Uniformed Services University of the Health Sciences from which she received the Army Surgeon General Award. She did her surgical internship at Fitzsimons AMC followed by a one year assignment in Korea as Troop Medical Clinic Commander. She returned to Fitzsimons to complete her Urology residency in 1996 as the last graduating urology resident prior to the closure of Fitzsimons. Among her accomplishments throughout her life were fluency in Russian, participation in an early Hanta

virus study, experience as a country music disc jockey, selection by her peers in 1996 as Outstanding Teaching Resident and below zone promotion to Major. An outstanding physician, she was known for her genuine compassion, excellent teaching abilities and superb surgical skills. Chris was lovingly devoted to her children, family and many friends. Her ever-present infectious smile touched all who knew her. The annual resident luncheon will be held in memory of Christina Manthos, a member of the society who died of breast cancer. We hope her memory and love for residents will live on at the luncheon.

CLARE SCANLON

1941-2005



lare Scanlon was just as much a member of the Army as was her husband, retired Island, New York, Clare graduated from Marymount College in Arlington, Virginia. While raising a family and moving from post to post, Clare worked tirelessly to enrich the lives of those around her. She received the Military Wife of the Year award at Fort Dix, NJ in 1971, and in 1974 was a recipient of the Molly Pitcher award for distinguished service as an officer's wife in the community at Ft. Sill, OK. While at West Point, Clare instructed cadets on finer points of decorum and protocol, launching many young men and women into successful Army careers.

fter Wally's career took him to Fort Sam Houston, she served as the medical editor for Brooke Army Medical Center, shepherded many manuscripts into prestigious journals and textbooks of international renown, and began a decade of service to the SGSU. Even into the last year of her life, Clare dedicated countless hours to planning the Kimbrough Urological Seminar, editing and assembling the program book.

CLARE SCANLON AWARD - PREVIOUS WINNERS

CLARE SCANLON AWARD

In 2006, to express our deep gratitude for her devoted service, the Society established the Clare Scanlon Award, to be "presented annually for outstanding administrative support and service to the Society, specifically in regards to the annual Kimbrough Seminar, as determined by the Course Director".

PREVIOUS AWARD WINNERS

2006 Teresa Clark & Sharon Mason

2007 Janie N. Garcia

2008 Patricia A. Harrison

2009 Toni Dominci

2011 Verna Munroe

2016 Maria Salazar

NUMBER	YEAR	
1	1953	Walter Reed General Hospital COL Jack W. Schwartz, MC, USA
2	1954	Walter Reed General Hospital COL Jack W. Schwartz, MC, USA
3	1955	Brooke General Hospital COL Claude C. Dodson, MC, USA
4	1956	Walter Reed General Hospital LTC Kryder E. Van Buskirk, MC, USA
5	1957	Walter Reed General Hospital COL John F. Patton, MC, USA
6	1958	Brooke General Hospital COL Louis K. Mantell, MC, USA
7	1959	Brooke General Hospital COL Louis K. Mantell, MC, USA
8	1960	Brooke General Hospital LTC Clarence B. Hewitt, MC, USA
9	1961	Brooke General Hospital COL Louis K. Mantell, MC, USA
10	1962	Letterman General Hospital COL Kryder E. Van Buskirk, MC, USA
11	1963	Walter Reed General Hospital
12	1964	COL Clarence B. Hewitt, MC, USA Brooke General Hospital
13	1965	COL Prince D. Beach, MC, USA Letterman General Hospital LTC Charles A. Moore, MC, USA
14	1966	Walter Reed General Hospital COL Kryder E. Van Buskirk, MC, USA
15	1967	Brooke General Hospital COL Prince D. Beach, MC, USA
16	1968	Walter Reed General Hospital COL Kryder E. Van Buskirk, MC, USA
17	1969	Letterman General Hospital COL Leonard Maldonado, MC, USA

NUMBER 18	YEAR 1970	Brooke General Hospital LTC Robert M. Dobbs, MC, USA
19	1971	Letterman General Hospital LTC Ray E. Stutzman, MC, USA
20	1972	Fitzsimons General Hospital
21	1973	COL Evan L. Lewis, MC, USA Walter Reed Army Medical Center COL Anthony A. Borski, MC, USA CAPT Mitchell Edson, MC, USN
22	1974	Brooke Army Medical Center COL Mauro P. Gangai, MC, USA
23	1975	Madigan Army Medical Center COL John N. Wettlaufer, MC, USA
24	1976	Naval Hospital, NRMC, San Diego, CA CAPT C.R. Sargent, MC, USN
25	1977	Fitzsimons Army Medical Center COL Robert M. Dobbs, MC, USA
26	1978	Wilford Hall USAF Medical Center COL Thomas P. Ball, MC, USAF COL Carl H. Weber, MC, USAF
27	1979	Walter Reed Army Medical Center COL Ray E. Stutzman, MC, USA
28	1980	Naval Regional Med Center, San Diego CAPT Michael R. McCarthy, MC, USN CDR John P. Sands, MC, USN
29	1981	Fitzsimons Army Medical Center COL Howard E. Fauver, MC, USA
30	1982	Wilford Hall USAF Medical Center COL Donald E. Novicki, USAF, MC LT COL Richard A. Airhart, USAF, MCP
31	1983	Letterman Army Medical Center COL Robert E. Agee, MC, USA
32	1984	Naval Hospital, Oakland, CA CDR George J. Gavrell, MC, USN

NUMBER 33	YEAR 1985	Madigan Army Medical Center COL William D. Belville, MC, USA	
34	1986	Wilford Hall USAF Medical Center COL Alvin L. Sago, USAF, MC LTC John D. Maldazys, MC, USAF	
35	1987	Walter Reed Army Medical Center/USUHS COL David G. McLeod, MC, USA LTC Steven J. Skoog, MC, USA	
36	1988	Naval Hospital Portsmouth CAPT Gordon MacDonald, MC, USA	
37	1989	Brooke Army Medical Center COL Francisco R. Rodriguez, MC, USA	
38	1990	Fitzsimons Army Medical Center COL Michael J. Raife, MC, USA	
39	1991	National Naval Medical Center-Bethesda CAPT Kevin J. O'Connell, MC, USN LCDR Harold A. Frazier, II, MC, USN	S
40	1992	Madigan Army Medical Center Four Seasons Olympic Hotel, Seattle, WA COL John N. Wettlaufer, MC, USA	
41	1993	Naval Medical Center San Diego Bahia Hotel, San Diego, CA CAPT John P. Sands, MC, USN	
42	1994	Naval Medical Center Portsmouth Omni at Charleston Place, Charleston, SC CAPT James R. Auman, MC, USN	
43	1995	Walter Reed Army Medical Center/USUHS L'Enfant Plaza, Washtington, DC COL David G. McLeod, MC, USA LTC Pierce B. Irby, MC, USA	
44	1996	Wilford Hall USAF Medical Center Scottsdale Plaza Hotel, Scottsdale, AZ MAJ Steven C. Lynch, MC, USAF MAJ Edmund S. Sabanegh, MC, USAF	

NUMBER	YEAR	
45	1997	Tripler Army Medical Center The Fairmont Hotel, San Franscisco, CA COL George E. Deshon, MC, USA
46	1998	National Naval Medical Center-Bethesda Ft. Magrudder Inn, Williamsburg, VA CAPT Paul J. Christenson, MC, USN LCDR Harold A. Frazier, II, MC, USN
47	1999	Brooke Army Medical Center Hilton Palacio Del Rio, San Antonio, TX LTC Thomas A. Rozanski, MC, USA LTC John P. Foley, MC, USA
48	2000	Naval Medical Center San Diego Wyndam Emerald Plaza, San Diego, CA CAPT James L. Roberts, MC, USN LCDR Christopher J. Kane, MC, USN
49	2001	Madigan Army Medical Center Four Seasons Olympic Hotel, Seattle, WA LTC(P) Raymond A. Costabile, MC, USA
50	2002	Walter Reed Army Medical Center Crystal City Marriott Hotel, Arlington, VA COL Dennis S. Peppas, MC, USA
51	2004	Wilford Hall USAF Medical Center MAJ Edith Canby-Hagino, MC, USAF LT COL Steven C. Lynch, MC, USAF
52	2005	Tripler Army Medical Center COL Ronald S. Sutherland, MC, USA
53	2006	Naval Medical Center Portsmouth CAPT Leo Kusuda, MC, USN Eastern Virginia Medical School Gerald H. Jordan, MD
54	2007	Brooke Army Medical Center LTC Douglas W. Soderdahl, MC, USA
55	2008	COL Allen F. Morey, MC, USA Naval Medical Center San Diego CDR Brian K. Auge, MC, USN LCDR Donald S. Crain, MC, USN

NUMBER	YEAR	
56	2009	Walter Reed Army Medical Center & National Naval Medical Center-Bethesda COL James R. Jezior, MC, USA COL Robert C. Dean, MC, USA
57	2010	Wilford Hall Medical Center LT COL Kyle J. Weld, MC, USAF
58	2011	Madigan Army Medical Center MAJ Timothy C. Brand, MC, USA
59	2012	Naval Medical Center Portsmouth CAPT Paul D. McAdams, MD, FACS
60	2013	Tripler Medical Center, Honolulu Marriott Waikiki Beach Hotel, Honolulu, HI COL (Ret) USA, Richard S. Stack, MD MAJ Joseph Sterbis, MC, USA CDR Tammy L. Bloom, MC, USN
61	2014	Naval Medical Center San Diego Sheraton Harbor Island Hotel, San Diego, CA CDR Sean P. Stroup, MC, USN CDR Jamey Sarvis, MC, USN
62	2015	Madigan Army Medical Center Sheraton Harbor Island Hotel, San Diego, CA LTC Timothy C. Brand, MC, USA LTC Jack R. Walter, MC, USA
63	2016	San Antonio Military Medical Center Westin Hotel, San Antonio, TX MAJ Steven J. Hudak, MC, USA LT COL Timothy M. Phillips, MC, USAF
64	2017	Naval Medical Center, Portsmouth, VA Sheraton Harbor Island Hotel, San Diego, CA CDR R. Chanc Walters, MC, USN LCDR Paul R. Womble, MC, USN

GENERAL INFORMATION

Registration:

Registration is required in order to obtain Continuing Medical Education credits. Attendees will be given badges at registration. It is required that you wear your badges to gain entry into the scientific sessions, exhibits, social events, breakfasts, and breaks. Should you wish to bring your spouse to any of these events, you must register them for a badge.

The evening optional social events include the:

- Wednesday Evening President's Welcoming Reception \$45
- Saturday Evening Kathy & Preston Littrell Awards Dinner \$45 If you have not purchased these tickets, you may do so at the registration desk. (Tickets will be collected at the door).

Overview/Highlights:

Topics featured at the Kimbrough Annual Seminar will feature state of the art lectures in various urologic topics - including: Prostate Cancer, Bladder Cancer, Pediatric Urology, Trauma & Reconstruction, Female Urology, Sexual Medicine, and a Course Summary. In addition, the program will include the traditional Resident Research Competition, Research Papers, Podium/Poster Session and Mock Oral Boards - for those preparing for the ABU certifying examination. This year, the Manthos Resident/Young Urologist luncheon Program will feature CAPT Richard Green speaking on "Physician Wellness."

Special Assistance/Dietary Needs: The SGSU complies with the Americans with Disabilities Act §12112(a). If any participant is in need of special assistance or has any dietary restrictions, please see the registration desk.

Attention Presenters:

Go to slide preview area to make changes/update slides. Updates must be made an hour in advance of your presentation.

Slide Preview Hours:

WED: 2:00 PM - 6:00 PM THURS - SAT: 7:00 AM - 5:00 PM

CONTINUING MEDICAL EDUCATION

Acknowledgement of Commercial Support

No commercial support was received for this educational activity.

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Amedco and Society of Government Service Urologists (SGSU). Amedco is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation Statement

Amedco designates this live activity for a maximum of 21.25 AMA PRA Category 1 CreditsTM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Objectives - After attending this program you should be able to:

- 1. Appraise the epidemiology and management of genitourinary trauma to improve outcomes of patients and morbidity rates.
- 2. Discuss management of bladder cancer.
- 3. Assess prostate cancer therapy options.

CONTINUING MEDICAL EDUCATION

Disclosure of Conflict of Interest

The following table of disclosure information is provided to learners and contains the relevant financial relationships that each individual in a position to control the content of CME disclosed to SGSU. All of these relationships were treated as a conflict of interest and have been resolved. (C7 SCS 6.1--6.2, 6.5)

All individuals in a position to control the content of CE are listed in the program book. If their name is not listed below, they disclosed that they had no relevant financial relationships.

First Name	Last Name	Commercial Interest Organization	Relationship
Judd	Moul	TOLMAR Pharmaceuticals, Inc.	Consultant
Shaw	Wan	Well Lead Medical Co	Patent Holder
JOHN	BARRY	Elsevier and Societe Internationale d'Urology	Other Financial or Material Support
Raoul	Concepcion	Tolmar Pharmaceuticals, Janssen, Astellas/Medivation, Dendreon and Amgen	Speakers Bureau
Raoul	Concepcion	Genomic Health, Sanofi, AstraZeneca, Integra Connect, CUSP	Consultant
Sean	Stroup	Neotract, Inc and Intuitive Surgical	Consultant
М	Garcia	Pfizer	Speakers Bureau
М	Garcia	Safe Medical Designs and MLMMedics	Patent Holder
М	Garcia	Bard	Consultant
E David	Crawford	Mdx, Ambry, Myriad and Genomic Health	Speakers Bureau
Jesse	Mills	Boston Scientific	Research Grant Site Principal Investigator
Jesse	Mills	Endo Pharmaceuticals	Scientific/Medical Advistory Board Member

CONTINUING MEDICAL EDUCATION

Print Your CME Certificate After The Meeting Instructions:

Go to SGSU.CmeCertificateOnline.com

Click on the "2017 Kimbrough Urological Seminar" link and follow instructions

Questions? Email Certificate@AmedcoEmail.com

Thank you!

PROGRAM-AT-A-GLANCE

Wednesday, January 11

<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
2:00 PM - 6:00 PM	Registration	Bel Aire Ballroom Foyer
2:00 PM - 6:00 PM	Slide Preview Station	Monterey Room
2:00 PM - 4:00 PM	Board of Director's Meeting	Shutters Room
6:30 PM - 8:30 PM	Welcome Reception	Catalina Ballroom/Terrace

Thursday, January 12

<u>TIME</u>	<u>EVENT</u>	ROOM
7:00 AM - 2:00 PM	Exhibit Hall open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibit Area
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 8:35 AM	Welcome & Presentations	Bel Aire Ballroom
8:40 AM - 10:35 AM	Session I-III: Residents Competition	n Bel Aire Ballroom
10:35 AM - 10:45 AM	AUA Keynote President Address	Bel Aire Ballroom
10:45 AM - 11:30 AM	Refreshment/Network Break	Exhibit Area
11:30 AM - 12:30 PM	Astellas/Medivation Symposium (non CME)	Bel Aire Ballroom
12:30 PM - 1:35 PM	Manthos Resident & Young Urologist Luncheon	Point Loma Ballroom
12:30 PM - 1:35 PM	Lunch Break in Exhibit Area	Fairbanks Ballroom
1:40 PM - 5:00 PM	Session IV-VII: Residents Competition	Bel Aire Ballroom
5:30 PM - 6:00 PM	GU Bowl Official Tailgate Party	Bel Aire Ballroom Foyer
6:00 PM - 7:30 PM	GU Bowl	Bel Aire Ballroom

Friday, January 13

<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
7:00 AM - 2:00 PM	Exhibit Hall open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibit Hall
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 9:00 AM	Session VIII: Pediatrics	Bel Aire Ballroom
9:00 AM - 10:00 AM	Endo Symposium (Non CME)	Bel Aire Ballroom
10:00 AM - 11:00 AM	Refreshment/Network Break	Exhibit Area
11:00 AM - 12:00 PM	Session IX: Men's Health	Bel Aire Ballroom

PROGRAM-AT-A-GLANCE

Friday, January 13 (continued)

<u>TIME</u>	<u>EVENT</u>	ROOM
12:00 PM - 12:45 PM	Session X: Prostate Cancer	Bel Aire Ballroom
12:45 PM - 2:00 PM	Boston Scientific Lunch Symposium Bel Aire Ballroom	
	(Non CME)	
2:00 PM - 4:00 PM	Session XI: Endourology/Prostate	Bel Aire Ballroom
4:00 PM - 5:30 PM	Session IX: Podium & Poster	Point Loma & Catalina
	Presentations & Reception	Ballrooms

Saturday, January 14

<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
7:00 AM - 2:00 PM	Exhibit Hall open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibit Area
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 9:00 AM	Session XIII: General Urology	Bel Aire Ballroom
9:00 AM - 10:15 AM	Session XIV: Transgender Surgery	Bel Aire Ballroom
10:15 AM - 11:00 AM	Refreshment/Network Break	Exhibit Area
11:00 AM - 11:30 AM	Session XV: Clinical Management	Bel Aire Ballroom
11:30 AM - 12:45 PM	CME Lunch Symposium	Bel Aire Ballroom
12:45 PM - 2:15 PM	SGSU Business Meeting	Bel Aire Ballroom
2:15 PM - 4:30 PM	Session: XVI: Reconstruction	Bel Aire Ballroom
6:30 PM - 9:30 PM	Kathy & Preston Littrell Awards	Catalina Ballroom/Terrace
	Reception / Dinner	

Sunday, January 15

<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
7:00 AM - 12:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 8:30 AM	Janssen Symposium Breakfast	Bel Aire Ballroom
8:30 AM - 8:45 AM	Session XVII: Meeting Summary	Bel Aire Ballroom
8:45 AM - 12:00 PM	Session: XVIII: Mock Oral Boards	Point Loma Ballroom

Please sign up for Mock Oral Boards at Registration Desk.

INVITED SPEAKERS

Christopher L. Allam, DO Fort Walton Beach, FL

CDR Hernan O. Altamar, MC, USN
Walter Reed National Military Medical
Center

Richard Babyan, MD AUA President, Boston Med. Ctr.

John M. Barry, MD Oregon Health & Sciences University

LTC Timothy C. Brand, MC, USA Tripler Army Medical Center

E. David Crawford, MD University of Colorado

Maurice Garcia, MD UC San Francisco

Erik Grossgold, MD
Naval Medical Center Portsmouth

Kurt McCammon, MDEastern Virginia Medical School

Jesse Mills, MD UCLA

Charles Ryan, MD UCSF

Yahir Santiago-Lastra, MD UCSD

Andrew Stephenson, MD Cleveland Clinic

Ryan P. Terlecki, MDWake Forest Baptist Health, Winston-Salem, NC

Jack Zuckerman, MD Naval Med. Ctr., San Diego

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EXHIBITOR ACTIVITIES

Visit the Exhibit Area For The Education!

- See first hand the latest in urology technology & services
- Enjoy hearty networking breakfasts
- Re-Energize with lively refreshment breaks
- Visit the exhibitors to win prizes!

The Exhibits are located in the Fairbanks Ballroom

Schedule of Activities in the Exhibit area

Thursday, Jan. 12 Schedule:

7:00 AM - 2:00 PM: Hours Open

7:00 AM - 8:15 AM: Networking Breakfast

10:45 AM - 11:30 AM: Refreshment/Network Break

12:30 PM - 1:35 PM: Lunch Break

Friday, Jan. 13 Schedule:

7:00 AM - 2:00 PM: Hours Open

7:00 AM - 8:15 AM: Networking Breakfast

10:00 AM - 11:00 AM: Refreshment/Network Break

Saturday, Jan. 14 Schedule:

7:00 AM - 2:00 PM: Hours Open

7:00 AM - 8:15 AM: Networking Breakfast

10:15 AM - 11:00 AM: Refreshment/Network Break

Visit with the Exhibitors during the Breakfasts, Refreshment Breaks
Use your "Hello Card" to win prizes!

EXHIBITORS

We thank our commercial exhibitors for their support of the Kimbrough Annual Meeting. Please be sure to visit them during the meeting.

Thank I

Allergan Karl Storz Endoscopy-America

Ambry Genetics Liebel-Flarsheim

Astellas Pharma US Lumenis

Bayer MDx Health Boston Scientific Corp. Medtronic

Cogentix Medivation

Collaborative Medical LLC Mission Pharmacal Co.

Coloplast NeoTract, Inc.
Cook PSS Urology

Dornier Medtech America, Inc. Richard Wolf Med. Instr. Corp.

Endo Siemens Medical Solutions USA

GenomeDx Signostics
Janssen Biotech Tolmar

Let's thank our Exhibitors by visiting them during the scheduled exhibit activities.

THANK YOU SUPPORTERS

The SGSU thanks the following companies for their outstanding support!

Non-CME: Promotional Partners

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Astellas Pharma US, Inc.
Endo Pharmaceuticals
Janssen
Bayer

Bronze

Karl Storz Cogentix Coloplast

Emerald

Society of Genitourinary Reconstructive Surgeons
American Urological Association

GU BOWL

Experience a Great Tradition! The SGSU Annual GU Bowl



Attend Thursday Evening's

GU Bowl Official Tailgate Party 5:30 pm, Bel Aire Ballroom Foyer

GU Bowl 6:00 pm, Navarro A Ballroom







THE SGSU

WELCOMES

THE PARTICIPATION

OF THE VA UROLOGISTS

AND

Urological Society for American Veterans (USVA)

WEDNESDAY, JANUARY 11

Outline of Scientific Program 64th Kimbrough

Annual Seminar * Sheraton Harbor Island Hotel, San Diego

<u>TIME</u>	<u>EVENT</u>	<u>ROOM</u>
2:00 PM - 6:00 PM	Registration	Bel Aire Ballroom Foyer
2:00 PM - 6:00 PM	Slide Preview Station	Monterey Room
2:00 PM - 4:00 PM	SGSU Board of Directors Meeting	Shutters Room
6:30 PM - 8:30 PM	Welcome Reception	Catalina Ballroom/Terrace

6:30pm-8:30pm - Catalina Ballroom & Terrace

Welcome Reception

Enjoy the start of the SGSU meeting with a variety of savory food stations while visiting with colleagues.

Be sure to bring your Event & Drink tickets!



THURSDAY, JANUARY 12

Outline of Scientific Program 64th Kimbrough

Annual Seminar * Sheraton Harbor Island Hotel, San Diego

<u>TIME</u>	<u>EVENT</u>	ROOM
7:00 AM - 2:00 PM	Exhibits Open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibits Area
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 8:25 AM	Welcome & Presentations	Bel Aire Ballroom
8:25 AM - 8:30 AM	Color Guard & National Anthem	Bel Aire Ballroom
8:30 AM - 8:35 AM	Welcome from NMCSD	Bel Aire Ballroom
8:40 AM - 10:35 AM	Session I-III: Residents Competition	Bel Aire Ballroom
10:35 AM - 10:45 AM	AUA Keynote President Address	Bel Aire Ballroom
10:45 AM - 11:30 AM	Refreshment/Network Break	Exhibits Area
11:30 AM - 12:30 PM	Astellas/Medivation Symposium (non CME)	Bel Aire Ballroom
12:30 PM - 1:35 PM	Manthos Resident & Young Urologist Luncheon	Point Loma Ballroom
12:30 PM - 1:35 PM	Lunch in the Exhibits Area	Fairbanks Ballroom
1:40 PM - 5:00 PM	Session IV-VII: Residents Competition	Bel Aire Ballroom
5:30 PM - 6:00 PM	GU Bowl Official Tailgate Party	Bel Aire Ballroom Foyer
6:00 PM - 7:30 PM	GU Bowl	Bel Aire Ballroom

7:00 AM

Coffee & Breakfast in the Exhibits Area!

Enjoy a hearty breakfast, hot coffee and mingle with colleagues and industry reps!



Complete your "Hello Card" to win prizes!

OPENING CEREMONIES

8:15 AM - 8:35 AM - Bel Aire Ballroom

8:15AM - 8:25AM Welcome & Announcements

Program Chairmen: CDR R. Chanc Walters, MC,

USN & LCDR Paul R. Womble, MC, USN

President, Hal Frazier, MD

8:25AM - 8:30AM Color Guard & National Anthem

8:30AM - 8:35AM Welcome from the NMCSD

CAPT Joel Roos



SCIENTIFIC PROGRAM

SESSION I - RESIDENTS COMPETITION Sexual Medicine

8:40 AM - 9:28 AM - Bel Aire Ballroom Papers are seven minutes

Moderators:

CAPT Don S. Crain, MC, USN & LCDR Eric Biewenga, MC, USN Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

1 8:40AM Capt Doug Cho, MC, USAF

State and Federal Appellant Cases for Vasectomy: Case Review from 1995 to 2016.

2 8:47AM CPT Rafaella DeRosa, MC, USA

Gender Differences in Compensation, Job Satisfaction, and Other Practice Patterns in Military Urology.

3 8:54AM Neel Shrikishen, MD

Initial Experience of Vasectomy Reversal at a VA Medical Center.

4 9:02AM LCDR John E. Kehoe, MC, USN

Survey Of Sexual Function And Pornography In Females.

5 9:09AM LCDR Ines Stromberg, MC, USN

Is Strict Morphology An Appropriate Measure of Sperm Quality After Vasectomy Reversals?

6 9:37AM LCDR Jonathan H. Berger, MC, USN

Survey Of Sexual Function And Pornography In Males.

9:23AM Discussion (5 minutes)

Courtesy Reminder

Please set your cell phone to vibrate mode while sessions are in progress. If you must take a call, do so outside of the meeting room. Thank you for being respectful of the presenters and your colleagues.

SESSION II - RESIDENTS COMPETITION Pediatrics

9:28 AM - 10:01 AM - Bel Aire Ballroom Papers are seven minutes

Moderators:

CDR Matthew Christman, MC, USN & MAJ Timothy Baumgartner, MC, USAF Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

7 9:28AM LCDR Kimberly Fischer, MC, USN

Nonneurogenic Neurogenic Bladder (Hinman Syndrome): Pubertal Spontaneous Resolution.

8 9:35AM LCDR James D. Wallace, MC, USN

The Effect Of Large Scale Humanitarian Missions on Surgical Services at Military Treatment Facilities.

9 9:42AM CPT Brian J. Young, MC, USA

The Effect of Sub-Specialization on Pediatric Surgical Complication Rates.

10 9:49AM LT Alexander D. Doudt, MC, USN

Endoscopic Management of Primary Obstructive Megaureter: A Systematic Review.

9:56AM Discussion (5 minutes)

SCIENTIFIC PROGRAM

SESSION III - RESIDENTS COMPETITION Basic Science

10:01 AM - 10:34 AM - Bel Aire Ballroom Papers are seven minutes

Moderators:

CDR Sean P. Stroup, MD, MC, USN & LCDR Todd Sterling, MC, USN Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

11 10:01AM CPT Tara K. Ortiz, MC, USA

The Effects of a Western Diet on Kidney Stone Formation in a Rat Model.

12 10:08AM CPT Richard S. Otto, MC, USA

Single Nucleotide Polymorphpisms Enriched In Racial Groups Affect Finasteride Metabolism.

13 10:15AM CPT Stephanie Sexton, MC, USA

Fibrosis in the Bladder in Response to Outlet Obstruction is Triggered through the NLRP3 Inflammasome and the Production of IL-1 β .

14 10:22AM CAPT Andy J. Martinez, MC, USA

Diagnostic/Prognostic Potential of Sparc Autoantibodies In The Sera of Prostate Cancer Patients.

10:29AM Discussion (5 minutes)

15

AUA Keynote Address

10:35 AM - 10:45 AM

Richard K. Babayan, MD

President, American Urological Association

10:45 AM - 11:30 AM

Refreshment & Network Break in Exhibits Area

Complete your Hello Card

for great prizes!!!

NON CME PROGRAM

THURSDAY, JANUARY 12, 2017

SPECIAL PROGRAM

11:30 AM - 12:30 PM - Bel Aire Ballroom

Continuing Care for Your Patients with Metastatic Castration-Resistant Prostate Cancer (CRPC).

Raymond S. Lance, MD Spokane Urology, Spokane, WA

Supported by Astellas/Medivation Non CME Symposium

LUNCH PROGRAMS

12:30pm - 1:35pm - Point Loma Ballroom

Manthos Resident & Young Urologist Lunch Program Featuring:

CAPT Richard Green, MC, USN

Director of Professional Education, Naval Medical Center San Diego.

Speaking on "Physician Wellness"



~ For all Others ~ 12:30pm - 1:35pm

Lunch provided by SGSU in the Exhibit Area

Meet & Greet with Industry ~ complete your **Hello Card** for prizes!

SESSION IV - RESIDENTS COMPETITION Cancer: Bladder & Testis

1:40 PM - 2:30 PM - Bel Aire Ballroom Papers are seven minutes

Moderators:

Brian K. Auge, MD & CDR James O. L'Esperance MC, USN Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

- 16 1:40PM LCDR Michael T. Marshall, MC, USN
 Robot-Assisted Retroperitoneal Lymph Node Dissection For Nonseminomatous Germ Cell Tumor In The Post-Chemotherapy Setting.
- 17 1:47PM LT Patrick L. Scarborough, MC, USN
 Learning Curve for Robotic Assisted Laparoscopic Retroperitoneal
 Lymph Node Dissection.
- 18 1:54PM CPT Joseph J. Fantony, MC, USA Conductive Heat-targeted Drug Delivery For Bladder Cancer.
- 19 2:01PM Capt Andrew Franklin, MC, USAF
 Does A Delay In Starting Bacillus Calmette-Guérin Induction
 Therapy Affect Patient Outcomes?
- 20 2:08PM Michael Pan, MD
 Blue Light Cystoscopy For The Management Of Urothelial Bladder
 Cancer: A Prospective Registry At Michael E. Debakey VAMC.
- 21 2:15PM LT Nicholas R. Rocco, MC, USN Clear Cell Carcinoma Of The Penis: A Case Report.
 - 2:22PM Discussion (8 minutes)

SESSION V - RESIDENTS COMPETITION Cancer: Prostate

2:30 PM - 3:11 PM - Bel Aire Ballroom Papers are seven minutes

Moderators:

CDR Michael Santomauro, MC, USN & Christopher L. Allam, DO Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

22 2:30PM LT Christine M. Herforth, MC, USN

Radical Prostatectomy And The Effect Of Close Surgical Margins: Analysis From The Search Database.

23 2:37PM CPT Daniel Kim, MC, USA

Nuclear Grade Predicts Prostate Cancer Outcomes in Patients Following Radical Prostatectomy.

24 2:44PM CPT Caroline A. Salter, MC, USA

Alkaline Phosphatase Velocity Predicts Metastasis Among Prostate Cancer Patients Who Experience Biochemical Recurrence After Radical Prostatectomy.

25 2:51PM CPT Erwin Tieva, MC, USN

Open vs. Robotic Radical Prostatectomy 30-day Perioperative Outcomes Between The Years 2009-2014: An ACS NSQIP Project.

26 2:58PM CPT Jonathan Wingate, MC, USA

Effect of Race and Obesity on Receipt of Salvage Therapy After Biochemical Recurrence Following Radical Prostatectomy in an Equal Access Medical System.

3:05PM Discussion (6 minutes)

SESSION VI - RESIDENTS COMPETITION General Urology

3:11 PM - 4:00 PM - Bel Aire Ballroom Papers are seven minutes

Moderators:

CDR Chong "Jay" Choe, MC, USN & LCDR Todd Sterling, MC, USN Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

27 3:11PM Capt Theodore R. Saitz, MC, USAFR

The Safety and Efficacy of Transurethral Microwave Therapy in High-Risk Catheter Dependent Men at A Single Veterans Affairs Center.

28 3:18PM CPT Katherine A. Carlisle, MC, USA

Author Self-Citation in the Urology Literature.

29 3:25PM Neel Srikishen, MD

Three Year Single Site Experience In High-Risk Veterans With Prostatic Urethral Lift Treatment of BPH/LUTS.

30 3:32PM CPT Karmon Janssen, MC, USA

Retrospective Review Of The Utility Of Ct Urography In The Setting Of Initial Asymptomatic Microscopic Hematuria.

31 3:39PM LT Robert D. Williams, MC, USN

The Association Between Mayo Adhesive Probability (MAP) Score and Metabolic Syndrome Risk Factors.

32 3:46PM CPT Jonathan Wingate, MC, USA

Ureteral Stent Duration and the Risk of BK Viremia or Bacteriuria After Kidney Transplantation

3:53PM Discussion (7 minutes)

SESSION VII - RESIDENTS COMPETITION Reconstructive Surgery

4:00 PM - 5:00 PM - Bel Aire Ballroom Papers are seven minutes

Moderators:

LCDR Eric T. Grossgold, MC, USN & LCDR Jack M. Zuckerman, MC, USN Judges: John M. Barry, MD, Richard K. Babayan, MD & Martin L. Dresner, MD

- **33 4:00PM LT Paul D. McClain, MC, USN** Impact Of Prostate Cancer Therapy On Urinary Incontinence and Quality Of Life.
- **34 4:07PM Capt Jeremy C. Kelley, MC, USAF**Sonographic Findings of Plaque Thickness Following Intralesional Injection of Collagenase Clostridium Histolyticum.
- **35 4:14PM CPT Felicia L. Balzano, MC, USA**Prolapsed Ureterocele Causing Urinary Retention: A Case Report.
- **36 4:21PM Capt Amy Reed, MC, USAF**Genitourinary Injuries Sustained By Female U.S. Service Members
 During Operation Iraqi Freedom and Operation Enduring Freedom.
- **37 4:28PM LT Richard Pusateri, MC, USN** AdVance Sling Use in the U.S. Decreasing Relative to Artificial Urinary Sphincters.

4:35PM Discussion

Attend tonight's



GU Bowl Official Tailgate Party - 5:30 PM Bel Aire Ballroom Foyer

GU Bowl - 6:00 PM Bel Aire Ballroom







FRIDAY, JANUARY 13

Outline of Scientific Program 64th Kimbrough

Annual Seminar * Sheraton Harbor Island Hotel, San Diego

<u>TIME</u>	<u>EVENT</u>	ROOM
7:00 AM - 2:00 PM	Exhibits Area open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibits Area
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 9:00 AM	Session VIII: Pediatrics	Bel Aire Ballroom
9:00 AM - 10:00 AM	Endo Symposium (Non CME)	Bel Aire Ballroom
10:00 AM - 11:00 AM	Refreshment/Network Break	Exhibits Area
11:00 AM - 12:00 PM	Session IX: Men's Health	Bel Aire Ballroom
12:00 PM - 12:45 PM	Session X: Prostate Cancer	Bel Aire Ballroom
12:45 PM - 2:00 PM	Boston Scientific Lunch Symposium (Non CME)	Bel Aire Ballroom
2:00 PM - 4:00 PM	Session XI: Endourology/Prostate	Bel Aire Ballroom
4:00 PM - 5:30 PM Presentation & Reception	Session XII: Podium & Poster n Catalina Ballrooms	Point Loma /

7:00 AM

NETWORK BREAKFAST IN EXHIBIT AREA



Bring your **Helle Card** to win prizes!

SCIENTIFIC PROGRAM

Session VIII: Pediatrics

8:15 AM - 9:00 AM - Bel Aire Ballroom
Papers are seven minutes

Moderators:

MAJ Robert E. Steckler, MC, USA & CDR Matthew Christman, MC, USN

38 8:15AM Maj Timothy Baumgartner, MC, USAF

Bladder Neck Reconstruction And Continent Stoma: Initial Experience With An Alternative Continence Procedure.

39 8:22AM MAJ Matthew Kasprenski, MC, USA

Improving Surgical Training: Shifting the Culture from "Apprenticeship" to "Patient-Centered" Learning.

40 8:29AM MAJ Matthew Kasprenski, MC, USA

Communication Between Pediatricians and Surgical Subspecialties: Can We Do Better?

41 8:36AM Maj Timothy Baumgartner, MC, USAF

Long-term Sexual Health Outcomes In Men With Classic Bladder Exstrophy.

42 8:43AM LTC Alexander J. Ernest, MC, USA

Our Initial Experience with Single Site Robotic Surgery in Urology: Training Pathway and Case Presentation of a Urachal Cyst Excision.

8:50AM Discussion (10 minutes)

NON CME PROGRAM

FRIDAY, JANUARY 13, 2017

SPECIAL PROGRAM

9:00 AM - 10:00 AM - Bel Aire Ballroom

The Science and Treatment of Peyronie's Disease (PD).

Jesse N. Mills, MD
UCLA Medical Center

Supported by ENDO Non CME Symposium

10:00AM - 11:00AM

Refreshment & Network Break in Exhibit Hall



Complete your **Helle Card** to win prizes!!

SCIENTIFIC PROGRAM

Session IX: Men's Health

11:00 AM - 12:00 PM - Bel Aire Ballroom

Moderators:

CDR R. Chanc Walters, MC, USN & COL Robert C. Dean, MC, USA

43 11:00AM Jesse N. Mills, MD

Penile prosthetic complications: What to do?

11:25AM Discussion (5 minutes)

44 11:30AM Jesse N. Mills, MD

Conundrums with the Infertile Hypogonadal Man

Session X: Prostate Cancer

12:00 PM - 12:45 PM - Bel Aire Ballroom

Moderators:

CDR Jamey Sarvis, MC, USN

45 12:00PM E. David Crawford, MD

Breakthroughs with Biomarkers and Risk Stratification in Prostate Cancer.

12:40PM Discussion (5 minutes)

LUNCH PROGRAM

12:45pm - 2:00pm - Bel Aire Ballroom

"Prostate Cancer Survivorship Movement".

Ryan P. Terlecki, MD
Wake Forest Baptist Health, Winston-Salem, NC

Supported by Boston Scientific Corp. - Non CME Symposium

Session XI: Endourology / Prostate Cancer

2:00 PM - 4:00 PM - Bel Aire Ballroom

Moderators:

CDR Sean P. Stroup, MC, USN & LCDR Paul R. Womble, MC, USN

46 2:00PM Andrew Stephenson, MD

How to Manage and Follow Upper Tract Urothelial Carcinoma.

- 2:25PM Discussion (5 minutes)
- **47 2:30PM Andrew Stephenson, MD**Update of Prostate Cancer Diagnosis—Imaging Studies
 - 2:55PM Discussion (5 minutes)
- **48 3:00PM John M. Barry, MD** Tips and Tricks.
 - 3:25PM Discussion (5 minutes)
- **49 3:30PM CDR Hernan O. Altamar, MC, USN** Endourology and Military Urology.
 - 3:55PM Discussion (5 minutes)

SCIENTIFIC PROGRAM

Session XII: Podium/Poster Presentations & Reception

4:00 PM - 5:30 PM - Point Loma / Catalina Ballrooms
15 minutes of viewing posters, followed by
2 minute podium presentation
Moderators/Judges: COL (Ret.) Martin L. Dresner, MD, FACS,
Kurt McCammon, MD, & Harold (Hal) Frazier, MD

50 Capt Andrew L. Franklin, MC, USAF

Reasons For Interruption In Bacillus Calmette-guérin Induction Therapy And Affects Patient Outcomes.

51 ENS Jessica B. Saeger, MC, USN

Urethral Cancer: A Case of Atypical Treatment for an Uncommon Disease.

52 CPT Kevan Iffrig, MC, USA

Tumor "Roughness" on Imaging Predicts Malignant Potential.

53 Capt Phuong N. Do, MC, USAF

Cutaneous Metastasis of Prostate Carcinoma: A Case Report.

54 CPT Seth P. Olcese, MC, USA

Urology Litigation In The United States: An Evaluation Of Nephrectomy Malpractice Claims.

55 Ramsey Gardner, M3, USAF

Pyocystis: A Systemic Review.

56 Katherine Carlisle, MD

Fetal Lower Urinary Tract Obstruction From Aphallia.

57 LCDR Jonathan H. Berger, MC, USN

First Do No Harm: Predicting Surgical Morbidity During Humanitarian Surgical Missions.

58 MAJ Timothy S. Baumgartner, MC, USAF

Cost And Radiation Exposure In The Work-Up Of Febrile Pediatric Urinary Tract Infections.

59 LTC Karl von Dobschuetz, MC, USA

Two Fistulas In One Patient: Ureteroiliacal And Veicointestinal. Which Caused The Bleeding?

60 Capt Pansy Uberoi, MC, USAF

Delayed Diagnosis of Iliac Vein Injury: An Severe Complication After Retropubic Mid-Urethral Mesh Sling Placement.

61 CPT Nicholas Hopson, MC, USA

Fournier's Gangrene: A Standardized Pathway for Treatment.

62 CPT Karmon Janssen, MC, USA

Preoperative Asymptomatic Bacteriuria And Success Rates Of Urologic Prosthetic Surgery.

63 Amanda Reed-Maldonado, MD

In-Situ Activation of Testicular Sperm Progenitor Cells With Low Intensity Extracorporeal Shock Wave Therapy.

64 Hoang-Kim Le, MD

Novel Use of En Bloc Horseshoe Kidney Transplantation in a Simultaneous Kidney-Pancreas Recipient.

Discussion Period



SATURDAY, JANUARY 14

Outline of Scientific Program 64th Kimbrough

Annual Seminar * Sheraton Harbor Island Hotel, San Diego

<u>TIME</u>	<u>EVENT</u>	ROOM
7:00 AM - 2:00 PM	Exhibit Hall open	Fairbanks Ballroom
7:00 AM - 8:15 AM	Networking Breakfast	Exhibit Area
7:00 AM - 5:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 5:00 PM	Slide Preview Station	Monterey Room
7:30 AM - 9:30 AM	Spouse Hospitality	Shutters Room
8:15 AM - 9:00 AM	Session XIII: General Urology	Bel Aire Ballroom
9:00 AM - 10:15 AM	Session XIV: Transgender Surgery	Bel Aire Ballroom
10:15 AM - 11:00 AM	Refreshment/Network Break	Exhibit Area
11:00 AM - 11:30 AM	Session XV: Clinical Management	Bel Aire Ballroom
11:30 AM - 12:45 PM	CME Lunch Symposium	Bel Aire Ballroom
12:45 PM - 2:15 PM	SGSU Business Meeting	Bel Aire Ballroom
2:15 PM - 4:30 PM	Session: XVI: Reconstruction	Bel Aire Ballroom
6:30 PM - 9:30 PM	Kathy & Preston Littrell Awards Reception/Dinner	Catalina Ballroom

7:00 AM

Start your day off in the Exhibit Hall with Breakfast!
Mix, Mingle & Learn!

Bring your Hello Card to win for prizes!

Session XIII: General Urology

8:15 AM - 9:00 AM - Bel Aire Ballroom

Moderators:

CDR Hernan O. Altamar, MC, USN & LCDR Mike Santomauro, MC, USN

65 8:15AM LCDR Eric T. Grossgold, MC, USN

Routine Urethrograpy After Buccal Graft Bulbar Urethroplasty: The Impact Of Initial Urethral Leak On Surgical Success.

- 66 8:21AM Brig Gen USAF (Ret.) Tom Turlington, MC, USAF Lt Gen Mittemeyer...The REAL Bernie.
- 67 8:28AM Col. (Ret.) Shaw Wan, MC, USA
 Continuous Flow Endoscopic Lithotripsy: An Innovative Modification Of
 The Access Sheath And A Novel Surgical Technique.
- 68 8:35AM LtCol Roland Bartmuss, MC, USA
 I Am a Stranger Here Myself A German Military Urologist With The
 United States Forces Experiences From The Caribbean To The Hindukush.

69 8:42AM Raoul Concepcion, MD

Head-to-Head Pharmacokinetic And Pharmacodynamic Comparison Of Subcutaneous Versus Intramuscular Leuprorelin Acetate Formulations In Male Subjects.

8:50AM Discussion (10 minutes)

Session XIV: Transgender Surgery

9:00 AM - 10:15 AM - Bel Aire Ballroom

Moderator:

LCDR Eric T. Grossgold, MC, USN

- 70 9:00AM Maurice Garcia, MD
 Surgical Approaches to the Transgender Patient.
- 71 9:40AM Discussion
- 72 9:50AM LCDR Jack M. Zuckerman, MC, USN, LCDR Eric T. Grossgold, MC, USN, Chris Allam, DO

Panel Discussion: Transgender Implementation at MTF's.

10:15am-11:00am



Refreshment & Network Break in Exhibit Area



to Win Prizes!!

SCIENTIFIC PROGRAM

SATURDAY, JANUARY 14, 2017

Session XV: Clinical Management

11:00 AM - 11:30 AM - Bel Aire Ballroom

Moderators:

LCDR Timothy M. Powell, MC, USNR

73 11:00AM LTC Timothy Brand, MC, USA

Implementing and Managing a Multi-Disciplinary Prostate Cancer Clinic in a Military Treatment Facility.

11:25AM Discussion (5 minutes)

CMF PROGRAM

SATURDAY, JANUARY 14, 2017

CME LUNCH PROGRAM

11:30 AM - 12:45 PM - Bel Aire Ballroom

Applying Existing and Emerging Research Findings in Advanced Prostate Cancer to Optimize Patient-Centered Management Strategies.

Charles Ryan, MD

Professor of Clinical Medicine & Urology, Program Leader, Genitourinary, Medical Oncology, UCSF Helen Diller Family Comprehensive Cancer Ctr.

Evan Y. Yu, MD

Program Operations Specialist, Genitourinary Oncology, University of Washington, Seattle Cancer Care Alliance, Seattle, WA

Supported by educational grants from Astellas Scientific & Medical Affairs, Inc. and Medivation, Bayer HealthCare, & Janssen Biotech, Inc.

CME Provided by Rush University

12:45pm - 2:15pm - Bel Aire Ballroom

SGSU MEMBERS BUSINESS MEETING



Hear about the state of the branches of the Services

Supported by Coloplast

Session XVI: Reconstruction

2:15 PM - 4:30 PM - Bel Aire Ballroom

Moderators:

CDR Chong "Jay" Choe, MC, USN & CAPT Christine L. Sears, MC, USN

- 74 2:15PM Kurt McCammon, MD, FACS
 Male and Female Reconstruction.
- 75 2:45PM Kurt McCammon, MD, FACS
 Challenging Cases in Post-prostatectomy incontinence.
- 76 3:15PM Yahir Santiago-Lastra, MD Long-term Complication from Neurogenic Bladder.
- 77 3:45PM Yahir Santiago-Lastra, MDUrinary Diversion for Complications of Radiation Therapy.
 - 4:15PM Discussion (15 minutes)

6:30pm-9:30pm - Catalina Ballroom

Kathy & Preston Littrell Awards Reception/Dinner

Featured Guest Speaker
Kurt McCammon, MD, FACS



Speaking on Surgical Volunteerism

Dr. McCammon is currently Chairman of the Department of Urology at Eastern Virginia Medical School since 2011. He also serves as the Urology Residency Program Director as well as Director of the Genitourinary Reconstructive.

SUNDAY, JANUARY 15

Outline of Scientific Program 64th Kimbrough

Annual Seminar * Sheraton Harbor Island Hotel, San Diego

TIME	<u>EVENT</u>	ROOM
7:00 AM - 12:00 PM	Registration	Bel Aire Ballroom Foyer
7:00 AM - 8:30 AM	Janssen Symposium Breakfast	Bel Aire Ballroom
8:30 AM - 8:45 AM	Session XVII: Meeting Summary	Bel Aire Ballroom
8:45 AM - 12:00 PM	Session: XVIII: Mock Oral Boards	Point Loma Ballroom

SUNDAY, JANUARY 15, 2017

NON CME PROGRAM

SPECIAL PROGRAM

7:00 AM - 8:30 AM - Bel Aire Ballroom

Zytiga® (abiraterone acetate): Clinical Decision-Making in Treating Patients With mCRPC Who Have Progressed on ADT.

William K. Johnston, MD Michigan Institute of Urology

> **Supported by Janssen** Non CME Symposium

SCIENTIFIC PROGRAM

SUNDAY, JANUARY 15, 2017

Session XVII: Meeting Summary/Highlights

8:30 AM - 8:45 AM - Bel Aire Ballroom

78 8:30AM CDR R. Chanc Walters, MC, USN & LCDR Paul R. Womble, MC, USN Meeting Summary Highlights.

SCIENTIFIC PROGRAM

Session: XVIII: MOCK ORAL BOARDS

8:45 AM - 12:00 PM - Point Loma Ballroom
Director: Joe Sterbis, MD

Need help for the boards? Be sure to sign up for this session at the Registration Desk.

Attendees will circulate through examiner stations and be asked board questions.



ABSTRACTS

STATE AND FEDERAL APPELLANT CASES FOR VASECTOMY: CASE REVIEW FROM 1995 TO 2016

Doug S Cho MD, Timothy Baumgartner MD, Kuwong Mwamukonda MD Baltimore, Maryland/San Antonio, Texas (Presentation to be made by Dr. Doug Cho)

Objectives: Vasectomy is the most common non-diagnostic urologic procedures that are performed by both urologists and non-urologists with over 500,000 performed in 2002. Unexpected pregnancies and complications from the procedure have resulted in malpractice litigation. We sought to describe vasectomy malpractice cases tried at the state and federal level using a national database.

Methods: Using the LexisNexis Academic national legal database, which contains state and federal level appellate cases, all cases with the terms "vasectomy" and "medical malpractice" from January 1995 to January 2016 were queried. All malpractice suits initiated as a result of the performance of a vasectomy with at least one physician named as a defendant were included in the study. The resultant cases were reviewed for medical and legal outcomes, including reason for litigation and outcome. Descriptive statistical analysis was performed to summarize the data.

Results: Twenty-one vasectomy cases were identified and included in the analysis. 6 (28%) cases were on the grounds of no informed consent of a particular complication, half of which resulted in favor of the patient. 6 cases involved loss of testicle (1 also citing informed consent), also 50% of which were found against the provider. 6 cases involved pain or other post operative complication without loss of testicle (1 also citing informed consent), again with 50% of which resulted in favor of the patient. 6 cases involved post-vasectomy pregnancies (2 also citing informed consent), 33% of which were in favor of the patient. One provider lost at the state level because of pregnancy that resulted after two negative semen analyses. 2 cases were based on need for reoperation to complete the vasectomy, both also citing informed consent and both found in favor of the physician. State appeals were in favor of providers in 13 (62%) of cases. Only 25% (2 of 8) cases involving known urologists resulted in loss for the physician.

Conclusion: The most common reasons for litigation were post vasectomy pregnancy, loss of testicle, and post vasectomy complications of pain and/or hematoma. Post vasectomy pregnancies resulted in fewer appeals against physicians than loss of testicle. Providers were unlikely to lose an appeal based solely on need to perform additional procedures.

Source of Funding: None

GENDER DIFFERENCES IN COMPENSATION, JOB SATISFACTION, AND OTHER PRACTICE PATTERNS IN MILITARY UROLOGY

CPT Raffaella DeRosa, MD; MAJ Danielle A. Stackhouse, MD; CPT Katherine Carlisle, MD; Lustick, Michael, B.S.*; COL Leah P. McMann, MD; Tripler Army Medical Center, Honolulu, HI.

(Presentation to be made by Dr. DeRosa)

Objective: To characterize the female workforce in military urology compared to that of men with regard to income, workload, and job satisfaction.

Methods: A total of 182 military urologists (30 women and 152 men) were sent survey invitations via e-mail. The survey consisted of 27 questions (22 multiple choice and 5 open-ended) and took approximately 15 minutes to complete. Linear regression models were used to evaluate bivariable and multivariable associations with job satisfaction and compensation.

Results: A total of 93 responses were collected (16 female and 77 male), for a total response rate of 51%. Of the female respondents, 38% were residents and 62% were staff urologists, while 19% of the male respondents were residents and 81% were staff urologists. The age distribution of respondents did not differ significantly between genders. Of the females, 38% were 25-35 years of age, 52% were 36-45, and 10% were over 46. Of the male respondents, 50% were between of the ages of 25-35, 44% were 36-45 years, and 6% were 46+ years of age. Rank distribution was similar between the two respondent groups, with females comprising of 17% O-3, 50% O-4, 26% O-5, and 7% O-6 or higher and males consisting of 38% O-3, 31% O-4, 19% O-5, and 12% O-6 or higher. Despite no gender differences in the number of deployments, operative case load, call days per month, and clinic days per month, women still reported a lower average take home pay (P=0.017) and were less likely to have ancillary income. Women military urologists worked more hours than males, with 44% vs. 16% reporting 70+hour weeks. Relationship status and number of children did not differ significantly between males and females, however, females were less likely to be living with children (P = 0.028). All women respondents stated that career has compromised family and personal life at least somewhat, while 28% of men stated that it compromised little to none. Men and women have similar rates of job satisfaction and similar reasons for job dissatisfaction. The top 5 reasons cited for job dissatisfaction in both genders included increased administrative burden, dissatisfaction with facilities and support staff, salary, underutilization of urology training, and limited opportunity for career development.

Conclusions: Job satisfaction rates are similar between male and female military urologists. The lower average take home pay reported by females is likely due to the higher percentage of residents comprising the female cohort.

INITIAL EXPERIENCE OF VASECTOMY REVERSAL AT A VA MEDICAL CENTER

Neel Srikishen, MD*; Jeffrey A Jones, MD, Mohit Khera, MD*
Houston, TX

(Presentation to be made by Dr. Neel Srikishen)

(Presentation to be made by Dr. Neel Srikishen)

Objectives: There are a large number of veterans desiring vasectomy reversal, yet this service is largely not offered at most VA medical centers around the country. While the procedure can be lengthy and technically demanding, it has been performed for decades in the community; yet patient challenges often exist which prevent veterans from pursuing vasectomy reversal at non-VA hospitals. Using equipment that was largely already available to us, such as an operative microscope and, more recently, a DaVinci robot, we began performing vasectomy reversals in April 2013. The objective of our study is to assess the outcomes of our vasectomy reversal program.

Methods: From April 2013 until September 2016, we retrospectively reviewed our database of vasectomy reversals to include assessment of perioperative prognostic factors, such as length of time after vasectomy and intraoperative semen quality, as well as postoperative outcomes, namely vasal patency.

Results: Approximately 25 vasectomy reversals have been completed at our center, all by unilateral (24%) or bilateral (76%) microscopic vasovasotomy. The traditional open microscopic approach was used in 23 patients, while 2 underwent a robotic approach. Median age at surgery was 36.5 years (IQR 31.2-40.5), and median length of time after vasectomy was 6.6 years (IQR 4.0-7.0). There were no significant complications. A postoperative semen analyses was available in 17 men (68%) and revealed sperm in the ejaculate of 14 (82% patency rate).

Conclusion: In a series of several patients undergoing vasectomy reversal at a VA medical center, we have had excellent outcomes that are generally consistent with those reported in the literature. Our program has grown each year, has become a integral part of the much-needed andrology services we offer to our veterans, and appears to be easily replicable at other centers.

Source of Funding: None

SURVEY OF SEXUAL FUNCTION AND PORNOGRAPHY IN FEMALES

John E. Kehoe M.D., Jonathan H. Berger M.D., Michael T. Marshall M.D., Andrew P. Doan M.D., Matthew S. Christman M.D.: San Diego, CA (Presentation to be made by Dr. John Kehoe)

Objectives: Sexual dysfunction has a significant impact on quality of life. The use of pornography among females and its impact on sexual dysfunction is poorly described. As an exploratory outcome of a study primarily investigating the relationship between pornography and erectile dysfunction, we attempt to better define pornography use and sexual dysfunction in women.

Materials and Methods: After IRB approval, all patients presenting to a urology clinic of ages 20-40 years between February and August 2016 were offered an anonymous survey consisting of self-reported medical history and demographic questions, validated questionnaires and novel questions addressing sexual function (Female Sexual Function Inventory [FSFI]), pornography use and addictive behavior. Accrual continues, and we report a planned interim analysis. Descriptive data were compiled, and strength of correlation between subdomains of FSFI, obsessive or craving behaviors and pornography use were examined. All variables were analyzed with linear regression.

Results: Of the first 48 females who agreed to take the survey included in the analysis, the mean age was 28 years. The subjects reported minimal medical comorbidities or risk factors with the most common being depression (16%), PTSD (12%) and smoking (31%). The sample was primarily white (62%), married (60%), heterosexual (81%), and active duty (58%) enlisted (83%). The majority of respondents denied pornography use (61%) and 25% used less than weekly. Of those that used pornography, 72% reported duration of 15 minutes or less. The primary access was internet (68%) and phone (55%). The mean Female Sexual Function Inventory total score was 64. There was no observed correlation between female sexual function and pornography use.

Conclusions: Interim results better describe pornography use among females. In a sample of women ages 20-40, pornography use is not uncommon with the main access being through internet or phone. There does not appear to be any correlation between its use and sexual dysfunction as determined by self-reported questionnaire. Further study may better elucidate any relationship between pornography and female sexual dysfunction.

Source of Funding: None

IS STRICT MORPHOLOGY AN APPROPRIATE MEASURE OF SPERM QUALITY AFTER VASECTOMY REVERSALS?

Ines Stromberg, M.D., R. Chanc Walters, M.D. (Presentation to be made by Dr. Stromberg)

Purpose: We propose the study of strict morphology in a population of vasectomy reversal patients to evaluate whether parameters improve over time and the impact on fertility. Our population is distinct as they have secondary infertility due to obstructive azoospermia and have already fathered children.

Materials and Methods: Records were reviewed retrospectively. Patient age, type of surgery performed on each side, fluid characteristics and post-operative semen analysis parameters were all recorded based on operative reports and clinical records. Per our protocol patients undergo semen analysis at 2-3 months and at 6-9 months post-operatively.

Results: Patients' age, time from vasectomy, fluid characteristics at reversal, type of surgery are all recorded. Semen analysis performed at the Jones Institute, Norfolk, Virginia by a specialized lab were compared at 2-3 and 6-9 months post-operatively. Over a period of 2 years we had 25 patients who underwent vasectomy reversal and who had 2 post-operative semen analyses. Of these patients five were azoospermic, ten had improved strict morphology while the remainder had decreased or no change. There were six pregnancies.

Conclusions: Based on our findings strict morphology parameters do improve over time although no correlation could be shown with pregnancy rates in our population.

SURVEY OF SEXUAL FUNCTION AND PORNOGRAPHY IN MALES

Jonathan H. Berger M.D., Andrew P. Doan M.D./Ph.D.*, John E. Kehoe M.D., Elizabeth I. Roger M.D.*, Colin A. McLain M.D.*, Warren P. Klam M.D.*, Donald S. Crain M.D., Matthew S. Christman M.D.: San Diego, CA (Presentation to be made by Dr. Jonathan Berger)

Objectives: In evaluating a male with sexual dysfunction, psychosexual factors should be considered. One potential, but not well examined psychosexual factor is the impact of pornography use on sexual function. Given the large population of young men in the military and the potential detrimental effects of sexual dysfunction for a man's quality of life, we sought to determine if the degree of pornography use correlates with sexual dysfunction in men.

Materials and Methods: Following local institutional review board approval, all patients 20 to 40 years old presenting to a urology clinic were offered an anonymous survey consisting of self-reported medical history, demographic questions, validated questionnaires (including the International Index of Erectile Function [IIEF-15]), and novel questions addressing sexual function, pornography use, craving behavior, and obsessive behavior. For an interim analysis of those surveyed between February and August 2016, descriptive data were compiled and assessed for a correlation between aspects of respondents' pornography use and IIEF-15 domain scores utilizing linear regression tests.

Results: Surveys were completed by 312 respondents. The sampled population was noted to be generally healthy—12% indicated a comorbidity other than tobacco use, 19.2% indicated tobacco use. The mean age was 31 years (sd=5.9). Common demographics included white race (64.4%), non-Hispanic ethnicity (74.6%), active duty (96.8%), enlisted (77.3%), and married (68.8%). The mean scores of the IIEF-15 domains were: 26.2 (sd=6.0) for erectile function, 8.6 (sd=2.1) for orgasmic function, 8.1 (sd=2.0) for sexual desire, 10.7 (sd=3.4) for intercourse satisfaction, and 7.9 (sd=2.3) for overall satisfaction. When asked how they best satisfied sexual desires, 96.6% indicated intercourse (with or without pornography) versus 3.4% who indicated masturbation to pornography. Weekly pornography use varied: 25.9% indicated less than weekly, 24.6% indicated 1-2 times, 21.3% indicated 3-5 times, 5.0% indicated 6-10 times, and 4.3% indicated greater than 11 times. The typical media for viewing pornography were internet on a computer (72.3%) or a smart phone (62.3%). There were statistically lower scores in all IIEF-15 domains amongst respondents reporting a preference for masturbating to pornography rather than intercourse (p <0.05). However, there were no significant correlations between frequency or duration of pornography use and IIEF-15 domain scores (p > 0.05).

Conclusions: There appears to be a relationship between pornography use and sexual dysfunction in men who report a preference for masturbation to pornography over sexual intercourse.

NONNEUROGENIC NEUROGENIC BLADDER (HINMAN SYNDROME): PUBERTAL SPONTANEOUS RESOLUTION

Kimberly L. Fischer, M.D. and George W. Kaplan, M.D.: San, Diego, CA (Presentation to be made by Dr. Kimberly Fischer)

First described in 1973 by Hinman and Baumann, nonneurogenic neurogenic bladder has remained a rare entity with unknown underlying etiology. Although some patients exhibit only symptoms of voiding dysfunction, there are a few that have hydronephrosis and decreased renal function. Treatments include, but are not limited to, hypnosis, biofeedback, Mitrofanoff stoma with or without bladder augmentation, and intersphinteric onabotulinumtoxinA injections. Treatments are driven by fear of chronic renal failure from upper tract damage at a young age and may lead to ill advised reimplantation, diversion, or augmentation. Due to the rarity of the condition there is no consensus of best practice in these patients.

We present two patients with bilateral hydronephrosis and azotemia who had return of spontaneous complete voiding around the time of puberty. There had been no successful medical or surgical intervention that would have changed the voiding dysfunction in either patient. The resolution of the hydronephrosis and normal renal function was achieved by catheterization and was maintained until and after spontaneous voiding occurred: one with 1 year and one with 9 year follow-up. These findings are encouraging and lead to our recommendation to avoid irreversible surgical interventions and consider conservative management with clean intermittent catheterization, if possible, as spontaneous resolution may occur.

THE EFFECT OF LARGE SCALE HUMANITARIAN MISSIONS ON SURGICAL SERVICES AT MILITARY TREATMENT FACILITIES

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(Presentation to be made by Dr. James Wallace

Objective: Surgical humanitarian aid (HA) has recently received greater attention as research has demonstrated the value of global surgery in low middle income countries (LMIC). Pacific Partnership is an annual humanitarian civic assistance mission conducted by the US Navy that deploys either an amphibious warship or the hospital ship USNS Mercy (T-AH 19) to Southeast Asia. The USNS Mercy's crew is largely comprised of staff from Naval Medical Center San Diego (NMCSD). Hypothesizing that the hospital's surgical services are significantly strained when the USNS Mercy is deployed, we compared hospital surgical case volume when this ship is deployed to when it is in port.

Methods: Using existing ship and hospital system de-identified quality improvement data, we performed a retrospective cross-sectional study on all cases from 2010-2015. Demographic and case-specific variables were analyzed in order to compare surgical case volume at NMCSD during the months when the USNS Mercy was deployed to when it was in port. The primary outcome was number of surgical cases performed at NMCSD. Secondary outcomes included case complexity and patient disengagement costs.

Results: The average number of hospital cases was not dependent on HA deployments (3324 deployed vs 3673 in port, p = 0.158). A similar number of cases were conducted in all study years; independent of surgical service, beneficiary category, or patient age, except for 2015. During the 2015 Mercy deployment, significantly fewer pediatric procedures were performed compared other study years (147 vs average 240). In 2015 the hospital's only pediatric urologist and one of two pediatric surgeons were both deployed. As a result, fewer pediatric urology cases were performed in 2015 than any other study year (9 vs average 103). There were 197 pediatric urology disengagements during 2015 as compared to 32 disengagements during the 2014 mission months. These disengagements led to \$486,035 paid outside of the military health system for pediatric urology purchased care during this deployment period.

Conclusions: NMCSD is able to maintain garrison surgical services while staffing HA deployments. Surgeons are able to provide both intra- and interdepartmental cross coverage. Future mission planning should focus on deployment of the selected surgeon specialist not only for the proposed mission but also for preservation of services at medical treatment facilities.

THE EFFECT OF SUB-SPECIALIZATION ON PEDIATRIC SURGICAL COMPLICATION RATES

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Introduction: Increased case volumes and training are surgeon-related factors associated with better outcomes in pediatric surgery. We recently found increased pediatric sub-specialization among urologists was associated with decreased risk of surgical complications. Whether a similar association is consistent across other surgical specialties is unknown.

Materials & Methods: We analyzed the National Inpatient Sample from 1998-2009 to identify inpatient surgeries and National Surgical Quality Improvement Program (NSQIP) complications. We selected surgeons performing at least 50 cases per year and categorized them based on Pediatric Proportion Index (PPI): the ratio of pediatric (<18 years) to all cases performed. Four provider groups were established; 0-25% PPI, 25-50%, 50-75%, and >75%. We categorized pediatric surgical encounters based on standard Healthcare Cost and Utilization Project Clinical Classification Software. Specialties included general pediatric surgery, neurosurgery, cardiothoracic, urology, orthopedics, and ENT. Encounters with simultaneous procedures across different specialties were excluded. Multivariable analysis was performed adjusting for age, gender, Van Walraven comorbidity score, insurance type, ZIP code median household income, year, and hospital location, type, size, and region to test for an association between PPI and post-operative NSQIP complication.

Results: We identified 2,269,461 weighted inpatient surgical encounters. 47% of inpatient pediatric surgeries were performed by surgeons with a PPI <25% (least specialized) and 34% with a PPI >75% (most specialized). Surgeons with the lowest PPI treated older children than those with the highest PPI (11.1 vs. 5.6 years, p<0.001). The overall rate of complications was 7%; after adjusting for cofounders, complication rates were decreased among providers with PPI >75% compared to <25% (OR=0.86, CI: 0.77-0.96). Surgical sub-specialties had increased risk for complications relative to general pediatric surgery with the exception of orthopedics (p<0.001). Setting general surgeons with PPI<25% as a reference, all specialties trended toward lower complication risk as PPI increased (p=0.005). Across specialties we consistently found providers with a PPI of 50-75% to have the lowest odds of a post-operative complication (Figure).

Conclusions: Across various surgical specialties, providers with higher volumes of pediatric patients have decreased complications when compared with surgeons who do relatively few pediatric procedures. We hypothesize that providers with a PPI of 50-75% have the lowest rate of pediatric complications due to performing enough procedures to be familiar with the nuances of the pediatric patient, but not enough to perform the most complex cases. Further studies to validate this hypothesis using more clinically granular data sources are underway.

ENDOSCOPIC MANAGEMENT OF PRIMARY OBSTRUCTIVE MEGAURETER: A SYSTEMATIC REVIEW

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Background: The gold standard treatment for primary obstructive megaureter (POM) with declining renal function, worsening obstruction, or recurrent infections is ureteral re-implantation with or without tapering. However, open surgery is technically demanding and associated with significant morbidity. We conducted a systematic review of the literature with special interest in endoscopic management of POM and its outcomes.

Methods: A search was conducted of the MEDLINE/Ovid, PubMed, Embase, and Web of Science databases. Only full-text articles written in the English language and involving greater than one reported pediatric case per publication were included. Two authors independently extracted data and assessed strength of evidence for each study.

Results: We found 12 retrospective, single institution case series that met selection criteria, describing 225 patients with 239 obstructed renal units. The mean age at time of surgery was 42.3 months. The most common endoscopic approaches were cystoscopy + high pressure balloon dilation (HPBD) + double-J ureteral stent placement (50%), cystoscopy + incisional ureterotomy + double-J ureteral stent placement (26%), and cystoscopy + double-J ureteral stent placement (15%). There was significant heterogeneity regarding primary endpoint between studies, but between all approaches there was resolution of functional obstruction in 75% (84/112) of renal units and complete or significant improvement of hydroureteronephrosis in 70% (138/197) of renal units. Endoscopic re-treatment was performed in 15.0% of cases with a 37.2% overall surgical re-intervention rate. Thirty-nine ureters progressed to ureteral re-implantation. Complications were generally mild (Clavien-Dindo Grades I-II), but 14 ureters did develop vesicoureteral reflux. Mean follow-up period was 3.08 years.

Conclusions: Endoscopic management for primary obstructive megaureter is an effective, minimally invasive alternative to ureteral re-implantation. However, approximately 1/3 of patients require surgical re-intervention. Prospective, multi-institutional studies with longer follow-up are needed to validate these findings.

THE EFFECTS OF A WESTERN DIET KIDNEY STONE FORMATION: A RAT MODEL

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Presentation to be made by Dr. Tara K. Ortiz

Introduction and Objectives: The incidence of pediatric stone disease has doubled over the last 2 decades. These findings may be related shifts to a western diet (WD). The consumption of large quantities of sugary beverages and processed foods containing high–fructose corn syrup may be lithogenic. The resulting metabolic acidosis may also negatively impact bone health. We hypothesize that a WD is lithogenic.

Methods: Forty young female Sprague Dawley rats were randomized to standard (CD, N=12) vs. high-fat and sucrose (HSD, N=14) vs. high-fat, sodium and fructose (HFHS, N=14) diet for 12 weeks. Basic serum chemistry, parathyroid hormone (PTH), Vitamin D (VitD), bone alkaline phosphatase (BAP) and 24 hr urine analysis was obtained at baseline, 4 and 8 weeks. Ex-vivo CT scans of the kidneys and bladder were taken at 12 weeks, and stone burden was assessed using a standardized scoring system from 0 to 3 by a blinded reviewer. Statistical analysis was performed using one-way ANOVA and Tukey post hoc testing and Fisher exact test.

Results: The HSD group had the highest weight gain and body fat (BF) at 12 weeks (wt gain $|BF-CD\ 104g|15g$, HSD 127g|21g, HFHS 92g|12g, p<0.05). At 8 weeks the HFHS group had lower urine magnesium (Mg) and citrate (cit), and higher 24 hr urine calcium (UCa) and uric acid (UUA) than the CD and HSD groups (Mg|cit|UCa|UUA - CD1.9mg/d|10.5mg/d|2.1mg/d|1.3e-3g/d, HSD 1.9mg/d|8.9mg/d|2.0mg/d|1.3e-3g/d, HFHS 0.9mg/d|2.8mg/d|8.7mg/d|2.0e-3g/d, p<0.01). The HFHS group also had higher VitD and PTH than the CD and HSD groups, while the CD group had lower BAP than both WD groups (Vit|BAP|PTH - CD 28.8ng/mL|17.6pg/mL|448ug/mL, HSD 29.1ng/mL|26.5pg/mL|476ug/mL, HFHS 34.4ng/mL|24.7pg/mL|699ug/mL, p<0.05). The 24 hr urine volumes and H2O consumption in the HFHS group were 5 times higher than the CD and HSD groups, likely due to high sodium load. Lastly, highest stone burden was found in the HSD, CD then HFHS groups respectively.

Conclusions: These data suggest a WD, high in fat and refined sugar increase promotors and decrease inhibitors of urinary stone formation. Furthermore, there is evidence of increased bone turn over in rats consuming a WD.

SINGLE NUCLEOTIDE POLYMORPHPISMS ENRICHED IN RACIAL GROUPS AFFECT FINASTERIDE METABOLISM

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Objectives: Benign Prostatic Hyperplasia (BPH) affects 50-75% of men over 50 and up to 80% of men over 70. Finasteride, a 5-alpha reductase inhibitor, is commonly prescribed to decrease prostate tissue growth. Recent analysis from the Prostate Cancer Prevention Trial shows that mean finasteride concentrations may be altered by genetic polymorphisms in the genes encoding the liver metabolic enzymes CYP3A4 and CYP3A5. Given that the risk of BPH is higher for African American men compared to Caucasians, we also wanted to investigate whether African American men possessed single nucleotide polymorphisms (SNPs) associated with increased finasteride metabolism and decreased drug effect. Such information would draw further attention to an existing health disparity common to the African-American population and the most efficient way to treat it.

Material and Methods: DNA was isolated from blood samples obtained from 259 Caucasian and 259 African American men enrolled in the San Antonio Center of Biomarkers of Risk for Prostate Cancer (SABOR) study and genotyped for two SNPs in the CYP3A4 gene: rs4646437, rs4986910 and three SNPs in the CYP3A5 gene: rs15524, rs776746, and rs224280.

Results: Out of the five SNPs investigated, rs4646437, rs15524, rs776746, and rs224280 had significantly different genotype frequencies when comparing Caucasian and African American populations. Interestingly, the predominant SNP genotypes found in African Americans were also associated with lower mean serum finasteride concentrations (p<0.00001).

Conclusions: Allelic variations exist in enzymes that metabolize finasteride in African American and Caucasian populations. This may lead to lower bioavailability of finasteride in African Americans and may indicate the need for higher Finasteride dosing for African Americans.

Source of Funding: SABOR U01-CA086402 and pilot funding from the Department of Urology, UTHSCSA.

FIBROSIS IN THE BLADDER IN RESPONSE TO OUTLET OBSTRUCTION IS TRIGGERED THROUGH THE NLRP3 INFLAMMASOME AND THE PRODUCTION OF

IL-1B

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(Presentation to be made by Dr. Stephanie Sexton)

Background/Objective: Benign prostatic hyperplasia affects ~75% of men >70 years old and is the leading cause of bladder outlet obstruction (BOO). BOO promotes an inflammatory state that produces voiding dysfunction. Recently NLRP3 and the structure it forms, the inflammasome, has been shown to trigger this inflammation. Over time, inflammation promotes fibrosis. The purpose of this study is to examine the role of NLRP3 (and IL-1 β produced by activated NLRP3) in BOO-induced fibrosis.

Methods: Rats were divided into 5 groups: 1) control, 2) sham operated, 3) BOO + Vehicle (Veh; 1 ml, 40% ethanol in PBS, p.o.), 4) BOO + glyburide (Gly, an NLRP3 inhibitor; 10 mg/kg, p.o.) or 5) BOO + Anakinra (Ana, an IL-1 receptor antagonist; 25 mg/kg, i.p.). BOO is constructed by inserting a 1 mm transurethral catheter into the bladder, tying a suture around the urethra and removing the catheter. Medications were administered prior to surgery and once daily for 12 days. Hypertrophy was assessed by bladder weight, fibrosis by Masson's Trichrome Stain (MTS), and immunofluorescence was performed to locate IL-1 receptor 1 (IL-1R1) and prolyl 4-hydroylase (P4H).

Results: BOO increased bladder weight. This effect was blocked by glyburide, implicating the NLRP3 inflammasome. Ana also inhibited bladder weight gain demonstrating this was a direct action of IL-1 β . Quantitation of collagen (by MTS staining) in the total area of transverse sections in each group revealed a highly significant increase in fibrosis during BOO with a smaller increase in sham bladders. Gly or Ana reduced collagen to control levels, clearly implicating the NLRP3/IL-1β pathway in fibrosis during BOO. Sagittal sections revealed no relative differences in fibrosis between the dome, middle or base of the bladder. IL-1β, acting through IL-1R1, directly triggers collagen synthesis in other tissues. To determine if this pathway may exist in the bladder, co-immunofluorescence of IL-1R1 and P4H (a marker of collagen synthesis) was performed. In controls, IL-1R1 was highly expressed in the basal layer of the urothelia with less staining in the umbrella cells and detrusor and no staining in the interstitium. P4H co-localized with IL-1R1, although enhanced expression in the basal urothelia was not as prominent. In BOO, the urothelia contained multiple layers of cells with IL-1R1 and P4H highly expressed in all layers. Gly and Ana prevented this change in phenotype.

Conclusions: NLRP3-derived IL-1 β triggers fibrosis during BOO, most likely the result of urothelial IL-1R1 driving early collagen synthesis.

DIAGNOSTIC/PROGNOSTIC POTENTIAL OF SPARC AUTOANTIBODIES IN THE SERA OF PROSTATE CANCER PATIENTS

CAPT Andy J. Martinez M.D.*, Anshu Rastogi Ph.D.*, Amina Ali M.S., M.T.*, Shyh-Han Tan Ph.D.*, Jennifer Cullen Ph.D.*, Yongmei Chen M.D.*, Gyorgy Petrovics Ph.D.*, Albert Dobi Ph.D.*, Lakshmi Ravindranath B.S.*, Denise Young M.S.*, Isabell A. Sesterhenn M.D.*, Jacob Kagan Ph.D.*, Sudhir Srivastava Ph.D.*, David G. McLeod M.D., Inger L. Rosner M.D., Shiv Srivastava Ph.D.*, Alagarsamy Srinivasan Ph.D.*: Bethesda, MD (Presentation to be made by Dr. Andy J. Martinez)

Objectives: A major area of focus in prostate cancer (CaP) research is to define biomarkers to facilitate more precise early detection as well as to distinguish between indolent and aggressive CaP. These biomarkers include tumor associated antigens (TAAs) and autoantibodies (AAbs) against TAAs in patient sera, which have been noted in a diverse number of cancers, including CaP, and can differ among ethnicities. Earlier work from CPDR and other laboratories showed an increased expression of secreted protein acidic and rich in cysteine (SPARC) in CaP metastatic foci and cell lines. SPARC, linked to bone metastasis, was identified as a potential early marker of poorly differentiated CaP. Based on this, we hypothesized that increased expression of SPARC may result in the release of SPARC from cells which can result in the induction of autoantibodies. The aims of this study are: i) Are AAbs against SPARC present in the serum of CaP patients?; ii) Is there a correlation between SPARC AAb level in patient sera and disease status? iii) Does SPARC AAb level vary according to distinct ethnic groups?

Materials and Methods: Sera from CaP patients and healthy controls were evaluated for AAbs against SPARC using an in-house enzyme-linked immunosorbent assay (ELISA), utilizing recombinant full-length human SPARC protein as substrate. For evaluation we used Caucasian American (CA, n=117) and African American (AA, n=111) CaP patients comprising Gleason 6-10, and healthy controls (CA, n=52; AA, n=45).

Results: SPARC AAbs were detected in both CA and AA CaP patient sera with levels significantly lower in patients compared to controls (CA: P<0.0001, AUC=0.808; AA: P<0.0001, AUC=0.822). AAb reactivity for CaP patients was similar between CA and AA groups.

Conclusions: This study demonstrated the presence of AAbs against SPARC in CaP patient serum for the first time. Interestingly, highly significant differences were noted between CaP patient (low) and control (high) sera, across different ethnic groups. These data suggest SPARC AAbs could serve as a promising serum biomarker in future diagnostic panels. Further evaluation of SPARC antigen, in addition to AAbs, may add value towards the diagnosis/prognosis of CaP.

ROBOT-ASSISTED RETROPERITONEAL LYMPH NODE DISSECTION FOR NON-SEMINOMATOUS GERM CELL TUMOR IN THE POST-CHEMOTHERAPY SETTING

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(Presentation to be made by Dr. Marshall)

Introduction: In patients who have completed a primary regimen of chemotherapy for a non-seminomatous germ cell tumor (NSGCT), retroperitoneal lymph node dissection (RPLND) is the recommended treatment modality for a residual retroperitoneal mass ≥ 1 cm in the setting of normal tumor markers. Currently, an open RPLND (O-RPLND) is the gold-standard surgical approach, however, it is associated with a significant amount of perioperative morbidity. Recent experience has demonstrated the utility of the robot-assisted approach in the primary setting for NSGCT, however, data is lacking in the post-chemotherapy setting.

Material and Methods: We conducted a multicenter, retrospective review of 163 men with NSGCT who underwent either a robot assisted RPLND (RA-RPLND) or O-RPLND. Of these, 48 were in the post-chemotherapy (PC) setting – 34 PC-RA-RPLND and 14 PC-O-RPLND. The robotic approach used has been described previously. Special consideration between the da Vinci® S, Si, and Xi systems regarding port placement and robot docking are discussed. Surgical considerations in this select group of patients include the following: appropriate patient selection, full bilateral templates are performed, nerve sparing approaches can be considered based off of disease burden, any tumor thrombus is treated as active disease, and the extent of disease may obviate the need for a more extensive resection. Pertinent comparisons were made between each approach.

Results: Patient demographics and operative times were similar between groups. PC-RA-RPLND showed statistically better outcomes when compared to PC-O-RPLND in regard to intraoperative blood loss (335.4 vs 1069.2 mL, p = <0.001), post-operative pain (44.9 vs 972.9 mg of morphine equivalents, p = <0.001), and duration of post-operative hospitalization (2.7 vs 8.0 days, p = <0.001). There was no difference noted in the mean number of nodes obtained (26.8 vs 24.9, p = 0.574). Although there was a significant difference noted in the duration of follow up (29.1 vs 64.1 months, p = <0.001), only two recurrences have been documented. Although both were in the PC-RA-RPLND group, neither were in-field recurrences.

Conclusions: PC-RA-RPLND for NSGCT appears to be less morbid and better tolerated than the traditional open approach all while allowing for intricate dissection of adherent planes, complete removal of concerning tissue, and complex vascular reconstruction. Our current data suggests a similar oncologic outcome however more research is needed.

LEARNING CURVE FOR ROBOTIC ASSISTED LAPAROSCOPIC RETROPERITONEAL LYMPH NODE DISSECTION

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Objectives: Robotic assisted laparoscopy was first approved by the FDA in 2000 for general laparoscopic procedures. The robotic assisted laparoscopic retroperitoneal lymph node dissection (R-RPLND) was developed in 2009 and has been practiced at the Naval Medical Center San Diego (NMCSD) by two fellowship trained robotic surgeons. We hypothesized that surgical times and operative complications would decrease as surgeons became more facile with R-RPLND techniques.

Materials and Methods: We retrospectively reviewed all 53 R-RPLNDs performed at NMCSD between 2009 and 2016 by two experienced robotic surgeons. Linear regression was used to analyze independent predictors of set-up time and surgical time. Logistic regression was used to analyze overall complications. Variables included as independent predictors were: case sequence number, no chemo vs post-chemo R-RPLNDs, unilateral vs bilateral R-RPLNDs, surgeon, and BMI. Multivariate analysis was conducted using forward step-wise progression to build the model. Predictors were eliminated sequentially if p>0.20 in the multi-variate model. Statistical significance was established at p=0.05.

Results: The only significant predictor of set-up time on multivariate analysis was case sequence number (p=0.044). For surgical time, significant predictors on both univariate and multivariate analysis were no chemo vs post-chemo (p=<0.001) and unilateral vs bilateral R-RPLNDs (p=0.019). For overall complications, the only significant predictor on both univariate and multivariate analysis was sequence number (p=0.028); all other factors were not significant.

Conclusions: Room set-up time for R-RPLNDs improves with experience. Operative time is only predicted by no chemo vs post-chemo and unilateral vs bilateral R-RPLNDs; there was no learning "curve" with respect to surgical time. However, complications have decreased as more experience with this procedure is gained. These findings suggest that this procedure could be adopted with little additional training by experienced robotic surgeons.

CONDUCTIVE HEAT-TARGETED DRUG DELIVERY FOR BLADDER CANCER

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(Presentation to be made by Dr. Joseph J. Fantony, MD)

Objectives: Fever-range hyperthermia combined with intravesical chemotherapy (HIVEC) reduces bladder cancer (BC) recurrences and progression, even after BCG failure. Recently, our team has developed a novel class of pharmaceutical agents that consist of thermally-sensitive liposomes containing chemotherapeutic agents that release their drug payload when heated above 41°C. While several agents can be packaged in the liposomes, the first commercially-available agent is ThermoDox, a doxorubicin containing liposome. In preliminary animal models, ThermoDox can deliver in a 10-30 fold increased amount of doxorubicin to heated targeted tissue, a feature that allows for reduced systemic toxicity. In this study, we examined whether a novel conductive bladder hyperthermia device, the Combat BRS, could effectively heat the bladder in order to (1) improve intravesical drug delivery and (2) trigger systemic heat-sensitive liposomes.

Materials and Methods: Female swine were anesthestized and their urethras catheterized with a 3-way, 16 F specialty Foley catheter designed for the Combat BRS device. A multidimensional and multiparametric thermal monitoring system for the swine bladder was engineered that included submillimeter fiber optic microprobes, submillimeter semiconductor germanium/silicone thermistors, and custom designed/fabricated thermistor strips for high resolution bladder temperature monitoring. We used this thermal monitoring system to spatially and temporally map heat delivery to the body core (esophagus, internal iliac vein), adjacent pelvic organs (vagina, rectum, perivesical space), and bladder substructures (urothelium, detrusor, serosa). Temperature measurements were combined with real-time high-resolution infrared images of the heating bladder and pelvis (obtained with a Lumasense Microtec infrared camera) and combined in a multi-physics thermodynamic computational model using Comsol and Ansys software. The Combat BRS device was used to heat the bladders to a target temperature of 43°C for 2 hours.

Results: Heat mapping demonstrated intravesical fluid temperatures of $42.9\pm0.14^{\circ}$ C, consistent with our desired target temperature of $43\pm1^{\circ}$ C. Thermal conductivity through the bladder wall resulted in serosal temperatures of $41.5\pm0.6^{\circ}$ C, indicating that a temperature gradient of $^{\sim}1.5^{\circ}$ C exists across the bladder wall when heated with conductive heat transfer. Importantly, detrusor temperatures >41°C were consistently achieved indicated that the Combat BRS could be successfully used for heat-targeted systemic drug delivery. Adjacent organ temperatures increased only modestly, indicating that heating was biologically safe (vagina $41.8\pm0.5^{\circ}$ C, rectum $39.1\pm0.4^{\circ}$ C). Core temperatures minimally increased.

Conclusions: Comprehensive heat mapping demonstrated that the Combat BRS device effectively and safely heats the bladder transmurally. Transmural bladder wall temperatures reached levels sufficient to allow heat-triggered release of ThermoDox. Drug delivery of mitomycin C and ThermoDox to the bladder is feasible using this heating device and is currently being evaluated in our lab.

DOES A DELAY IN STARTING BACILLUS CALMETTE-GUÉRIN INDUCTION THERAPY AFFECT PATIENT OUTCOMES?

Andrew L. Franklin M.D., Marcin Zuberek* B.S., Daniel Hoyt M.D.: Columbia, MO (Presentation to be made by Dr. Andrew Franklin)

Introduction: Intravesical therapy with bacillus Calmette-Guérin (BCG) has become a standard therapy for non–muscle-invasive bladder cancer. Standard induction therapy begins 2-4 weeks after initial diagnosis. The purpose of this study was to evaluate delays in BCG induction protocol at our institution, and whether this had any affect on disease progression and recurrence rates.

Methods: Retrospective chart review was performed on all patients undergoing induction BCG treatments from 2010-2015 at the Harry S Truman VA. Data was collected on initial diagnosis of bladder cancer, time to starting BCG therapy from diagnosis, and recurrence and progression rates at 12 months. Subgroups were made of uninterrupted and interrupted BCG treatments, and delayed (BCG 29-45 days after diagnosis) and very delayed (BCG 46-90 days after diagnosis). Treatments started within the standard time and those two standard deviations above the mean (90 days) were not included in this subgroup analysis.

Results: 53 patients were identified that met criteria to be included in the study and a total of 66 induction BCG courses were given. The mean number of days from pathologic diagnosis until first BCG treatment was 53 days (SD 19). 21 treatments meet criteria for the delayed group and 37 for the very delayed group. In the delayed group the mean days to treatment was 42 (SD 2). 4 patients (19%) had recurrence of bladder cancer and 1 (5%) had progression. For the very delayed group the mean days to starting treatment were 55 (SD 10). 8 patients (22%) had recurrence of bladder cancer and 3 (8%) had progression. These differences were not statistically significant.

Conclusions: In this study, there is not a statistically significant increase in the rate of bladder cancer recurrence or progression in the delayed or very delayed groups. Furthermore, these rates are similar to published rates in patients that started within the standard 2-4 week timeframe. This suggests that delaying the start of BCG induction treatment up to 55 days does not negatively impact patient outcomes.

BLUE LIGHT CYSTOSCOPY FOR THE MANAGEMENT OF UROTHELIAL BLADDER CANCER: A PROSPECTIVE REGISTRY AT MICHAEL E. DEBAKEY VAMC

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Taylor, MD, MPH* Houston, TX
To be presented by Michael Pan, MD

Introduction and objectives: Non-muscle invasive urothelial bladder cancer (NMIBC) has highly variable recurrence rates, which may be influenced by residual tumor or lesions unrecognized with standard white light cystoscopy (WLC). Blue light cystoscopy (BLC) with Cysview (hexaminolevulinate) can improve detection and reduce recurrence rates. We present our institutional data from the prospective BLC with Cysview Registry in the diagnosis of NMIBC. Our institution has one of the longest experiences with BLC among U.S. Veterans Affairs medical centers, having used it since 2013.

Methods: We prospectively enrolled consecutive patients undergoing transurethral resection of bladder lesions with BLC with Cysview into the registry, after IRB approval.

Results: A total of 108 bladder lesions from 26 patients were identified from procedures between March and August 2016. All patients are U.S. veteran men with mean age of 70 years. Using final pathology as the reference standard, the sensitivity of WLC and BLC was 87% and 93%, with a sensitivity for flat lesions of 70% with WLC and 90% with BLC. WLC showed slightly improved detection rates for papillary lesions. Positive predictive value for WLC and BLC were 55% and 52%, respectively. Negative predictive value for WLC and BLC were 75% and 67%. The rate of false positives was 45% in WLC and 48% in BLC, with positive urine culture and recent BCG administration combined comprising 61% of the false positives in WLC and 69% in BLC. No major complications were reported with the addition of BLC, with one case of cutaneous hypersensitivity reported.

Conclusions: The addition of BLC with Cysview to standard WLC improved cancer detection rates, particularly flat lesions. Positive urine culture and recent BCG administration seem to be associated with an increased rate of false positives. Additional follow-up is required to evaluate effect on recurrence rates.

Disclosures: This data has been collected as part of a IRB-approved multi-institutional national registry, supported by Photocure Inc.

CLEAR CELL CARCINOMA OF THE PENIS: A CASE REPORT

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Presentation to be made by Dr. Nicholas R Rocco

Introduction: Nonsquamous penile malignant neoplasms are extremely rare. Most tumors of the penis are squamous cell carcinomas (SCC) demonstrating keratinization, epithelial pearl formation, and various degrees of mitotic activity. The new WHO classification of tumors of the male genital system groups the subtypes into human papilloma virus (HPV) and non-HPV-related based upon their morphologic distinctiveness and sufficient evidence for a bimodal etiopathogenesis. The first series of 5 cases of clear cell carcinoma in the penis was published in 2004 by Liegl and Regauer and most recently a series of 3 cases was published in 2016 by Sanchez et al.

Case Report: We present an 84-year-old man with a rare form of penile cancer seldom reported in the literature. The patient originally presented with a several month history of a steadily enlarging glanular mass that began to bleed two days prior to his initial evaluation. On examination a fungating mass obliterating the glans with induration extending to the penoscrotal junction and a mobile 1 cm unilateral superficial lymph node was noted. After an uncomplicated radical penectomy with perineal urethrostomy, a PET/CT revealed hypermetabolic bilateral inguinal adenopathy and bilateral lung nodules. Pathology returned as clear cell carcinoma (an HPV-related variant of squamous cell carcinoma) with invasion into the urethra. After discussion of his treatment options for his pT3cN2M1 penile cancer, he underwent palliative XRT to his pelvis and inguinal nodes to 5000cGy in 250cGy fractions. Repeat PET/CT revealed decreased size and abnormal metabolic activity in the inguinal and pelvic nodes. The previously PET avid pulmonary nodes were determined to be associated with infection rather rare metastatic disease. A multidisciplinary oncology board recommended serial imaging studies and no systemic therapy.

Discussion: HPV-related carcinomas are either basaloid or warty (condylomatous) SCC. Based on data from a series of case reports, basaloid SCC has a high rate of nodal metastasis, whereas warty carcinomas are rarely associated with regional nodal metastasis. Other HPV-related SCCs include rare variants papillary-basaloid and clear cell carcinomas. Features that favor the diagnosis of a primary mucosal penile clear cell carcinoma are tumor location, presence of concomitant warty or basaloid penile intraepithelial neoplasia, and HPV/p16 positivity.

Conclusion: This case illustrates a rare morphologic squamous cell variant related to HPV.

RADICAL PROSTATECTOMY AND THE EFFECT OF CLOSE SURGICAL MARGINS: ANALYSIS FROM THE SEARCH DATABASE

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Purpose: Positive surgical margins after radical prostatectomy are a significant predictor for biochemical failure. Close surgical margins however represent a diagnostic challenge for surgeons. We sought to evaluate the biochemical recurrence patterns among men with radical prostatectomy specimens having negative, positive, and close surgical margins from the Shared Equal Access Regional Cancer Hospital (SEARCH) cohort.

Materials and Methods: Men undergoing radical prostatectomy between 1988 and 2015 with known final pathologic margin status were evaluated. The cohort was divided into 3 groups based on margin status; negative, positive, and close. Close margins were defined by distance of tumor ≤1mm from the surgical margin or by pathologic description from reports. Biochemical recurrence was defined as PSA >0.2ng/ml, 2 values at 0.2ng/ml, or secondary treatment for an elevated PSA. Predictors of PSA recurrence and prostate cancer specific death were analyzed using Cox-proportional Hazard models.

Results: Of 5,416 men in the SEARCH database, 4,224 (78%) men met criteria for inclusion in the analysis. Of these, 2,016 (48%) had negative margins, 1,851 (44%) had positive margins, and 357 (8%) had close margins. On multivariable analysis, relative to negative margins, men with close margins had a higher risk of biochemical recurrence (HR=1.57, 95%Cl=1.41–2.10, P<0.001). However, this risk was lower than that of men with a positive margin (HR=2.16, 95%Cl=1.91-2.44, P<0.001). However, both close (p=0.25) and positive margins (p=0.95) were unrelated to disease-specific survival.

Conclusion: Close but negative margins are associated with an intermediate risk of BCR – greater than negative margins, but less than men with positive margins. However, consistent with prior studies from our group, all margin categories were unrelated to disease-specific survival. Close or positive margins, in the absence of other high-risk features, do not increase the risk of death and should not be used alone to make adjuvant therapy decisions.

NUCLEAR GRADE PREDICTS PROSTATE CANCER OUTCOMES IN PATIENTS FOLLOWING RADICAL PROSTATECTOMY

Introduction and Objectives: Nuclear architecture has long been used to help grade malignant tumors and has been useful in providing patients and clinicians with valuable prognostic information. The major exception to this has been with prostate cancer, where nuclear grade is not part of the modern grading system. This study evaluates nuclear grade as a predictor of prostate cancer outcomes in a large, racially diverse cohort of patients enrolled in an equal access military healthcare setting who underwent radical prostatectomy.

Methods: This retrospective cohort study examined patients who underwent prostatectomy from 1987 through 2014 who were enrolled into the Center for Prostate Disease Research multi-center national database and the bio-specimen database. Whole-mount prostate specimens were examined by a subject matter expert at the Joint Pathology Center and tumors were given a nuclear grade based on the Mostofi/WHO Nuclear Grade system. Demographic, clinical, pathologic, treatment and outcomes data were obtained and organized as part of ongoing CPDR data collection activities. Unadjusted Kaplan Meier estimation curves and multivariable Cox Proportional Hazards analyses were utilized to evaluate biochemical recurrence (BCR) and distant metastasis (dMET).

Results: 1543 patients met criteria and were evaluated in this study. Higher Nuclear Grade was significantly associated with higher D'Amico risk stratum (p<0.0001), worse biopsy Gleason Sum (p<0.0001), higher PSA at diagnosis (p=0.0398), and higher cT-Stage (p=0.0356). On whole mount evaluation, nuclear grade was significantly associated with worse pathologic Gleason Sum (p<0.0001), higher pT-stage (p<0.0001), positive margin status (p<0.0001), presence of extra-capsular extension (p<0.0001), and seminal vesicle involvement (p<0.0001). Kaplan Meier curves revealed that higher nuclear grade was associated with significantly increased odds for BCR (p<0.0001) and dMET (p<0.0001). When separated by Gleason Score, this increase in odds of BCR was significant in patients with Gleason 7 disease. Multivariable Cox proportional hazards model for distant metastasis showed worse outcomes for highest versus lowest NG category: (HR=10.27, p=0.0313).

Conclusions: There is scant modern literature evaluating nuclear grade in prostate cancer, and more historical studies showed conflicting data on the utility of nuclear grade in predicting prostate cancer outcomes. This study showed that the Mostofi/WHO nuclear grade system was a useful in determining worse prostate cancer outcomes. The incorporation of nuclear grade with contemporary prostate cancer grading systems may be useful in counseling patients on disease prognosis and help with informed treatment decision-making.

ALKALINE PHOSPHATASE VELOCITY PREDICTS METASTASIS AMONG PROSTATE CANCER PATIENTS WHO EXPERIENCE BIOCHEMICAL RECURRENCE AFTER RADICAL PROSTATECTOMY

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Objectives: The majority of patients undergoing radical prostatectomy (RP) for treatment of prostate cancer (CaP) will not develop biochemical recurrence (BCR) or distant metastasis (dMET). Risk factors for these outcomes have been difficult to establish and the role of neo-adjuvant, adjuvant, and/or salvage therapy in preventing or delaying these events is not well understood. This study builds on previous work examining alkaline phosphatase velocity (APV) in predicting dMET for castrate-resistant CaP (CRPC) patients, in a large, racially diverse cohort of patients treated in an equal access military health care system.

Materials/Methods: This retrospective cohort study examined CaP patients enrolled in the Center for Prostate Disease Research (CPDR) multi-center national database who underwent RP and subsequently experienced BCR (n=1725). BCR was defined as a PSA \geq 0.2 ng/mL at \geq 8 weeks post-RP, followed by a confirmatory PSA \geq 0.2 ng/mL. APV was computed as the slope of the linear regression line of all alkaline phosphatase (AP) values after RP and prior to dMETs. APV values in the uppermost quartile were defined as "rapid" and compared to those in the lower 3 quartiles combined. Salvage therapies were grouped as: hormone therapy only, external radiation therapy only, or multi-treatment. Unadjusted Kaplan Meier curves and multivariable Cox Proportional Hazards analysis was used to model time to dMET.

Results: Of the 1725 patients in the study sample, 736 (42.7%) had sufficient data to calculate APV. Those without APV data were noted to have a greater proportion of dMET and a faster time to dMET, as well as poorer pathologic features than those who had sufficient APV data. dMET was observed in 11% of patients. We observed a significantly faster time to dMET among the rapid APV group (p<0.001). In multivariable analysis, rapid APV was strongly predictive of dMET (HOR = 2.08, p = 0.0215).

Conclusions: In CaP patients who experience BCR after RP, rapid APV is a useful predictor of dMET over time. In an adjusted analysis, use of any salvage therapy did not appear to predict dMET. This study builds on previous work demonstrating APV as predictive of dMET among castrate resistant CaP (CRPC) patients. APV may be a valuable tool for prognosticating dMET in a larger patient group, at a timepoint upstream of CRPC, for CaP patients who experience biochemical failure after RP.

OPEN VS ROBOTIC RADICAL PROSTATECTOMY 30-DAY PERIOPERATIVE OUTCOMES BETWEEN THE YEARS 2009-2014: AN ACS NSQIP PROJECT

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Objectives: The purpose of this study is to compare 30-day peri-operative outcomes of open vs robotic prostatectomies using American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) data between the years 2009-1014.

Material and Methods: ACS NSQIP participant use data files (PUF) were obtained between the years 2009-2014. Data was sorted by surgical specialty (Urology), then by principal procedure CPT code (Open – 55840, 55842, 55845. Robotic-55866). Cases were excluded if other procedure CPTs coded for cystectomy, urinary diversion using intestinal segments, kidney resection, liver or bone resection. Categorical variables from the PUF were analyzed using chi square test with Yates' correction and continuous variables were analyzed using student T-test.

Results: 28858 cases were identified. 361 cases were excluded from analysis leaving 28497 cases for analysis. The open group consisted of 5710 cases and robotic group of 22787 cases. Preoperative variables that reached statistical significance were use of hypertensive medications (open=48%, robotic = 51%), age (Open=63, robotic = 62) and BMI (open=28.46, robotic= 28.86). Robotic prostatectomies required longer operating times (209 vs168 minutes), but had decreased length of stay (1.7 vs 2.8 days) compared to open prostatectomy. Patient's undergoing open prostatectomies were significantly more likely to experience post-operative complications when compared with robotic prostatectomy. This includes four times the risk of superficial wound infection (1.4% vs 0.3%), ten times more likely to experience a deep surgical site infection (0.28% vs 0.026%), three times more likely to experience wound disruption (0.525% vs 0.16%) and approximately 50% more likely to be diagnosed with a PE (0.66% vs 0.42%). In addition, UTI (2.52% vs 1.55%), blood transfusions (13.6 vs 1.5), sepsis (0.77% vs 0.5%) and return to OR (1.5% vs 1.04%) was significantly higher in the open prostatectomy group. Outcomes did not reach statistical significance for organ space infection, pneumonia, unplanned intubation, on ventilator>48 hours, acute renal insufficiency or failure, CVA, cardiac arrest requiring CPR, MI, DVT/thrombophlebitis, septic shock or death.

Conclusions: In a large, centrally-maintained, standardized database, robotic prostatectomy was shown to have a longer operative time to complete, but has significantly decreased post-operative complications and reduced length of stay when compared with open prostatectomy.

Disclosures: The American College of Surgeons National Surgical Quality Improvement Program and the hospitals participating in the ACS NSQIP are the source of the data used herein; they have not verified and are not responsible for the statistical validity of the data analysis or the conclusions derived by the authors. Source of Funding: None

EFFECT OF RACE AND OBESITY ON RECEIPT OF SALVAGE THERAPY AFTER BIOCHEMICAL RECURRENCE FOLLOWING RADICAL PROSTATECTOMY IN AN EQUAL ACCESS MEDICAL SYSTEM

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Objectives: After radical prostatectomy (RP), up to 35% of patients will experience a biochemical recurrence (BCR) within 10 years. Obesity and black race have been associated with poorer tumor characteristics at RP, less aggressive primary treatment, and decreased survival. This study examines a large, equal-access medical system to determine if race and/or obesity are associated with disparate receipt of salvage therapy post-RP, among patients who experience BCR.

Methods: This retrospective cohort study examined prostate cancer (CaP) patients enrolled in the Center for Prostate Disease Research (CPDR) multi-center national database during 1989-2014. There were 1,481 patients who self-reported as Caucasian or African American that experienced BCR after RP. BCR was defined as prostate specific antigen (PSA) \geq 0.2 ng/mL at least 8 weeks post-RP and before a metastasis event with at least one confirmatory PSA level \geq 0.2 ng/mL. Obesity was defined as body mass index (BMI) \geq 30 kg/m2 at time of diagnosis. Those with N1/M1 disease within 12 months of CaP diagnosis were excluded. Kaplan-Meier analysis was used to evaluate time to salvage treatment (hormone therapy or radiotherapy) across race, obesity, and race-by-obesity categories. Multi-variable Cox proportional hazards regression analysis was used to model time to salvage treatment as a function of race and obesity, controlling for key covariates.

Results: Of the 1481 eligible patients, 809 (54.6%) received salvage treatment. Of those that received salvage treatment, 204/369 (55.3%) were African American, 605/1112 (54.4%) were Caucasian, and 192/328 (58.5%) were obese. Kaplan-Meier analysis showed faster median time from BCR to salvage treatment for obese versus non-obese patients (9.8 versus 12.0 months, respectively; p=0.042). There was no difference in time to salvage treatment across race or race-by-obesity categories. In multivariable Cox models, neither race nor obesity was significantly associated with time to salvage treatment, controlling for time from RP to BCR (HR 0.98, 95% CI 0.98-0.99, p<0.001); D'Amico high and intermediate versus low risk (HR 1.83, 95% CI 1.50-2.23, p<0.001) and (HR 1.59, 95% CI 1.30-1.94, p<0.001), respectively; and adverse pathology (HR 1.34, 95% CI 1.14-1.59, p<0.001).

Conclusions: In an equal access medical system, there were no differences in time to post-RP salvage treatment after BCR across race and/or obesity status. These data suggest that a comparable health care setting may eliminate racial disparities in receipt of treatments.

THERAPY IN HIGH-RISK CATHETER DEPENDENT MEN AT A SINGLE VETERANS AFFAIRS CENTER

Capt Theodore R. Saitz, USAFR, MD, Michael J. Conlin*, MD, Christopher D. Tessier*, MD, Thomas R. Hatch*, MD.: Portland, OR (Presentation to be made by Dr. Saitz)

Introduction: Catheter dependence for benign prostatic hypertrophy (BPH) impairs quality of life and increases risk of urinary tract infection (UTI). Previous studies have demonstrated high efficacy of Transurethral Microwave Therapy (TUMT), although few have assessed safety in high-risk patients, including those continuing anticoagulation therapy during treatment. Our primary goal was to assess the safety and efficacy of TUMT in a population of high-risk catheter dependent men.

Methods: A retrospective analysis of 157 patients who underwent TUMT at a single Veterans Affairs facility for treatment of benign prostatic hyperplasia was completed. The primary efficacy variable was success in catheter removal. We recorded time of follow up, types of anticoagulation, prostate size, time to patient death, and number of UTIs a year prior and a year post procedure. Additionally, we analyzed post-procedural complications, including bleeding events.

Results: Prior to treatment 105 men were in urinary retention (requiring an indwelling urethral catheter or clean intermittent catheterization). The mean age was 76.9 (95% CI 74.9 - 78.8) and median ASA-score was 3. At a median follow up of 26 months (range 1 - 65), 63.7% remained free from the need for indwelling or intermittent catheterization. Of the treated patients, 38% (40/105) died due to unrelated causes during the follow up period. Treatment failure was not associated with an increased risk of death when compared to Kaplan-Meier Survival Estimate. Surprisingly, prostate size was inversely associated with postoperative retention (mean prostate volume 60.6 ml vs 42.9 ml, p<0.04). No significant predictor of success was found on multivariate analysis. Overall, 86% of patients underwent TUMT while on anticoagulant therapy. 25% of all treated patients were treated while taking warfarin. Only two men experienced hematuria requiring treatment postoperatively. No transfusions were required. The 30-day postoperative complication rate was low, with readmission required in only 2 patients (1.9%).

Conclusions: Our results demonstrate TUMT is a safe and efficacious therapeutic option for high-risk catheter dependent men. Furthermore, the low incidence of adverse bleeding events suggests that TUMT is a safe treatment modality for men undergoing anticoagulation therapy. The inverse relationship of prostate volume with catheter independence suggests non-obstructive causes of retention in TUMT failures.

AUTHOR SELF-CITATION IN THE UROLOGY LITERATURE

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(Presentation to be made by Dr. Katherine Carlisle)

Objective: The h-index, introduced by Hirsch in 2005, quantifies an individual's contribution to the literature using the author's total number of publications and how frequently those publications have been cited. Author self-citation is commonly used when expanding on previous research; however, there is concern that self-citation practices may be used to artificially inflate one's h-index. The objective of our study was to determine the frequency and patterns of author self-citation in the urology literature.

Methods: A retrospective review of bibliographic references was performed of consecutive publications in three high-impact urology journals published between October and December 2015. Only original and review articles were included. Data included number of authors, total references, author self-citations, self-cited references, journal self-citations, urology topic, and country of origin. Chi-square tests and Fisher's exact tests were used to evaluate associations among categorical variables while nonparametric Wilcoxon rank sum tests and Kruskal-Wallis tests were used for continuous variables.

Results: A total of 215 articles were analyzed from Journal of Urology, European Urology, and British Journal of Urology. Original works accounted for 195 of the articles (91%) and oncology was the most common topic, 103 articles (48%). The median number of authors per article was 8 (IQR 6-11) and median number of references was 27 (IQR 20-30). Articles in European Urology generally had more authors than Journal of Urology or British Journal of Urology (median = 12, 7, and 7, respectively, p<0.001). Overall, 180 articles (84%) had at least one self-cited reference and 183 articles (85%) at least one reference to the same publication journal. Last authors were more likely to self-cite than lead authors. The total number of author self-citations per article ranged from 0 to 95with a median of 7 (IQR 2-18), and the median number of references with at least one self-citation was 4 (IQR 1-7), corresponding to an overall self-citation rate of 14% (IQR 5-25). Articles in European Urology were significantly more likely than those in Journal of Urology (98% vs. 79%, p<0.001) or British Journal of Urology (98% vs. 81%, p<0.001) to include at least one self-citation. Furthermore, this translated to a significantly higher rate of self-citation in European Urology compared to both Journal of Urology and British Journal of Urology that had equal rates (median 25% vs. 12%, p<0.001). British Journal of Urology was significantly less likely than Journal of Urology (p<0.001) and European Urology (p=0.01) to reference articles published from the same journal as the article itself.

Conclusions: This study found that author self-citation in the urology literature is common, seen in greater than 80% of articles reviewed. Our study is the first to show the practice of self-citation varies significantly between journals and was more common by authors published in European Urology versus Journal of Urology and British Journal of Urology. The effect of self-citation on an individual's h-index, however, remains to be elucidated and warrants further study. Another area of interest for future study would be to assess the association between author and journal self-citation with a journal's impact factor

THREE YEAR SINGLE SITE EXPERIENCE IN HIGH-RISK VETERANS WITH PROSTATIC URETHRAL LIFT TREATMENT OF BPH/LUTS

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Jones, MD.: Houston, TX

(Presentation to be made by Dr. Adam Dowell)

Objectives: We are reporting our three-year experience with prostatic urethral lift at the Houston VA. Prostatic urethral lift for BPH may allow patients to discontinue BPH medications, preserve sexual function, and reduce morbidity when compared to traditional surgical BPH treatments.

Materials and Methods: We retrospectively reviewed the records for 39 patients who were treated with the Prostatic Urethral Lift (UroLift TM) implant from 2013-2016. These were high risk patients with over 90% having significant comorbidities and over 20% being on therapeutic blood thinners or having a coagulopathy. Median age was 67 (IQR 63-74 or range 50-92). Mean prostate gland size by TRUS was 43.7 gm (SD +/-18gm). 31 men were treated with the prostatic urethral lift alone while 8 patients received a concomitant procedure for the median lobe either TUVP or TUIBN. Greater than 60% of the procedures were able to be performed with local or regional anesthesia, avoiding risks of general anesthesia. Mean operative time was 39.6 min (SD +/-20.4min). An average of 4.6 implants per patient were placed.

Results: The prostatic urethral lift provided both improvements in subjective and objective measures. Mean AUASS improved from 23.4 pre-implant to 14.8 post-implant (p<0.001, Wilcoxon signed-rank test-18 pairs). Mean AUASS QOL score improved from 4.6 to 2.5. Pressure-flow data showed maximum flow increased from 9 ml/sec to 13.5 ml/sec, and average flow from 5.2 ml/sec to 7 ml/sec. 10 of 16 patients who were catheter dependent prior to the procedure successfully passed a voiding trial and achieved spontaneous voiding. Average PVR decreased by more than 50%, from 234 ml to 112 ml. There was a low rate of minor complications including UTIs, dysuria, hematuria, and clot retention. There were no major (Clavien 3-5) complications.

Conclusions: Prostatic urethral lift is an excellent and safe option for men with moderate to severe BPH who have significant comorbidities including need for continued anticoagulation.

RETROSPECTIVE REVIEW OF THE UTILITY OF CT UROGRAPHY IN THE SETTING OF INITIAL ASYMPTOMATIC MICROSCOPIC HEMATURIA

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Tacoma WA (Presentation to be made by Dr. Karmon Janssen)

Purpose: Asymptomatic microscopic hematuria (AMH), defined as >3red blood cells/high power field (rbc/hpf) on one properly collected urine sample, is frequently encountered in the health care setting. Recent changes in American Urological Association (AUA) guidelines in 2013 states patients on initial evaluation for AMH obtain multi-phasic computed tomography urography (CTU). The purpose of this study was to compare non-enhanced CT (NECT) with CTU results of individuals presenting for initial workup of upper tract pathology in the setting of AMH.

Materials and Methods: A retrospective review of medical records obtained from the Regional Health Command-Pacific of the Department of Defense from July 1, 2010, through July 1, 2015, for individuals that obtained a CT scan for a diagnosis of microhematuria. These reports were all reviewed and a further randomized subpopulation from the initial group, n=500, had the NECT reviewed by two separate blinded board certified radiologist's. The cohort findings on NECT from the non-blinded reviewers was broken down into three groups defined as 1) Hematuria malignancy related, 2) Hematuria non-malignancy related, and 3) Non-hematuria (incidental or normal). Inclusion criteria were individuals with no significant urological history and at least one properly collected urinalysis identifying >3rbc/hpf. Exclusion criteria were those with a known urologic malignancy, kidney calculus history, irritative voiding symptoms or recurrent UTI history, gross hematuria, or history of urologic trauma.

Results: A total of n=1372 CTU reports were reviewed in individuals aged 18years and older that had an initial presentation of AMH met inclusion criteria. All individuals with concerning hematuria malignancy and hematuria non-malignancy upper tract findings were identified, and combined with a randomized population from the non-hematuria initial cohort. A total of n=475 NECT were reviewed by two separate board certified radiologists (R1,R2). There were n=34 hematuria malignancy findings identified during the initial CTU review, of which R1=24/34 (71%), R2=11/34 (32%) were identified during the blinded review. Sensitivity and specificity for each radiologist, respectively, were (70.59%, 89.26%) and (32.4%, 97.68%). Negative predictive values for each were 97.7% and 95.28% respectively. Inter-rater agreement coefficient was 0.81.

Conclusion: The findings of this study demonstrate high specificity and negative predictive values, but low specificity among both blinded radiologists. Further subanalysis of this cohort can be performed to identify individuals that were classified as 'hematuria malignancy' based on initial CTU report, to correlate with true upper tract pathology and other specific patient demographics. This retrospective review helps identify a cost and patient safety question in regards to radiation exposure as to the utility behind CTU in the initial workup for individuals for AMH.

THE ASSOCIATION BETWEEN MAYO ADHESIVE PROBABILITY (MAP) SCORE AND METABOLIC SYNDROME RISK FACTORS

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(Presentation to be made by Dr. Robert D. Williams)

Objectives: The Mayo Adhesive Probability (MAP) score is an independently validated image-based nephrometry scoring system that has been used for preoperative planning to predict the probability of troublesome adherent perinephric fat during robotic assisted partial nephrectomy. We investigated its association with the components of metabolic syndrome among other common systemic diseases.

Materials and Methods: 501 patients who underwent minimally invasive PN between September 2001 and August 2016 at Mayo Clinic Florida and Mayo Clinic Arizona. Inclusion criteria required for this study that the patient had a contralateral kidney. Contralateral MAP score was calculated as previous described in the literature on the non–tumor kidney. Low and high MAP score was defined as between 0–3 and 4–5, respectively. Univariate and multivariate logistic regression was used to identify any association between contralateral MAP score and other covariates.

Results: The median age for all patients was 63 years (22–87). Mean contralateral MAP score was 1.9. Contralateral MAP score was 0 in 152 patients, 1 in 74, 2 in 48, 3 in 43, 4 in 83, and 5 in 36. Contralateral MAP score was low (0–3) in 317 and high (4–5) in 119. For those with low and high contralateral MAP score, median age was 62 and 67, mean BMI was 29.4 and 31.2 and mean creatinine was 1.0 and 1.1 respectively. Males comprised 52% of those with low contralateral MAP score and 94% of those with high contralateral MAP score. Diabetes mellitus (DM) was present in 53 patients (17%) with low contralateral MAP score and 30 (17%) with high contralateral MAP score. Hypertension (HTN) was present in 174 patients (55%) with low contralateral MAP score and 93 (78%) with high contralateral MAP score. Cardiovascular disease (CVD) was present in 43 patients (14%) with low contralateral MAP score and 31 (26%) with high contralateral MAP score. When comparing patients with low and high contralateral MAP score, there was a statistically significant difference in HTN (p=0.001) and CVD (p=0.004) and borderline in DM (p=0.055).

Conclusion: Contralateral MAP score may help indicate certain comorbidities such as DM, HTN, and CVD. Higher scores are associated with higher incidence of DM, HTN, and CVD.

URETERAL STENT DURATION AND THE RISK OF BK VIREMIA OR BACTERIURIA AFTER KIDNEY TRANSPLANTATION

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(Presentation to be made by Dr. Jonathan Wingate)

Objectives: Ureteral stents are used in kidney transplantation (KTX) to decrease post-operative complications, but are associated with BK viremia (BKV). Our primary outcome was to determine the association between ureteral stent duration and BKV. Secondary outcome measures were the association between bacteriuria and stent duration or use of ureteral stent strings.

Materials and Methods: Between January 2010 and January 2015, 403 patients underwent KTX at Virginia Mason Medical Center and met inclusion criteria. Stent duration was classified as short (< 3 weeks) or long (> 3 weeks). Multivariate logistic regression models were created to assess for factos associated with BKV. The covariates in the BKV model were chosen a priori based on stent duration and risk factors previously described in the literature.

Results: Ureteral stents were placed in 304 (75.4%) transplants. Stent strings were left attached in 166 (54.6%) patients. On multivariate analyses, long stent duration was significantly associated with increased risk of BKV compared to no stent (odds ratio [OR] 1.92, p = 0.044, 95% confidence interval [CI] 1.04 – 3.74). Short stent duration was not associated with BKV. Sixty-two (15.4%) patients had bacteriuria. Bacteriuria was associated with female gender (OR 2.77, p < 0.001, 95% CI 1.58 – 4.95) and there was a dose-dependent effect with stent duration compared to no stent – short duration (OR 2.46, p = 0.049, 95% CI 1.05 – 6.49) and long duration (OR 3.58, p = 0.004, 95% CI 1.58 – 9.25). Stent strings were not associated with either infectious complication.

Conclusions: The association between ureteral stents and BKV may be dose dependent.

IMPACT OF PROSTATE CANCER THERAPY ON URINARY INCONTINENCE AND QUALITY OF LIFE

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Introduction and Objectives: Prostate cancer therapy is known to affect urinary symptoms in men, and its effect on quality of life can depend upon which type of treatment is received. This study is a retrospective review of a large database of men who underwent surgical prostate cancer treatment to assess the impact of therapy on quality of life in prostate cancer patients.

Methods: A total of 501 patients who underwent treatment for prostate cancer at a single institution from 2004-2014 were reviewed. The patients in this database were stratified into three groups with respect to the type of therapy received-robot-assisted laparoscopic radical prostatectomy (RLP), brachytherapy, and cryotherapy. Urinary incontinence related quality of life (HRQoL) was assessed at baseline and again at 1-60 months after therapy using the Expanded Prostate Cancer Index Composite (EPIC) questionnaire. Preoperative and postoperative urinary incontinence scores were compared using a Student's t-test.

Results: Baseline patient characteristics were similar between each treatment group. Diabetes was the only comorbidity correlated with urinary symptoms. Baseline urinary incontinence scores were 93.3, 94.5, and 88.2 in the RLP, brachytherapy, and cryotherapy groups, respectively with a significant difference between the RLP and cryotherapy groups (p = 0.046). Urinary incontinence worsened in all three groups at the first follow-up (2.2 months) after treatment (p < 0.0001). The corresponding scores at long term follow-up were 72.0 (p < 0.0001), 78.1 (p < 0.0001), and 83.1 (p = 0.165). The RLP group urinary incontinence improved over time, while the brachytherapy group incontinence did not change significantly after short term follow-up. Only the cryotherapy group achieved a return to baseline at mean follow-up of 17.3 months. No significant difference was found between mean urinary incontinence for RLP and brachytherapy at long-term follow-up (p = 0.128).

Conclusion: Due to the high survival of patients who receive treatment for prostate cancer, quality of life is a major concern when choosing therapy. All three types of prostate cancer treatment studied above cause a short-term worsening of urinary incontinence. Long term, RLP and brachytherapy are associated with worsening of urinary incontinence, whereas cryotherapy is associated with the least impact. Comparatively, RLP and brachytherapy yield similar post-therapy urinary incontinence outcomes.

SONOGRAPHIC FINDINGS OF PLAQUE THICKNESS FOLLOWING INTRALESIONAL INJECTION OF COLLAGENASE CLOSTRIDIUM HISTOLYTICUM

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Introduction and Objectives: Peyronie's disease (PD) is a disorder that frequently occurs as a result of a bending injury to the erect penis. It involves microtears to the tunica albuginea with a subsequent prolonged inflammatory response leading to fibrosis and penile deformity. Penile ultrasonography is an adjunctive test in the diagnostic process, though few published reports include ultrasound findings. One of the treatment options, in patients with stable disease and curvature > 30 degrees, is intralesional collagenase clostridium histolyticum (ICCH). We report our sonogram findings in a series of patients undergoing intralesional collagenase therapy for PD.

Methods: A retrospective review of all patients treated with ICCH for Peyronie's disease was undertaken. All patients treated with ICCH had pre-treatment sonograms, as well as at least one post-treatment sonogram. Medical records were reviewed to determine patient characteristics and outcomes.

Results: Six patients returned for at least one sonogram following ICCH treatment. Patients ranged in age from 40 to 73. Ten patients completed one cycle, four completed two cycles and two completed three cycles. Mean pre-treatment curvature was 53.6degrees (35-80). Stretched penile length was 11.2cm (9-13). In the transverse view, mean pre-treatment plaque thickness was 0.36 cm (0.25-0.43). Mean post-treatment curvature was 32 degrees (15-60). Stretched penile length was unchanged. Mean post-treatment plaque thickness was 0.25 cm (0.18 – 0.29). No significant adverse effects were experienced.

Conclusion: The efficacy of ICCH for treatment of PD has been well studied. Our case series describes the change in penile curvature as well as the change in plaque thickness as assessed by penile ultrasound. On average, the patients in our study experienced a 20 degree decrease in penile curvature and a 0.11cm decrease in plaque thickness. Larger prospective studies are needed to further evaluate the change in plaque characteristics with ICCH.

PROLAPSED URETEROCELE CAUSING ACUTE URINARY RETENTION: A CASE REPORT

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(Presentation to be made by Dr. Felicia Balzano)

Background: Ureterocele prolapse is primarily diagnosed and treated in childhood. Despite a 1-3% prevalence of ureteroceles in adults, prolapse among female adults is rare.

Case: 54yo female presents to the ED with complaint of obstructive voiding, urine leakage, and pelvic pain. On physical exam she was found to have a 3x2.5cm mass protruding from her urethra with active urine leakage. She was in urinary retention with overflow incontinence. Prior imaging had diagnosed an ureterocele with associated megaureter without any evidence of renal insufficiency. The prolapsed ureterocele was reduced endoscopically into the bladder. After reduction, a 16F foley catheter was placed for 7 days and removed, ensuring that she was emptying her bladder fully. At follow-up she denied any obstructive bladder emptying symptoms. She declined further surgical treatment of the ureterocele and follow-up renal Lasix scan was negative for any obstruction.

Conclusion: This case illustrates that despite the low reported incidence of prolapsed ureteroceles in adults, one must have a high index of suspicion and that a prolapsed ureterocele can be endoscopically managed.

DURING OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

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(Presentation to be made by Dr. Amy M Reed)

Objectives: Until recently, female US service members (SMs) have not been permitted to serve in direct combat roles. However, during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) a large number of female SMs have been wounded while serving in combat support roles. This included an unprecedented number of women with genitourinary (GU) injuries. No prior studies have reported either the incidence or clinical picture of these injuries. The objective of this study was to describe the epidemiology of GU injuries among female US SMs during OIF/OEF as well as understand the potential for increased female GU injuries in future conflicts and the long-term sequelae from these injury patterns.

Materials and Methods: The Department of Defense Trauma Registry (DODTR) was reviewed to identify all US SMs diagnosed with GU injury from 2001 to 2013. The DODTR includes data for wounded SMs treated at any US combat support hospital, the intheater equivalent of a civilian trauma center. Female SMs with ICD-9-CM diagnosis codes and/or AIS codes for GU injury were included. Data on all females with GU injury were reviewed, including battle injury (BI) and non-battle injury (NBI). Basic demographic and injury characteristics were reported.

Results: Among the 1463 US SMs diagnosed with GU injury while deployed to OIF/OEF, 20 (1.4%) were female (median age: 25; IQR 21-27). Of these, 9 were BI (45%) and 11 were NBI (55%). The distribution of injury location was as follows: renal injuries (n=12), vulvar injuries (n=3), vaginal injuries (n=3), perineal injury (n=1), and bladder injury (n=1). Median Injury Severity Score was in the severe range (ISS=21; IQR 6-32); and 4 women (20%) died of their wounds. Important associated injuries included colorectal (n=5) and lower extremity amputation(s) (n=2). The most common mechanism of injury among the 9 women with GU BI was improvised explosive device (IED) blast (n=6), followed by other explosions (n=2) and gunshot wound (GSW) (n=1). Mechanisms of GU NBI varied, including GSW (n=2), fall (n=2), fire/flame (n=1), knife wound (n=1), unintentional machine injury (n=1), motor vehicle accident (n=1), sports injury (n=1), fight (n=1), and pedestrian injury (n=1).

Conclusion: Female GU injuries comprise a small portion of all GU injuries sustained during OIF/OEF with the most predominant being renal injury. Now that the ground combat exclusion policy has been lifted, this data can be used as a model for the expected injury patterns in future female combatants. Long term applications for this data include research and development for personal protective equipment and development of a multidisciplinary approach to long-term comprehensive care following GU trauma.

Source of Funding: The authors acknowledge the DoDTR for providing data for this study. This project was supported in part by an appointment to the Postdoctoral Fellowship Program at the USAISR, administered by the Oak Ridge Institute for Science and Education through an interagency agreement between the U.S. Department of Energy and EPA.

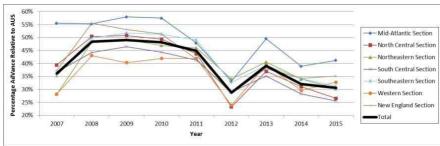
ADVANCE SLING USE IN THE U.S. DECREASING RELATIVE TO ARTIFICIAL URINARY SPHINCTERS

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Introduction and Objective: The artificial urinary sphincter (AUS) and AdVance male sling are the two most commonly performed male incontinence procedures in the US. We aimed to evaluate the percent of AdVance male sling usage relative to AUS over a nine year period since its introduction in order to assess trends across the United States.

Materials and Methods: As a surrogate for procedures performed, we reviewed device purchase data of both the AdVance sling and AUS broken down by AUA section. ANOVA testing between years was used to determine purchasing trends with p-values of <0.05 considered statistically significant.

Results: Relative to AUS, AdVance sling percentage significantly increased from 36% in 2007 to 48% in 2008 (p=0.032, see figure). Sling percentage then remained stable over the next three years from 2008-2011 with no significant percent change between years (p=NS). Compared with 2008-2011, AdVance usage decreased in 2012 to 29% (p=0.002) and remained stable at this decreased relative level through 2015 (p=NS, difference between years 2012 - 2015). The Mid-Atlantic AUA section utilized proportionally more AdVance slings relative to AUS at nearly every time point compared to the other sections. Comparing incontinence procedures across AUA sections, the Southeast section performed the highest percentage of male stress urinary incontinence procedures, including 27% of all AdVance slings and 25% of all artificial sphincters.



Conclusion: Proportion of AdVance sling usage relative to AUS increased after its introduction through 2008. Usage remained stable at an increased level for the next three years. More recent years have found decreased AdVance usage and a resurgence of the artificial urinary sphincter. Reasons for these trends remain speculative.

BLADDER NECK RECONSTRUCTION AND CONTINENT STOMA: INITIAL EXPERIENCE WITH AN ALTERNATIVE CONTINENCE PROCEDURE

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Pokket Sirisreetreerux M.D.*, Heather Di Carlo M.D.*,
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(Presentation to be made by Maj Tim Baumgartner)

Objectives: Current management of the exstrophyepispadias complex (EEC) offers patients a normal lifespan and improved quality of life. However, patients with a failed initial closure, inadequate bladder capacity, or inability to completely empty are likely to have difficulty with urethral voiding and are generally ineligible for bladder neck reconstruction (BNR). Concomitant BNR and creation of a continent stoma (CS, BNRCS) was performed in patients with borderline qualifying characteristics, yet strongly desired volitional voiding.

Materials and Methods: A prospectivelymaintained institutional EEC database was reviewed for patients who underwent BNRCS without augmentation cystoplasty (AC) at the authors' institution. Prior to any continence procedure, patients enrolled in our multidisciplinary Voiding Improvement Program to assess and work towards continence readiness. Postoperatively, patients underwent clean intermittent catheterization (CIC) and urethral voiding training.

Results: 19 exstrophy and 5 epispadias patients underwent BNRCS. The main application of BNRCS was in patients who might have difficulty with bladder emptying during the training period. After an appropriate CIC regimen was established, 12 patients began voiding trials at a median of 3.4 (0.879.9) months following BNRCS. One year postoperatively, 59% (10/17) and 75% (3/4) of exstrophy and epispadias patients, respectively, accomplished volitional voiding with CIC. Additionally, 65% and 50% of these respective groups were completely dry. Two CBE patients and 1 epispadias patient did not achieve continence with BNRCS and subsequently underwent bladder neck transection (BNT) with AC. Reasons for failure included continued incontinence, renal insufficiency, and poor patient compliance.

Conclusions: BNRCS provides another opportunity for EEC patients to attain urinary continence, particularly in those who strongly desire urethral voiding yet are ineligible for BNR alone. If this dual procedure is unsuccessful, BNT and AC can still be undertaken to achieve urinary continence.

IMPROVING SURGICAL TRAINING: SHIFTING THE CULTURE FROM "APPRENTICESHIP" TO "PATIENT –CENTERED" LEARNING

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Background: The apprenticeship model of 'see one, do one, teach one' has been the cornerstone of surgical training since Dr. William Halsted introduced the concept of residency in 1889. Traditionally, the trainees would determine how to maximize learning during time spent with appointed mentors. With our evolving educational milieu combined with the constraint of work hours, it is important to have specific curricular elements to facilitate achievement of ACGME milestones. Pediatric urology patients often present with complex diagnosis. Multi-disciplinary conferences are not currently the standard for pediatric urology patients. We propose a "patient-centered" pre-operative multidisciplinary conference is valuable to pediatric patients as well as surgical trainees.

Methods:

- 1) Establish a working group of faculty and trainees invested in safety and education.
- 2) Design and define educational outcomes based on ACGME milestones.
- 3) Track key teaching elements from pediatric urologic cases.
- 4) Implement conference series and track participation, learning, and outcomes.
- 5) Residents' in-service scores (ISE) and monthly morbidity/ mortality rates would be used as surrogates to assess outcomes.

Results: A weekly "patient-centered, preoperative multidisciplinary conference" was established in 2012 incorporating pediatric specialists: radiology, nephrology, nursing, and urology. Participants were notified of the patients and topics to be discussed one week prior. Senior trainees supervise junior residents in preparation of the cases. The average ISE score of the Chief Residents improved by 12% since the implementation of the conference. There was a 49% decrease in the morbidity and mortality rate in the first three calendar years following implementation of the conference.

Conclusions: Our initial study shows an educational benefit without detrimental effect on surgical outcomes. We plan to formally document in the medical record the recommendations and treatment plan after each conference. The record will be accessible to all providers, including outside referring physicians, and key cases tracked for resident education.

COMMUNICATION BETWEEN PEDIATRICIANS AND SURGICAL SUBSPECIALTIES: CAN WE DO BETTER?

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Objectives: Effective communication between primary care physicians and surgical subspecialists is paramount for delivering quality patient care. Even in the current era of the electronic medical record there are still difficulties with lateral transfer of information between providers. In this study, we aimed to assess the method, speed and satisfaction of the current referral process and how it is perceived by those providers who use it.

Methods: We developed a 17 item survey to examine communication during the referral process between physicians and subspecialists caring for pediatric patients. In the spring of 2016, an invitation to complete the survey was sent electronically to physicians from several different institutions. Eligible responses were from pediatric primary care physicians and subspecialists practicing in the United States.

Results: There were a total of 418 responses, 12 of which were excluded due to incomplete information or practice locations outside of the US. The age of responders ranged from 30 to 74 years old and the average length of time in practice was 8.9 years. 92% of responses were from outpatient, clinic based pediatricians. The majority (97%) of physicians expected direct correspondence from the consultant, however, only 10% reported always receiving direct feedback. The preferred method of communication from the consultant was electronic (59%), or written (33%). 64% of physicians reported that they typically learn of the outcome of the referral from the patient or guardian and 65% of responders would be less likely to refer patients to a consultant if they do not receive correspondence about the outcome of the referral. 92% of physicians feel that lack of timely communication from consultants negatively impacts the quality of patient care.

Conclusion: Physicians caring for pediatric patients expect to receive prompt and direct correspondence from their consultants. Included in the Core competencies defined by the Accreditation Council for Graduate Medical Education are communication skills and system based practice. Our study clearly indicates a gap in this area of patient care and a need for improved communication between pediatric primary care and subspecialists.

LONG-TERM SEXUAL HEALTH OUTCOMES IN MEN WITH CLASSIC BLADDER EXSTROPHY

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Heather N Di Carlo, MD*; and John P Gearhart, MD*: Baltimore, MD (Presentation to be made by Major Tim Baumgartner, USAF)

Objectives: Long-term sexual outcomes and relationships in men born with classic bladder exstrophy (CBE) is an area of growing interest. The authors' aim is to further quantify these quality of life components to allow for enhanced psychosocial support and medical care in adulthood.

Materials and Methods: A prospectively-maintained institutional database comprised of 1248 patients with exstrophy-epispadias was utilized. Male patients 18 years or older with CBE were included. A 42-question survey was designed utilizing a combination of demographic information and previously validated questionnaires.

Results: A total of 215 men inclusion criteria, of which 113 (53%) completed the questionnaire. The mean age of the participants was 32 years. Ninety-six (85%) of the respondents had been sexually active in their lifetime, of which only 66 (58%) were moderately to very satisfied with their sex life. The average Sexual Health Inventory for Men score was 19.8. The Penile Perception Score revealed all aspects of assessment scored an average between very dissatisfied and satisfied.

Thirty-two respondents (28%) had attempted to obtain pregnancy with their partner. Twenty-three (20%) were successful in achieving pregnancy, while 31 (27%) reported a confirmed fertility problem. 31 (27%) reported having a semen analysis or post-ejaculatory urinalysis. Of the samples collected, only 4 individuals reported azoospermia.

Conclusions: CBE patients have many of the same sexual and relationship successes and concerns as the general population. This is invaluable data to provide to both the parents of boys with CBE, as it is to the patients themselves as they transition to adulthood.

OUR INITIAL EXPERIENCE WITH SINGLE SITE ROBOTIC SURGERY IN UROLOGY: TRAINING PATHWAY AND CASE PRESENTATION OF A URACHAL CYST EXCISION

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Objective: We sought to evaluate the feasibility and safety of single site robotic surgery for use in urologic surgery. Urologic single site robotic surgery is not approved by the Federal Drug Administration (FDA) but is approved for use in both general surgery and gynecology (GYN). There is no prescribed training pathway by Intuitive Surgical for DaVinci single site robotic surgery for urologic surgeons.

Methods: The staff urologist underwent dry lab and wet lab training at an Intuitive Surgery DaVinci training center along side a training staff GYN. All dry and wet lab GYN single site robotic surgery training modules were successfully completed. We evaluated our patient population and identified a 22-year-old active-duty male soldier who presented with an incidentally discovered urachal cyst following a work up for chronic midline abdominal pain. The patient developed chronic peri-umbilical pain following a ventral hernia repair with mesh. The patient was counseled for observation of the urachal cyst but opted for surgical excision via single site robotic surgery. We disclosed the lack of FDA approval and informed the patient of our initial experience with reassurance that the procedure could be converted to a standard multi-port robotic surgery if needed. The involved surgical residents, operating room technicians, and nurses completed on-line training and a dry lab training before participation in the surgery. A GYN staff and resident surgeon experienced with single site robotic surgery were present in an advisory role during port placement and docking of the robot.

Results: We opted for port placement off the midline away from the hernia repair, site of pain, and presumed scar tissue via 2.5 cm incision at the left lateral border of the rectus muscle at the level of the umbilicus. The short curved single site robotic trocars and instruments were placed under direct vision. The robot was docked. The urachus was completely excised from the abdominal wall and dissected off the bladder as aided by filling the bladder with saline. The bladder was not entered given the low malignant potential, absence of cyst contact with the bladder wall on imaging, and absence of urinary tract signs or symptoms. Total robotic surgery time was approximately 30 minutes. Estimated blood loss was less than ten millimeters. The patient was discharged that same day and had an unremarkable recovery. The cyst proved benign and was associated with mucinous glands. The patient continued to have peri-umbilical pain 6 months after surgery unchanged from his original chronic pain, but reported no pain or symptoms from the single site surgery. He has continued to follow up with general surgery for his chronic pain.

Conclusion: We present a feasible training pathway to safe use of single site robotic surgery in urology with appropriate patient counseling and patient selection.

Source of Funding: Department of Defense

REASONS FOR INTERRUPTION IN BACILLUS CALMETTE-GUÉRIN INDUCTION THERAPY AND AFFECTS PATIENT OUTCOMES

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(Presentation to be made by Dr. Andrew Franklin)

Introduction: Bacillus Calmette-Guérin (BCG) intravesical therapy is standard therapy for non–muscle-invasive bladder cancer. The accepted protocol is 6 instillation separated by a week without interruption. The purpose of this study was assess reasons for interruptions in completion of the standard BCG induction protocol at our institution, and whether these interruptions had any effect on disease progression and recurrence rates.

Methods: Retrospective chart review was performed on all patients undergoing induction BCG treatments from 2010-2015 at the Harry S Truman VA. Data was collected on initial diagnosis of bladder cancer, duration of treatment, interruption in treatment, and recurrence and progression rates at 12 months.

Results: 53 patients were identified that met criteria to be included in the study and a total of 66 induction BCG courses were given. Of these, 39 completed treatment with no interruptions (59%). In this group the average duration of treatment was 36 days. 8 patients (21%) had recurrence of bladder cancer and 1 (3%) had progression. 27 patients had interruptions in BCG treatment, and the average duration of treatment was 44.5 days. 1 (4%) patient experienced recurrence and 4 (14%) had progression. The most common reasons for delay in treatment were suspected UTI (63%), followed by hematuria (17%). There was not a statistically significant difference in the rate of progression between the uninterrupted and interrupted group (P=0.150). The rate of recurrence between the two groups did approach statistically significant, but was not (P=0.673).

Conclusions: This study found that the majority of patients being treated with intravesicle BCG for non–muscle-invasive bladder cancer will complete without interruption. However, a large minority will have at least one interruption and will likely either be related to an UTI or hematuria. Reassuringly, the rates of recurrences and progression do not differ from other published studies. There was no statistically significant difference between the two groups, however, the difference in rate of recurrence did approach significant favoring interruptions. This is an area that merits further study.

URETHRAL CANCER: A CASE OF ATYPICAL TREATMENT FOR AN UNCOMMON DISEASE

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(Presentation to be made by ENS Jessica Saeger)

Introduction: Urothelial carcinoma of the male urethra is rare and previously has been described only by case reports and single-institution case series. We describe a challenging case of a patient presenting with persistent urinary frequency, incomplete emptying, and recurrent UTI's, found to have urothelial carcinoma of the pendulous urethra. We review available treatment options and current guidelines for this rare disease.

Case Description: The patient is a 72 year-old Caucasian male with a history of BPH status post photo-vaporization of the prostate in 2014, presenting with increasing urinary frequency and urgency, small voids, sensation of incomplete emptying, and nocturia 3-4 times per night for several weeks. To aid bladder emptying, the patient was performing clean intermittent catheterization (CIC). He was residing in a community living center and was wheelchair bound due to a recent tibial fracture. Social history also included >50 pack-year smoking history. Physical exam revealed a firm, smooth, normal size prostate, with no palpable urethral mass. Cystoscopy showed a 14F bladder neck contracture, which would not allow passage of the cystoscope, posterior false passages from performing CIC, and circumferential papillary tumor of the pendulous urethra. Bladder neck contracture (BNC) balloon dilation was performed and biopsy of the pendulous urethra revealed noninvasive high-grade papillary urothelial carcinoma with focal squamous differentiation. The bladder was severely trabeculated but biopsy was negative for malignancy. Repeat cystoscopy showed superficial lesions of the penile urethra too extensive to treat endoscopically. Moreover, with his history of BNC and detrusor dysfunction requiring CIC, in addition to his functional capacity, it was decided performing CIC of a perineal urethrostomy would be problematic for him. The patient proceeded with cystoprostatectomy with urethrectomy and ileal conduit diversion. The patient recovered appropriately from surgery and was discharged on post-operative day 5 without any peri-operative complications. Final pathology confirmed high grade TaNO urothelial carcinoma with negative margins and he remains free of disease at 3 months.

Discussion: To date, there have been few studies that address treatment of urethral cancers due to its extremely low incidence. No consensus has been made regarding the best therapeutic approach. Small series have suggested that long-term survival depends on the ability to achieve loco-regional control. They have found that surgery alone gives suboptimal results but may be indicated in distal urethral low stage tumors. Chemotherapy has shown partial response before surgery. Combined modalities have proven efficacious tailored to location, histology, and staging, which is also reflected in the current NCCN Guidelines. Source of Funding: None.

TUMOR "ROUGHNESS" ON IMAGING PREDICTS MALIGNANT POTENTIAL

Kevan Iffrig, Aashish Kabra, Rahul Rajendran, Deepak Pruthi, Brian Neuman, Durham Kaushik, Sos Agaian, and Michael Liss

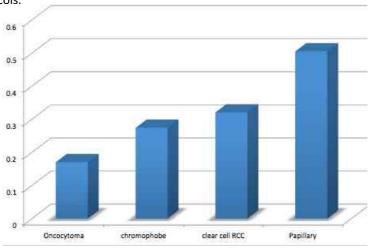
- 1. University of Texas Health Science Center, Department of Urology
- 2. University of Texas San Antonio, Department of Electrical and Computer Engineering

Introduction: To determine if image enhancement and calculation of tumor roughness could predict tumor aggressiveness on pathology.

Methods: We utilize a novel method to enhance computerized tomography (CT) images and apply a proposed algorithm utilizing three techniques; Domain Transform, Shape-adaptive edge enhancement, and Adaptive histogram equalization. Visually, the proposed method produces better or comparable enhanced images than several state-of-the-art methods. The engineers were blinded to the pathology results. Using the algorithm, they developed a roughness score that could be utilized to determine the variability in the surface tumor. The hypothesis was that the more tumor surface variability the more aggress the tumor.

Results: After IRB approval, images from 10 patients were de-identified and analyzed in the imaging laboratory at UTSA. A roughness score was given to each tumor and they were compared. Overall 3 oncocytomas, 2 chromophobe, 3 clear cell, and 1 papillary tumor that had undergone partial nephrectomy were included. The overall roughness scores between these subtypes were 0.17, 0.27, 0.32, and 0.50 respectively (ANOVA p=0.013, Figure 1).

Conclusion: Tumor roughness may be additional non-invasive imaging information available from the already obtained CT scans that could impact active surveillance protocols.



CUTANEOUS METASTASIS OF PROSTATE CANCER: A CASE REPORT

Phuong N Do, MC, USAF; Pansy Uberoi, MC, USA San Antonio, Texas Presentation to be made by Dr. Phuong N Do

Prostate carcinoma is the second most common cancer in men and the fifth most common cancer worldwide. It is also one of the leading causes of cancer-related mortality, second to lung cancer. Despite the high incidence and prevalence of prostate carcinoma, distant cutaneous metastases of prostate cancer occur exceptionally infrequently. Breast, skin, stomach, lungs, uterus, large intestine, and kidneys are the most frequent organs to produce cutaneous metastasis. In visceral malignancies, cutaneous manifestations occur between 2% - 9% and their presence is usually indicative of widespread, advanced disease, and poor prognosis. Cutaneous metastasis from prostate carcinoma has been previously cited with fewer than 0.1% incidence in all prostate carcinomas; compared to much higher rates in other types of cancers. We report a case of a patient with pT3NO, Gleason 4+3 disease, and an R1 resection who later developed recurrence of prostate carcinoma with cutaneous metastasis to the scalp during the course of the disease progression.

UROLOGY LITIGATION IN THE UNITED STATES: AN EVALUATION OF NEPHRECTOMY MALPRACTICE CLAIMS

CPT Seth P. Olcese MD, LT Jessica Saeger MSPH, Mr. Michael Lustik MS, MAJ John E. Musser MD, COL Leah P. McMann MD, LTC Joseph R. Sterbis MD Honolulu, HI (Presentation to be made by Dr. Seth P. Olcese)

Objectives: Malpractice claims pertaining to urologic procedures are a potentially valuable resource of information that can be utilized to improve patient care and diminish the risk of future litigation. Using a national database, we aimed to describe nephrectomy malpractice cases tried at the state and federal level and examine factors associated with successful defense by the provider.

Methods: We retrospectively reviewed the publically available Lexis Nexis academic legal database using the search terms "nephrectomy" and "medical malpractice" from 1985 to 2016. We then compiled data regarding various medical and legal aspects of the case including the type of nephrectomy performed, specialty of the provider sued, whether or not the hospital was included in the suit, the state appeal verdict and the primary claim. Unadjusted associations were tested between predictor variables and the outcome variable (successful defense by the provider) using univariate logistic regression.

Results: A total of 71 cases were identified using the search criteria. Duplicate entries and cases in which a nephrectomy was not performed were excluded. The remaining 39 cases revealed that 35 (89.74%) involved radical nephrectomy, 4 (10.25%) involved a partial nephrectomy, and 0 cases involved a partial converted to radical nephrectomy. Six (15.38%) were related to a transplant operation. Information regarding surgical approach was available for 10 cases, of which 8 were minimally invasive. Urologists were the most common provider sued (51.28%). Hospitals were included in 20 (52.38%) of the suits. State appeals were in favor of providers in 27 (69.23%) cases. The most common primary claim was missed diagnosis/negligence (64.10%), and of those cases 48.0% were related to an intraoperative complication, and 32% were related to a delay in diagnosis. Eight cases were due to improper surgery. There were no statistically significant predictors of a successful defense by the provider.

Conclusions: An awareness of urology malpractice litigation has the potential to result in improved patient care and may highlight potential risks for litigation. With access to larger and more comprehensive legal databases, it may be possible to identify events that often lead to malpractice claims while concomitantly improving patient care.

PYOCYSTIS: A SYSTEMIC REVIEW

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Objectives: Pyocystis or bladder empyema is a serious and often overlooked complication of the de-functionalized bladder. It can develop following urine diversion for benign urological disease if the bladder is left behind in up to 54% of patients. [1] It is reported to occur in patients with low output renal failure and in immunocompromised patients. Because of the infrequency of this devastating complication, the occurrence of pyocystis immediately prompts the practicing urologist to look for a review of its management. Data on the management of pyocystis is scarce, disperse, and the reports usually comprise of a small number of patients. A review article on Pyocystis is lacking. There is need for a comprehensive review to compile this information and provide definitive data on both medical and surgical management of pyocystis.

Materials and Methods: We conducted PubMed® research on available literature pertaining to pyocystis using key words alone and in combination: Pyocystis, supravesical urinary diversion, chronic dialysis, simple cystectomy, neurogenic, complications, and bladder.

Results: Much controversy surrounds the topic of definitive treatment for pyocystis and a management algorithm is lacking. Debate exists on whether the bladder should be removed following a supravesicle urine diversion for benign urological conditions. Pharmacologic treatment consists of oral, IV, or intravesicle antibiotics. Relevant surgical procedures include simple cystectomy and the creation of an iatrogenic vesico-vaginal fistula (Spence procedure). Conclusions: In patients that retain a non-functional bladder, regardless of the underlying condition, pyocystis presents as a rare but serious concern. Several antibiotic regimens serve as first line therapy. Simple cystectomy is the most reliable surgical option indicated for patients that prove resistant to pharmacological therapy. The authors propose a management algorithm. Detailed outline of proposed review

- (A) Etiology and Pathogenesis: This section of the proposed review will describe the etiology and incidence of pyocystis in the various urological conditions. Pathogenesis of pyocystis and the causative microorganisms will be discussed as well.
- (B) Controversy surrounding simple cystectomy in supravesicle urine diversion
- Here we will outline both the arguments that support keeping the bladder and those that advocate for its removal following supravesicle urine diversion for benign urological conditions.
- (C) Diagnostic evaluation: This section will describe the clinical presentation, laboratory and imaging findings in pyocystis.
- (D) Treatment: In this section, each treatment will be described and illustrated in detail. Regarding pharmacologic management; antibiotics regimens, dose, duration, and route will be described. We will elaborate on the described technique to perform simple cystectomy in this particular condition and the creation of vesico-vaginal fistula in females.

Treatments discussed include: 1- Oral Antibiotics, 2- IV Antibiotics, 3- Intravesicle Antibiotics, 4- Simple Cystectomy, 5- Creation of iatrogenic vesico-vaginal fistula

- (D) Treatment Algorithm: This section will contain a treatment algorithm proposed by the authors based on the best evidence collected from the review.
- (E) Summary and Conclusions: The findings of our review will be analyzed and used to propose recommendations to the practicing urologists.

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FETAL LOWER URINARY TRACT OBSTRUCTION FROM APHALLIA

John Q. Schisler MD, Christina Hill MD*, Susan Donlon, MS, CGC*, Donald J Gloeb MD*, Karen L. Burmeister MD*, Leah P. McMann MD, FACS: Honolulu, HI (Presentation to be made by Dr. Schisler)

Background: Penile agenesis (aphallia) is a rare, sporadic form of ambiguous genitalia with fewer than 100 cases reported in the literature. We present an infant with prenatally diagnosed lower urinary tract obstruction (LUTO) treated with a vesicoamniotic (VA) shunt that was found after delivery to have aphallia and urethral agenesis. This represents the second reported case of a VA shunt placed in a fetus with this condition.

Case Report: The baby was born at 37 4/7 weeks by spontaneous vaginal delivery to a 24-year-old mother whose prenatal course was complicated by identification of LUTO. Oligohydramnios suddenly developed at 19 weeks. Urine electrolytes, 46 XY karyotype, and renal ultrasound were normal. The mother was transferred to a fetal intervention center where an enhanced ultrasound showed a left multicystic dysplastic kidney, a single umbilical artery, and ambiguous genitalia, among other abnormalities, suggesting a possible underlying syndrome. Despite these findings, the mother elected to pursue VA shunt placement. By 22 weeks gestation, bilateral polycystic kidneys and anhydramnios developed despite the shunt remaining in a good position in the fetal bladder. The baby ultimately died of respiratory failure a few hours after delivery at 37 weeks. Newborn exam was significant for aphallia, a normally-rugated scrotum, nonpalpable testes, a patent anus with no evidence of fistula, and bilateral talipes. Autopsy findings were significant for polycystic kidneys, hypoplastic lungs, bilateral diminutive ureters draining into a normal size bladder with no evidence of a bladder outlet, urethra, phallus, or urethral fistula to the GI tract. There was a blind ending sigmoid and an absent rectum. Bilateral testes, epididymis, and vas deferens were found in the abdomen.

Discussion: Aphallia results from a failure of mesenchymal cells to proliferate and create the genital tubercle in the 4th week of gestation. Although ambiguous genitalia was detected prenatally, aphallia was not initially considered in this patient because of the rarity of this disorder. Aphallic infants with urethral agenesis and renal dysplasia, like this patient, have high mortality rates. A VA shunt was placed to mitigate sequelae from fetal LUTO and potentially improve survival. Our patient represents only the second case in the literature in which a VA shunt was used to intervene on fetal LUTO secondary to aphallia. Ultimately, however, the infant did not survive due to the severity of his disease.

FIRST DO NO HARM: PREDICTING SURGICAL MORBIDITY DURING HUMANITARIAN SURGICAL MISSIONS

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Presentation to be made by Dr. Berger.

Objectives: Despite the best of intentions, humanitarian surgical missions are invariably and unavoidably linked to some degree of complications. We hypothesized that the American College of Surgeons Surgical Risk Calculator (ACS-SRC) could estimate the risk of complications of procedures performed during the US Navy's Pacific Partnership 2015 (PP15) mission.

Methods: Patient and surgical details recorded during PP15 were entered into the ACS-SRC. Risks of various complication types for each procedure were calculated and weighted by the frequency with which that specific procedure was performed. Weighted percentages were aggregated, producing a total estimated risk for each unique complication. Calculated ACS complication risks were compared to PP15 observed complications utilizing a Wilcoxon signed-rank test.

Results: 99 of the 174 unique procedure types performed during PP15 were found in the ACS-SRC. The overall estimated risk for the mission revealed a 2.6% risk (IQR 1.4, 4.2) of "serious" complications and 2.1% risk (IQR 1.0, 3.9) of "any" complication. Calculated risk of specific complications (as defined by the ACS-SRC) were as follows: cardiac 0.1%, surgical site infection 0.9%, urinary tract infection 0.3%, venous thromboembolism 0.2%, renal failure 0%, return to OR 1.4%, and death 0%. The only ACS-SRC defined specific complication observed was "return to OR" (0.3%). The observed procedural complication rate for "serious" or "any" complications (ACS-SRC definition) were 0.3% (2/582) and 0.7% (4/582) respectfully. Observed complications were statistically significantly lower than the calculated risk (p-values <0.0001).

Conclusions: The ACS-SRC appears to offer a good starting point as a humanitarian surgical mission risk calculation tool. Although it overestimated risk during this surgical mission, observed outcomes may be limited by loss to follow-up bias. Emphasis should be placed on establishing patient follow-up and outcomes reporting as part of humanitarian surgical mission planning and execution.

COST AND RADIATION EXPOSURE IN THE WORKUP OF FEBRILE PEDIATRIC URINARY TRACT INFECTIONS

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Maj Timothy S. Baumgartner M.D., Brian Kim*,
Thangamadhan Bosemani M.D.*, and Ming-Hsien Wang M.D.*
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(Presentation to be made by Maj Tim Baumgartner)

Background: Technetium-99m dimercaptosuccinic acid (DMSA) scans are often utilized in the evaluation of pediatric patients with febrile urinary tract infections (UTIs). Given the prevalence of febrile UTIs; we sought to quantify the cost, radiation exposure, and clinical utility of DMSA scans when compared to dedicated pediatric renal ultrasounds (RUS).

Materials and Methods: An IRB approved retrospective study of children under the age of 18 evaluated at our institution for febrile UTIs between the years 2004-2013 was conducted. The patients had to meet all of the following inclusion criteria: a diagnosis of vesico-ureteral reflux, a fever > 380 Celsius, a positive urine culture, and evaluation with a DMSA scan and RUS. A chart review was utilized to construct a cost analysis of technical and professional fees, radiographic results, and radiation dose equivalents.

Results: 104 children met the inclusion criteria. A total of 122 RUS and 135 DMSA scans were performed. The technical costs of a DMSA scan incurred a 35% cost premium as compared to a RUS. The average effective radiation dose of a single DMSA scan was 2.84 mSv. New radiographic findings were only identified on 7% of those patients who underwent greater than 1 DMSA scan.

Conclusions: The utility of the unique information acquired from a DMSA scan as compared to a RUS in the evaluation of a febrile UTI must be evaluated on an individual case by case basis given the increase direct costs and radiation exposure to the patient.

TWO FISTULAS IN ONE PATIENT: URETEROILIACAL AND VEICOINTESTINAL. WICH CAUSED THE BLEEDING? CASE REPORT

Karl von Dobschuetz M.D., Roland Bartmuss M.D.(*), Professor Christoph Sparwasser M.D.: Ulm, Germany Presentation to be made by Dr. Karl von Dobschuetz

Ureteroiliacal fistulas are rare. Ureteroarterial fistulae can occur in association with prolonged ureteral stenting, radiation therapy, vascular pathology, and prior pelvic or vascular surgery. Identification of a fistula is often difficult and requires the physician to be highly alert and vigilant. In our case the patient had two fistulas: a vesicointestinal fistula and an ureteroiliacal fistula.

We present the case of a 60 year old male who came to our ER with hematuria and colorectal bleeding in early 2016. Three years before he had open surgery for a colorectal carcinoma with neoadjuvant radiotherapy. The initial surgery was followed by multiple abdominal surgeries for complications. In the end he developed a frozen abdomen and with a colostomy of the ascending colon. As an longtime side effect of the radiotherapy he developed strictures of both ureteral orifices which had to be addressed with continuous ureteral stenting.

Because of the life-threatening bleeding the patient received extended diagnostics with cystoscopy, colonoscopy and a CT scan. No source of the bleeding could be identified in the endoscopic procedures. The CT scan showed a right iliacal aneurysm an iliacal cross over bypass from right to left. A transurethral resection was performed to close the vesico-intestinal fistula. As this did not solve the problem, an open closure was done. After the closure the bleeding stopped for two weeks but after that the severe gross hematuria started again. An angiography showed a very small fistula from the right iliacal artery into the ureter. An endovascular approach was impossible so an open repair was planned. Due to the fragile arterial wall, the aneurysm ruptured and was sutured. The Ureter could not be safely separated from the vessel and was therefore ligated and a nephrostomy was placed. In the following hours the patient developed cold legs on both sites. The diagnostics showed no sufficient arterial blood flow. So an axilloiliacal bypass had to be performed as an emergency procedure. The chance to survive these multiple operations was extremely low. Nevertheless, ten days later the patient left the hospital into outpatient care.

DELAYED DIAGNOSIS OF ILIAC VEIN INJURY: A SEVERE COMPLICATION AFTER RETROPUBIC MID-URETHRAL MESH SLING PLACEMENT

Pansy Uberoi MD, MPH; Forrest Jellison MD San Antonio, TX (Presentation to be made by Dr. Pansy Uberoi)

Introduction: Tension-free synthetic mesh midurethral slings is the most common treatment for female stress urinary incontinence. Perioperative vascular injuries during placement of a retropubic mid-urethral sling are uncommon, but have been described.

The objective of this case report is to describe a complication of delayed presentation from vascular injury not previously documented in the literature.

Methods: Case Report

Results: A 69 year old woman with stress urinary incontinence underwent placement of a retropubic mesh mid-urethral sling and subsequently developed persistent left abdominal, groin, and leg pain postoperatively. The patient had no vascular symptoms related to her sling placement. Sling revision with partial removal of the suburethral portion was attempted at an outside hospital, but her symptoms failed to improve.

After evaluation she underwent removal of the remaining suburethral portion and left arm of the retropubic sling. During her second revision surgery, she experienced catastrophic bleeding from the sling located in her left external iliac vein. The life-threating injury required saphenous vein patch repair by Vascular Surgery.

Conclusion: This is the first description of a delayed diagnosis of vascular injury without urologic symptoms following retropubic mid-urethral mesh sling. This lifethreating complication should be considered and patients appropriately counseled prior retropubic sling revision.

Source of Funding: None

Disclaimer: The view expressed are those of Drs Pansy Uberoi and Forrest Jellison and do not reflect the official views or policy of the Department of Defense or its Components.

FOURNIER'S GANGRENE: A STANDARDIZED PATHWAY FOR TREATMENT

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University of Texas Health Science Center San Antonio

Fournier's gangrene (FG) is an infectious necrotizing fascitiitis of the genital and perineal regions. It is a condition with life-altering outcomes and high mortality rates, often cited between 10-40%, or even higher. It is a true urologic emergency and delay in care increases morbidity and mortality as it is a rapidly spreading disease process. We propose a standardized treatment pathway with the intention to streamline care for those with this condition. This pathway is intended to help providers with early disease recognition and treatment as well as planning for longterm care. Although patients with FG will often be recognized and taken swiftly to the operating room and started on broad spectrum antibiotics, delay in long-term care planning (closure, grafting, physical therapy, occupational therapy, nutrition, diabetes control, social services, etc) may increase length of stay and worsen overall outcomes. We have initiated this pathway at several of our institutions, which will enable us to compare outcomes and troubleshoot the limitations in different healthcare and socioeconomic situations. Preliminary outcomes and practical aspects of implementation will be discussed with the ultimate goal of forming best practice guidelines.

Project Goals/Outcomes:

1. Return patients to normal function within 30 days of presentation. 2. Standardize and streamline treatment to decrease morbidity and mortality and improve treatment efficiency to lower health care costs as well 3. Improve treatment follow up and long term care as many with FG are of lower socioeconomic status 4. To trouble-shoot the limitations in different healthcare and socioeconomic situations associated with FG 5. Establish a database of FG patients among our institutions to compare outcomes and improve treatment guidelines 6. Perform patient surveys to evaluate long-term quality of life and health care received

PREOPERATIVE ASYMPTOMATIC BACTERIURIA AND SUCCESS RATES OF UROLOGIC PROSTHETIC SURGERY

CPT Karmon Janssen, D.O.*, CPT Robert D. Norman, M.D., LTC Jack R. Walter, M.D.*: Tacoma WA (Presentation to be made by Dr. Karmon Janssen)

Purpose: It is a well established practice among urologist to treat preoperative positive urine culture (>10^5 CFU) prior to prosthetic surgery, as there are concerns for increased risk of perioperative infections and complications. However, there is limited literature regarding the effect of asymptomatic bacteriuria and/or the presence of mixed normal skin flora on preoperative urine cultures in the setting of elective genitourinary prosthetic surgery. The purpose of this study was to review asymptomatic bacteriuria and/or mixed normal skin flora on urine cultures for patients that underwent urologic prosthetic surgery at Madigan Army Medical Center and assess if there was a correlation with postoperative infectious complications.

Materials and Methods: A chart review of all consecutive male elective genitourinary prosthetic surgery, specifically, penile prosthesis (PP) or artificial urinary sphincter (AUS) performed at Madigan Army Medical Center from 1 July 2006 to 1 May 2016. Patient demographics, preoperative urine cultures, type of prosthetic (manufacturer), perioperative antibiotic, and postoperative complication, if applicable were documented. Exclusion criteria were individuals whose cases were aborted secondary to intraoperative surgical complications and those individuals whose surgery were performed for salvage replacement therapy after initial primary prosthetic infection. At the time of this abstract n= 98 prosthetic surgery cases were reviewed. Three groups were identified based on preoperative urine cultures: Group 1(no growth), Group 2 (mixed normal skin flora or growth of organism with <10^5 CFU), Group 3 (positive urine culture, defined as organism >10^5 CFU). Complications were divided into infectious and noninfectious.

Results: There were a total of 11 infectious complications documented. Table 1 represents these findings per individual groups. Interestingly, Group 3 had no complications documented (0/3, 0%). Table 2 breaks down the total of each group by prosthetic device. There was no single organism associated with complication outcome in Group 1 or 2.

Table 1, infed	tious complicat	ion by g	roup and p	rosthetle t	/pe		
Infectious Complications			399		- Ga	Cimbo	
Group 1				ē	(0.90)	0	
Group 2				4	- 0	0	
Omup 3				13	- 8	- 0	
Total				10	0.90)	0	
Table 2. Tot	al number of g	prosthe	tic placen	nent by ea	ch group	ention.	
100							
AUS		40	- 2			1.[6%]	

Conclusion: There have been no studies to our knowledge that have evaluated the association of preoperative asymptomatic bacteriuria and/or presence of mixed normal skin flora and postoperative complications. The results of this small, single site study suggest that asymptomatic bacteriuria and/or mixed normal skin flora preoperative urine cultures seemed to correlate more frequently with IPP than AUS postoperative infectious complications.

IN-SITU ACTIVATION OF TESTICULAR SPERM PROGENITOR CELLS WITH LOW INTENSITY EXTRACORPOREAL SHOCK WAVE THERAPY

Amanda B. Reed-Maldonado*, Bohan Wang*, Tie Zhou, Yajun Ruan, Jun zhou, Chris Wang, ByungSeok Oh, Lia Banie, Guiting Lin, James Smith, and Tom F. Lue University of California, San Francisco.

Objective: Male fertility can be harmed by the surgical removal of the testicles or by chemotherapy or radiation that damages sperm quantity, quality or DNA. Currently, there is no best approach to preserve the fertility. With the aim to explore a potential method to stimulate sperm progenitor cells, we studied the feasibility of extracorporeal in-situ sperm progenitor cell activation by Low Intensity Extracorporeal Shock Wave Therapy (Li-ESWT) in vivo.

Material and Methods: This is a cohort analysis of young male Sprague-Dawley rats treated with 5-ethynyl-2'-deoxyuridine (EdU) pulse followed by Li-ESWT. Thirty minutes before Li-ESWT treatment each rat received intraperitoneal injection of EdU (50mg/kg). Li-ESWT was applied twice in one week in different dosages at very low (0.0088 mJ/mm2, 3 Hz for 300 pulses), medium (0.02 mJ/mm2, 3 Hz for 300 pulses), or high (0.0241 mJ/mm2, 3Hz, 500 pulses) energy levels. At time points of 48 hr post second Li-ESWT, testicular tissues were harvested for histological study to assess the EdU+ cells, Ki67, c-kit, and VASA (DDX4).

Results: Li-ESWT significantly increased EdU+ cells within testicular seminiferous tubules (P<0.01) at 48 hours in all three groups including low, medium and high dosage groups. EdU+ percentage of seminiferous tubules in each group was 22.1%, 27.1%, 32%, and 36.3%, respectively, where a dosage depended relationship was noted. Most EdU+ cells were spermatogonia while few spermatocytes also expressed EdU. Li-ESWT enhanced the expression of c-kit and VASA in the low, medium and high dosage groups (P<0.01). In addition, proliferation-related marker Ki67 was extensively upregulated in the low, medium and high dosage groups after Li-ESWT treatment (P<0.01).

Conclusions: Extracorporeal in-situ testicular sperm progenitor cell activation is a novel, noninvasive therapeutic approach to improve male fertility through activation of endogenous stem/progenitor cells.

^{*} Authors contributed equally

NOVEL USE OF EN BLOC HORSESHOE KIDNEY TRANSPLANTATION IN A SIMULTANEOUS KIDNEY-PANCREAS RECIPIENT

Hoang-Kim T. Le, MD, Debra K. Doherty*, MD, Jacqueline A. Lappin*, MD: Temple, TX

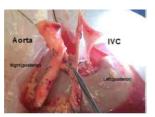
Presentation to be made by Dr. Hoang-Kim Le

Introduction: The horseshoe kidney represents the most common renal fusion anomaly, occurring in one out of 400 people. Potential challenges exist regarding their use in transplant surgery and in maintenance thereafter. Even so, horseshoe kidneys have successfully served as renal allografts in transplantation, more often after the moieties have been split. We describe a never-before reported case in which en bloc horseshoe kidneys from a pediatric donor were successfully transplanted into a simultaneous kidney-pancreas recipient.

Methods: The transplant recipient is a 43 year old Hispanic female with Type I, insulin-dependent diabetes. She was a preemptive transplant recipient. The donor was a 14-year-old Caucasian male who suffered brain death from trauma. CT scan of the abdomen and pelvis revealed horseshoe kidney with normal enhancement pattern. The pancreas was unremarkable. The donor surgeon determined that splitting the kidneys could potentially harm both kidneys, and the decision was made to procure and transplant them en bloc. The donor IVC was anastomosed to the left common iliac vein. The donor renal arteries were anastomosed with aorta to the junction of the left common iliac artery and the left external iliac artery. The ureters were spatulated and anastomosed together to the bladder extravesically. The pancreas was transplanted in a straightforward, unremarkable manner.

Results: Reperfusion of the kidneys proved good blood flow and excellent tone, and postoperative Doppler ultrasound of the organs were reassuring. The patient is now 24 months out from her transplantation. Her most recent creatinine was 0.83 mg/dl which has been stable. She remains insulin free. Due to prior history of nephrolithiasis, metabolic workup was performed which revealed hypocitraturia. She has been treated with potassium-citrate.

Conclusions: This case illustrates that en bloc use of horseshoe kidneys can be used successfully in simultaneous pancreas-kidney transplants. Long term outcomes and potential complications including de novo malignancy, risk of stone formation and infection inherent to horseshoe kidneys have yet to be evaluated due to lack of long-term follow up.



ROUTINE URETHROGRAPY AFTER BUCCAL GRAFT BULBAR URETHROPLASTY: THE IMPACT OF INITIAL URETHRAL LEAK ON SURGICAL SUCCESS

Purpose: The long-term impact of extravasation at initial post-urethroplasty urethrogram is unknown. We present a novel classification system for post-urethroplasty extravasation and report the association of leak severity with outcome.

Materials and Methods: 91 patients underwent buccal graft urethroplasties of the bulbar urethra from 2007-2015. Median time to urethrogram was 23d. All leaks were characterized by length and width. Cutoffs for length and width were calculated using ROC curves. Each urethrogram was graded 0-3 (0=no leak) with one point given for any leak, length ≥1.03 cm, and width ≥0.32 cm. Failure was stricture recurrence on cystoscopy. 1-Year failures were compared using Fisher's test. Kaplan-Meier curves were constructed to measure the impact of variables on recurrence.

Results: Mean age was 46.1 years. Of 91 urethroplasties, 31 had extravasation on initial imaging. With median followup of 11 months, 15 patients had stricture recurrence, 6 of whom had leak on initial urethrogram. For patients with at least 1 year of follow-up, there was no difference at 1-year for failures, as to any leak (p=0.220), length (p=1.000), width (p=1.000), or grade (p=0.823). Grade 3 were associated with higher failure rates compared to \leq 2 using Kaplan-Meier curves (p=0.031), with the curves significantly diverging around the 1-year mark. Similarly, length \geq 1.03 cm was associated with higher failure rates compared to \leq 1.03 cm beyond 1 year (p=0.044).

Conclusions: While there is no indication that leaks at 3 weeks are associated with short term failure, leak length and width appear to be a predictor of longer-term recurrence (>1yr).

LT GEN BERNIE MITTEMEYER—THE REAL BERNIE!

James T. Turlington, M.D., Brig Gen USAF (Ret)
Presented by Dr. Turlington

Objective: To outline the life and contributions of one of the most prominent and highly decorated military urologists in history.

Methods: Review of historical data plus personal interview with Gen Mittemeyer **Results:** A portrait of a truly amazing military officer, physician, and leader in all aspects of medicine...military and civilian, to include academics.

Conclusions: It is possible to have a fulfilling military career...operational, medical, and as a leader..and continue at an even higher level after military retirement.

CONTINUOUS FLOW ENDOSCOPIC LITHOTRIPSY: AN INNOVATIVE MODIFICATION OF THE ACCESS SHEATH AND A NOVEL SURGICAL TECHNIQUE

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(Presentation to be made by Dr. Shaw P. Wan, M.D.)

Objectives: Access sheath is a common surgical device used in the urinary stone surgery. It serves as a conduit to the stone and allows multiple passages of the endoscope without disturbing the urinary mucosa. However, it grants only passive egress of stone fragments and irrigation fluid, and passive reduction of intra-luminal pressure. It neither prevents stone migration nor improves visualization. We made an innovative modification of the conventional access sheath and developed a continuous flow lithotripsy technique to address these deficiencies.

Materials and Methods: We added an oblique suction-evacuation channel with a pressure control vent to the existing access sheath in the form of a handle. Continuous irrigation is delivered through the endoscope. The irrigation fluid and tiny stone fragments egress between the scope and sheath under continuous suction. This setup creates a continuous flow milieu for the lithotripsy. This is the same principle used in the continuous flow resectoscope. When larger stone fragments come into the sheath that are too large to pass between the scope and the sheath, the scope is withdrawn to just proximal of the bifurcation. This opens up the channel for the evacuation of such fragments. This modification in the percutaneous nephrostomy sheath was successfully used in 141 patients, including 27 children, with renal stones up to 2.5 cm in size. The same modification in the ureteral access sheath was successfully used in 74 patients with ureteral stones or steinstrasse.

Results: In patients with renal stones, we were able to complete the surgery using only 10 to 14 French sheath and the majority (93.7%) been 12 French. The initial stone free rate was 90.1% and this rate increased to 95.8% at three month follow up₁. In patients with ureteral stone or steinstrasse, we achieved a 97.3% immediate stone free rate and 100% at one month follow up₂. Complications in both renal and ureteral stone patients were minimal. One patient with ureteral stone suffered a false passage, a Clavien grade IIIa complication. All the other complications were Grade II or less. We noticed improved visualization and no observed stone migration. The modified sheath was found to be effective in the management of steinstrasse. In addition, the continuous irrigation and suction created a vortex that extended only one to two centimeters beyond the scope; thus no pressure was transmitted further into the rest of the urinary tract. This resulted in a low intraluminal pressure system for the lithotripsy.

Conclusions: Our modified access sheath is safe and effective for usage in the urinary stone surgery. It improves surgical efficacy, visualization, and stone clearance. It allows miniaturization of the endoscopic lithotripsy. Furthermore, it prevents stone migration, reduces intra-luminal pressure, and offers a remedy for the steinstrasse.

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References:

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I AM A STRANGER HERE MYSELF - A GERMAN MILITARY UROLOGIST WITH THE UNITED STATES FORCES - EXPERIENCES FROM THE CARIBEAN TO THE HINDUKUSH

This is a personal experience report of a german military urologist working in an all american environment in humanitarian and military missions. Starting with the Navy in the Continuing Promise 2015 mission, being continued with the Air Force in the Craig Joint Theater Hospital in Bagram. In both missions a urologist was requested with the latter being regulary staffed with a german urologist since April 2015.

Multiple procedures have been performed, numerous outpatients have been seen during that period of time. It prooved, that an urologist either in humanitarian and combat operations is essential. In the latter unnessecary StratAirMedevac could be avoided due in theater treatment an host nation military received best possible care which could not be provided by the host nations medical service.

These missions have been and still are challenging. Even more, when one encounters a completly different medical system, different instruments, different medications and different standards of treatment. Being the sole german required high flexibilty, tenacity and an excellent medical knowledge to deliver the best treatment possible and becoming part of the team. The short rotations, compared to the US forces demand a in depth handover and patience from the host who is dealing with numerous specialist of different experience during one deployment. It is not only a challenge but a great opportunity to expand knowledge, form bonds between nations and make friends. Nobody stands alone. Future operations will be more and more multinational. A regular exchange program would be a great chance to create deeper bonds between our military medical service.

Keywords: military urology, multinational operations, Continuing Promise 2015,

HEAD-TO-HEAD PHARMACOKINETIC AND PHARMACODYNAMIC COMPARISON OF SUBCUTANEOUS VERSUS INTRAMUSCULAR LEUPRORELIN ACETATE FORMULATIONS IN MALE SUBJECTS

Introduction: Leuprolide acetate (LA) is the standard-of-care luteinizing hormone-releasing hormone (LHRH) agonist used to suppress serum testosterone (T) in the treatment of advanced prostate cancer. There are currently two LA formulations available: a controlled-release implant injected subcutaneously (SC) or a microsphere intra-muscular (IM) injection. The study compared the pharmacokinetics/pharmacodynamics of both formulations at the same one-month dose.

Methods: Thirty-two healthy men were randomized to receive a single 7.5 mg injection of SC-LA (n=16) or IM-LA (n=16) in this phase 1, open-label, parallel-group study. Serum LA, T, and luteinizing hormone (LH) were assessed.

Results: The initial surge of LA was higher for IM-LA than SC-LA (Cmax 27 \pm 4.9 vs. 19 \pm 8.0 ng/mL, respectively), with a shorter t_{max} (1.0 \pm 0.4 vs. 2.1 \pm 0.8 hrs). Mean serum LA remained above the level of quantification (LOQ, 50 pg/mL) through Day 49 for SC-LA, whereas for IM-LA, mean serum LA dropped below the LOQ after Day 28 (Figure 1). SC-LA demonstrated a longer duration of LH suppression, with median levels remaining below 1.0 IU/L through Day 56 compared to IM-LA where LH started to rise by Day 35. Consequently, serum T began to increase by Day 42 in the IM-LA group. By Day 56, 13 SC-LA subjects maintained serum T levels \leq 50 ng/dL vs. 0 in the IM-LA group. Both SC-LA and IM-LA were well tolerated, however SC-LA subjects experienced more mild injection site disorders compared to IM-LA.

Conclusions: Both formulations offered consistent drug delivery over the 1-month dosing period. SC-LA demonstrated a longer duration of action compared to IM-LA, despite the same dosing of active drug. As a result, subjects treated with SC-LA experienced a longer period of suppression of serum LH and T, up to 56 days postinjection. This prolonged delivery of LA and subsequent T suppression increases confidence in efficacy if injection timing is delayed, which may be relevant at busy military institutions.

Mike a Few lined Notes Pages



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