15th ANNIVERSARY LUGPA
Since 2008

2023 ANNUAL MEETING

Celebrating "U"rology: 15 years of Advancing Independent Practice

CME Program

Turning Impossible to Possible:
Solutions to Drive High Quality Care

November 2, 2023

Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

lugpa.org

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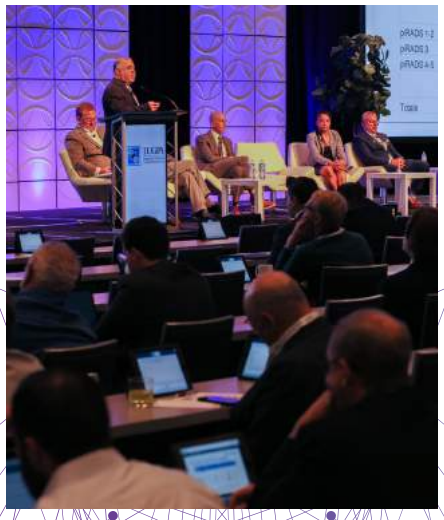
LUGPA 2023 CME Program

Table of Contents



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Welcome from the Program Chairs

Dear Colleagues:

Welcome to Disney World and the LUGPA 2023 CME Program. This year's theme, **Turning Impossible to Possible: Solutions to Drive High Quality Care**, will deliver an outstanding educational experience as we celebrate LUGPA's 15th Anniversary. We believe the topics covered in this meeting and the format will be practical and offer real-time solutions for the independent urologist.

The program begins with a panel discussion on "Successful Bladder Cancer Programs". First, Tom Jayram, MD, will lead and moderate this session that will highlight the practical clinical and operations approaches, and answer questions about treating bladder cancer with panelists Jonathan Henderson, MD, Jay Krishnan, MD and Daniel Saltzstein, MD.

We will then hear about "Building a Successful Female Health Program" from Guy Manetti, MD, Sarah Girardi, MD and Anika Ackerman, MD about ways LUGPA practices can provide high quality urologic care to woman. Next, we are looking forward to learning about the latest findings in Radiation Oncology from a leading researcher and urologist Dan Spratt, MD.

For the second half of the program, Greg Eure, MD will lead a discussion on "New BPH Treatments". This session will feature Arpeet Shah, MD, Kevin Zorn, MD and Tom Mueller. Next, Ben Lowentritt, MD will moderate a case-based discussion on "Best Practices for Active Surveillance" with panelists David Morris, MD, Aaron Berger, MD, Ronney Abaza, MD and E. David Crawford, MD.

Finally, we will conclude the program with an important topic of "Artificial Intelligence in Urology" from a world-renowned urologist, Inderbir Gill, MD and expert Jodi Maranchi, MD from the University of Pittsburg Medical Center.

We look forward to your attendance and participation at the 2023 Annual CME Program.

Gordon Brown

Gordon Brown, DO, FACOS
Co-Chair, LUGPA

Jason Hafron

Jason Hafron, MD
Co-Chair, LUGPA

LUGPA 2023 CME Program

Program Faculty

Program Co-Chair
Gordon A. Brown, DO, FACOS
Associate Professor
and Program Director,
Rowan University School of
Osteopathic Medicine,

Director of New Jersey Urology's
Center for Advanced Therapeutics
Bloomfield, New Jersey

Program Co-Chair
Jason Hafron, MD
Chief Medical Officer and
Director of Clinical Research,
Michigan Institute of Urology (MIU),

Professor of Urology
William Beaumont School of
Medicine, Oakland University
LUGPA Board of Directors, Member
Troy, MI

Ronney Abaza, MD
Urologist
Central Ohio Urology Group, Inc.

Founder and Medical Director
St. Vincent Hospital's
Laparoscopy, Simulation &
Robotics Training Center
Dublin, OH

Anika Ackerman, MD
Urologist
Garden State Urology
Whippany, NJ

Aaron Berger, MD
Chief Medical Officer and
Director of Clinical Research
Associated Urological Specialists
(AUS)
Burr Ridge, IL

E. David Crawford, MD
Professor of Surgery,
Urology and Radiation Oncology
Head, Urologic Oncology
University of Colorado,
Anschutz Medical Campus
Denver, CO

Gregg Eure, MD
Urologist
Urology of Virginia
Virginia Beach, VA

Inderbir Gill, MD
Distinguished professor
and chairman,
Catherine & Joseph Aresty
Department of Urology; executive
director at USC Institute of Urology

Shirley & Donald Skinner Chair
in Urologic Cancer Surgery at the
Keck School of Medicine,
University of Southern California
Los Angeles, CA

Sarah Girardi, MD
Urologist and Partner
Integrated Medical Professionals
Manhasset, New York

Jonathan Henderson, MD
Urologist
Arkansas Urology
LUGPA Board of Directors,
Immediate Past President
Little Rock, AR

Gautam Thomas Jayram, MD
Co-Director, Advanced
Therapeutics Center
Urology Associates,

Professor of Urology,
Vanderbilt University
Nashville, TN

Jayram Krishnan, DO
Urologist
Summit Health
Voorhees, NJ

Benjamin Lowentritt, MD
Director of Prostate Cancer
Services, Director of
Comprehensive Prostate Cancer
Care Program, Director of Minimally
Invasive Surgery and Robotics at
Chesapeake Urology Associates,
a member of United Urology Group
LUGPA Board of Directors Member
Owings Mills, MD

Guy Manetti, MD
Urologist
Urology Associates of Danbury PC
Danbury, CT

Jodi Maranchi, MD
Associate Professor of Urology
University of Pittsburgh School
of Medicine
Pittsburgh, PA

David S. Morris, MD
President and Co-director for the
Advanced Therapeutics Center,
Urology Associates
Nashville, TN

Thomas Mueller, MD
Urologist
New Jersey Urology

Residency Director for
Rowan University School of
Osteopathic Medicine
Moorestown, NJ

Daniel Saltzstein, MD
Urologist
Urology of San Antonio
San Antonio, TX

Arpeet Shah, MD
Urologist and Director
of APP Program
Associated Urological
Specialists, LLC
Orland Park, IL

Dan Spratt, MD
Chairman and Professor of
Radiation Oncology at University
Hospitals (UH) Seidman Cancer
Center and Case Western Reserve
University (CWRU)
Cleveland, OH

Kevin Zorn, MD
Urologists, BPH Specialist
Steinberg Urology
Montreal, QC

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Educational Needs

Educational Objectives

The specialty of urology has been developing with exceptional rapidity as evidenced by the multitude of FDA approved diagnostic, imaging and therapeutics for both oncologic and nononcologic management of prostate, bladder, and other genitourinary diseases. Independent practice urologists are also challenged with establishing clinical specialty areas such as women's sexual health.

Concomitantly, urology practices are recognizing the importance of providing state-of-the-art care for these patients which can involve both multidisciplinary care as well as maintaining their existing expertise and strengthening their clinics of excellence, and thus allow them to remain competitive with large health systems and private equity acquisitions of independent practices. Challenges involve providing ongoing education to address not only the most recently presented/published trial data of these above-mentioned advances and innovations but also how to best operationalize, understand and optimize diagnosis, reduce complications, evaluate therapeutic selection and ongoing management of the patient. Thus, the course will address these issues specifically focusing on advanced technologies which may change current practice patterns for genitourinary patients with both malignant and non-malignant conditions and issues that impact the independent practicing urologist.

Educational Objectives

At the conclusion of the LUGPA 2023 CME Program, attendees will be able to:

1. Evaluate the differences in therapies used to treat urologic cancers.
2. Analyze the optimal way to monitor and test for the treatment prostate cancer.
3. Adopt and develop best practices in the administration of bladder cancer therapies
4. Identify the clinical and operational components to establish a successful female sexual health program.
5. Describe the various treatment options and outcomes for BPH.
6. Review and appraise the use of artificial intelligence in a urology practice.

Accreditation and Designation Statements and Disclosure Report

LUGPA 2023 CME Program Turning Impossible to Possible: Solutions to Drive High Quality Care

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 PeerPoint Medical Education Institute and the LUGPA. PeerPoint Medical Education Institute is accredited by the ACCME to provide continuing medical education for physicians.

PeerPoint Medical Education Institute designates the live format for this educational activity for a maximum of *3.75 AMA PRA Category 1 Credits*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Live activity date: November 2, 2023

15th ANNIVERSARY LUGPA Since 2008

LUGPA 2023 CME Program
Disclosure Report

The following planners, speakers, reviewers or staff have relevant financial relationships to disclose:
"I have at present or have had within the last 24 months, a financial relationship with one or more ineligible companies."

The following financial relationships with ineligible companies have been mitigated by PeerPoint Medical Education Institute and LUGPA.

All other presenters, planners, editors, or staff report no relationships to disclose:
"I do not have at present nor have had within the last 24 months, any financial relationships with ineligible companies."

NAME OF FACULTY/PLANNING CME Organizers	COMMERCIAL INTEREST	DISCLOSURE Role with Commercial Interest
Ronney Abaza, MD	VTI, Veracyte Conmed Inc, Intuitive Surgical	Speaker Investigator
Anika Ackerman, MD	Innos Supps	Consultant
Aaron Berger, MD	Janseen, Accord Biopharma, Bayer, Pfizer, Myovant, Astellas	Speaker
Gordon Brown, DO	Janssen, Astellas, Bayer, Pfizer, Myovant, Merck, Urogpo	Speaker, Research, Advisor
David Crawford, MD	Nothing to disclose	
Gregg Eure, MD	Teleflex Boston Scientific, SRS Medical, IO Urology Zenflow, Prodeon, Proverum	Research, Consultant Consultant Research
Inderbir Gill, MD	Karkinos, OnLIne Health	Equity
Sarah Girardi, MD	Nothing to disclose	
Jason Hafron, MD	Amgen Inc, Blue Earth Diagnostics, Lantheus, Tolmar Pharmaceuticals Inc, Procept-Biorobotic Amgen Inc, Blue Earth Diagnostics, Lantheus, Tolmar Pharmaceuticals Inc, Procept-Biorobotic Bayer, Merck & Co. Inc. Lipella Pharmaceuticals LLC, miR Scientific Inc, Nucleix, Immunis.AI Myovant Sciences, Inc, Urogen Pharma Inc Promaxo, Lynx DX, Eli Lilly and Company	Meeting participant/lecturer Meeting participant/lecturer Meeting participant/lecturer, Scientific Study/Trial Scientific Study/Trial Consultant/Advisor, Meeting participant/lecturer Consultant/Advisor
Jonathan Henderson, MD	Janssen, Bayer, Astella, AstraZeneca, Merck, Pfizer, MyoVant	Consultant

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LUGPA 2023 CME Program
Disclosure Report

NAME OF FACULTY/PLANNING CME Organizers	COMMERCIAL INTEREST	DISCLOSURE Role with Commercial Interest
Tom Jayram, MD	Specialty Networks	Consultant
	Merck, Photocure	Consultant, Advisor, Speaker
	AstraZeneca, Janssen	Consultant, Advisor
	Tempus, Bristol Myers Squib, Acupath Laboratories	Consultant, Speaker
Jayram Krishnan, DO	Nothing to disclose	
Benjamin Lowentritt, MD	Astellas, Abbvie, Janssen, Bayer, Merck, Tolmar	Consulting/speaker
	UroGPO	Consultant/Ownership interest
	Dendreon	Consultant/Researcher
	Myovant	Research/Speaker
Guy Manetti, MD	Nothing to disclose	
Jodi Maranchie, MD		
David Morris, MD	Decipher Biosciences, Myriad Genetics	Consulting
Tom Mueller, MD		
Dan Saltzstein, MD	Lantheus	Speaker
Arpeet Shah, MD	Boston Scientific	Clinical Proctor
Dan Spratt, MD	Bayer, Astellas, AstraZeneca, Elekta, Janssen, Novartis, Pfizer	Advisory Board
	Boston Scientific	Consulting
	Varian	Speaker
Kevin Zorn, MD	Boston Scientific, Procept Biorobotics	Lecturer, Consultant, Proctor

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LUGPA 2023 CME Program
Agenda

Thursday, November 2, 2023 | Grand Harbor Ballroom North

**Please note that speakers and agenda topics are subject to change*

TIME	SESSION TITLE
12:00pm – 1:00pm	**Lunch** *Newport Ballroom West*
1:00pm – 1:10pm	**Welcome and Introductions** **Gordon Brown, DO, FACOS**, *Co-Chair, CME Program* **Jason Hafron, MD**, *Co-Chair, CME Program*
1:10pm – 1:50pm	**Successful Bladder Cancer Programs: What should you be offering your patients today and tomorrow?** **Moderator:** Tom Jayram, MD **Panelists:** Jonathan Henderson, MD | Daniel Saltzstein, MD | Jay Krishnan, DO
1:50pm – 2:25pm	**Building a Successful Female Sexual Health Program/SPA** **Moderator:** Guy Manetti, MD **Panelists:** Sarah Girardi, MD | Anika Ackerman, MD
2:25pm – 3:00pm	**What's New in Radiation Oncology?** **Presenter:** Dan Spratt, MD
3:00pm – 3:35pm	**Break in the Exhibit Hall** *Grand Harbor Salons 1-4*
3:35pm – 4:05pm	**Good, Bad and Ugly of NEW BPH Treatments** **Moderator:** Gregg Eure, MD **Panelists:** Arpeet Shah, MD | Kevin Zorn, MD | Tom Mueller, MD
4:05pm – 4:40pm	**Best Practices for Active Surveillance** **Moderator:** Benjamin Lowentritt, MD **Panelists:** David Morris, MD | Aaron Berger, MD | Ronney Abaza, MD | E. David Crawford, MD
4:40pm – 5:25pm	**The Power of Artificial Intelligence in Urology** **Presenters:** Inderbir Gill, MD | Jodi Maranchie, MD
5:25pm – 5:30pm	**Conclusion and Thank You** **Gordon Brown, DO, FACOS** **Jason Hafron, MD**

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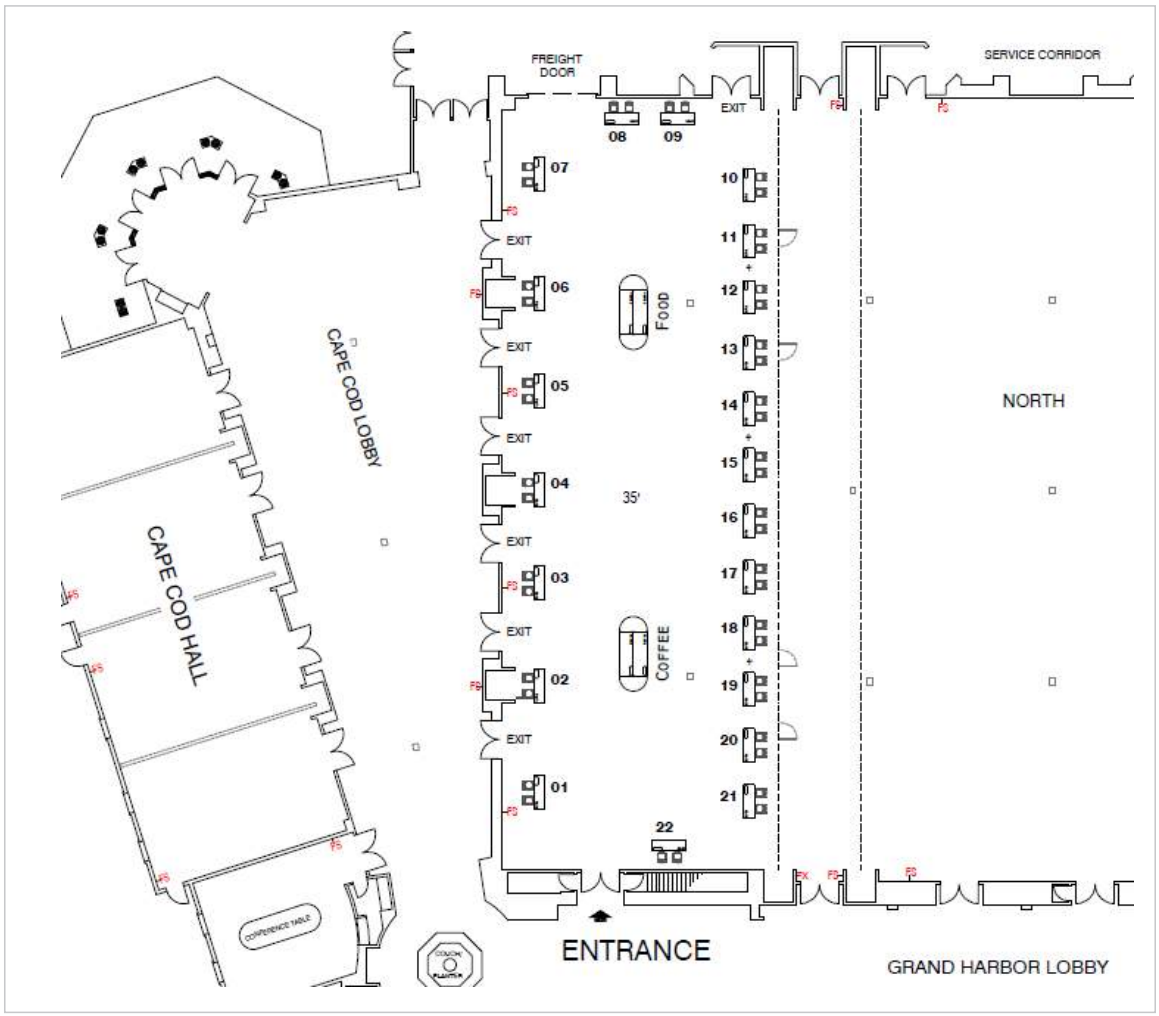
CME Exhibitors



Industry Partners	Table #
Acupath Laboratories, Inc.	22
Alnylam Pharmaceuticals, Inc.	06
Axonics, Inc.	03
BD	17
Blue Mountain Diagnostics	19
Dedicated IT	02
Dendreon	01
Ibex Medical Analytics	16
Lantheus	15

Industry Partners	Table #
Lumea	14
Olympus America, Inc.	11
P4 Diagnostix	04
Phreesia	18
rater8	05
SCIO Management Solutions, LLC	20
Sciteck Diagnostics	13
TRIARQ Health	10
Veradigm	12

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LUGPA 2023 CME Program
Faculty Biographies

Ronney Abaza, MD

Dr. Ronney Abaza is a world-renowned expert in robotic surgery for prostate, kidney and bladder cancers and other urologic conditions. His practice has been dedicated solely to robotic surgery since 2008, and he has performed over 6,000 robotic surgeries making him the most experienced robotic surgeon in Ohio in any specialty and one of the top five in the world.

Dr. Abaza is a pioneer in robotic surgery as the first in the world to perform robotic surgery for adrenocortical carcinoma, kidney cancer with caval thrombi, ureteroileal anastomosis revisions after cystectomy, and renal autotransplantation, among other procedures he developed and performed for the first time. He has presented his work at national and international medical meetings, including more than 200 presentations at various meetings on robotic surgery, and has won numerous awards for his research. Dr. Abaza has authored over 130 publications and book chapters in the fields of robotic surgery and urologic cancers and is editor of the only textbook dedicated to robotic kidney surgery. His work has been featured on the covers of *Urology, European Urology and the Journal of Endourology*.

Dr. Abaza has given hundreds of lectures on robotic surgery and serves as faculty at medical society meetings and for educational courses both in the U.S. and internationally. He has performed live robotic surgery demonstrations broadcasted to the American Urological Association (AUA) Annual Meeting, the World Congress of Endourology, European Robotic Urology Symposium, North American Robotic Urology Symposium, International Robotic Urology Symposium, and the Society of Robotic Surgery Annual Meeting, among others. He has led the development of multidisciplinary robotic surgery programs at three institutions. He was director of a robotic urologic surgery fellowship program for 10 years training new urologists in robotic surgery. He has served as a visiting professor at several academic urology departments and has welcomed over 100 surgeons from around the world into his operating room for case observations to learn his techniques. Dr. Abaza's educational YouTube channel of surgeries he has performed for other surgeons was started only one year ago and already has thousands of views.

Dr. Abaza has served as President of the Ohio Urological Society and currently serves as the Ohio representative to the board of the North Central Section of the American Urological Association. He also serves on the editorial boards of several medical journals. Dr. Abaza has been chosen by peer nomination for the Best Doctors in America every year since 2011.

Anika Ackerman, MD

Dr. Ackerman trained at Duke University hospital and Columbia NY Presbyterian. She currently practices in Morristown, NJ and hasspecial interest in female urology and sexual dysfunction.

Dr. Ackerman believes it is a great honor and privilege be a doctor, and especially to practice urology, where physicians could help patients improve very personal problems or symptoms. She aims to practice compassionate and cutting-edge urology, and to treat every patient as if they were my own parent or sibling. She believes individualized care and an integrative approach serve the best platform for successful outcomes.

Aaron D. Berger, MD

Dr. Berger earned his Bachelor of Science degree from the University of Wisconsin with a major in biochemistry and molecular biology. Dr. Berger attended medical school at the David Geffen School of Medicine at University of California Los Angeles to earn his M.D. He completed his residency in Urology at the NYU Langone Medical Center in New York. Dr. Berger completed a fellowship at the University of California San Francisco in Laparoscopy, Endourology and Robotic Surgery. Dr. Berger is a member of the American Urological Association, the Endourological Society, the American Medical Association and the Chicago Urologic Society.

Dr. Berger serves on the leadership team and is the current Chief Medical Officer and Director of Clinical Research of Associated Urological Specialists (AUS). He has a special interest in prostate cancer from robotic surgery to state of the art treatments of advanced and metastatic prostate cancer. He also has extensive experience in BPH procedures such as Urolift, Rezum, and Greenlight laser therapy. He is fellowship trained in complex kidney stones and also has an interest in ED and penile implant surgery.

Gordon A. Brown, DO, FACOS

Gordon Brown, DO, FACOS, is an Associate Professor at Rowan University School of Osteopathic Medicine. He serves as Program Director of Urologic Surgery at Rowan University School of Osteopathic Medicine as well as Director of New Jersey Urology's Center for Advanced Therapeutics, specializing in the treatment of prostate cancer. Board certified by the American Osteopathic Association, Dr. Brown completed a Urologic Oncology Fellowship at the UTMD Anderson Cancer Center in Houston, TX. He has been published in a variety of academic journals including *JAMA Oncology, BJU International*, and *Prostate Cancer and Prostatic Diseases*. Dr. Brown is a member of the American Society of Clinical Oncology, the American Association for Cancer Research, and the American Urological Association.

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LUGPA 2023 CME Program
Faculty Biographies

David Crawford, MD

Dr. Crawford is the distinguished Professor of Surgery, Urology, and Radiation Oncology, and head of the Section of Urologic Oncology at the University of Colorado Anschutz Medical Campus. He is an active clinician, researcher, and teacher. He has been recognized as one of the Best Doctors in America, one of the Best Cancer Doctors, one of the Top 20 Urologists in the county by Men's Health Magazine, and recently selected as the Healthcare Provider of the Year in the Denver Metro Area by The Denver Business Journal. In addition, he is the recipient of more than 95 research grants in the diagnosis and treatment of prostate cancer, metastatic prostate cancer, hormone refractory prostate cancer, benign prostatic hyperplasia (BPH), advanced bladder cancer, and other areas of urological infections and malignancies. He has authored or coauthored over 600 published articles, contributed to nearly 100 educational books and provided thousands of educational talks for patients and physicians.

In an effort to raise awareness and education about prostate health, Dr. Crawford founded and is the current Chairman of the Prostate Conditions Education Council, a non-profit organization which is responsible for reaching an average of 400 million people each year with education and awareness information.

On prostate cancer and men's health issues, his involvement in the national prostate cancer arena has been widely recognized and he is often requested to act as an educator, speaker, participate in advisory boards, review research or serve as a legal expert.

Dr. Crawford is an active member of many national and international organizations, including the American Society of Clinical Oncology, American Urological Association (AUA), and the American Association for the Advancement of Science.

Gregg R. Eure, MD

Gregg R. Eure, MD offers expertise in all aspects of adult urology. He has special interest in prostate disease, erectile dysfunction, stone disease, no-scalpel vasectomy, and Men's Health. Dr. Eure has gained an international reputation in the treatment of Benign Prostate Hyperplasia (BPH) or enlarged prostate.

Dr. Eure practices general urology with an interest in the treatment of enlarged prostate (BPH) including minimally invasive and laser techniques and men's health issues including prostate cancer and erectile dysfunction. He is a recognized international expert in use of the GreenLight Laser Vaporization of the prostate and the Prostatic Urethral Lift or UroLift for BPH and has had the opportunity to teach and lecture in over thirty states and thirteen countries. Dr. Eure serves on an International Medical Educational Advisory Board and is involved with laser simulator training for urologists. He has also been involved with developing UroLift, a minimally invasive treatment for BPH.

He is active in clinical research and has been an investigator in numerous clinical trials. He serves as the research chairman for the Urology of Virginia Research Department. He has been a leader in investigating minimally invasive treatments for BPH. He also serves as a consultant for several medical equipment companies. He has served on numerous advisory and editorial boards. Dr. Eure has written many articles and book chapters. He is often invited to lecture on various topics in urology. His peers have recognized Dr. Eure as a "Top Doc" in Coastal Virginia Magazine. He has been honored multiple times as a "Top Doc" in the magazine including as a "Top Doc for Men". He primarily practices at Sentara Virginia Beach General Hospital where he has served on many hospital committees, including the cancer committee and surgical executive committee. He helped found the local chapter of the prostate cancer support group, Man to Man. He continues to serve as a physician leader, and he is involved in the management of his group, Urology of Virginia.

Inderbir S. Gill, MD

Inderbir S. Gill, MD, is distinguished professor and chairman, Catherine & Joseph Aresty Department of Urology; executive director, USC Institute of Urology; and the Shirley & Donald Skinner Chair in Urologic Cancer Surgery at the Keck School of Medicine, University of Southern California, Los Angeles. Prior to this, he was chairman & professor, department of urology at the Cleveland Clinic, Cleveland, OH, where he was on faculty for 12 years (1997-2009).

During his 13 years in Los Angeles since 2009, USC Urology has grown in scientific stature, clinical volumes, financial productivity & philanthropy. As a result, USC Urology has progressed in U.S. News & World Report national rankings from being outside the 'Top 50' until 2011, to #4 in 2019, and has ranked in the 'Top 10' for 5 years in a row (2018-2022). In NIH Blue Ridge national rankings, USC Urology elevated from #26 in 2017 to #2 nationally (2022, 2023).

Dr Gill has published ~870 scientific papers with ~41 000 citations. His H-index is 112, amongst the highest in the field of urology. He is principal investigator of a funded R-01 grant from NCI, and co-PI on other NIH grants. He is published in prestigious journals including N. Engl. J. Med., Nature Medicine, Lancet, Lancet Oncology, JAMA Surgery, etc. He has edited/co-edited 10 textbooks and has been on the editorial boards of 9 urologic journals. He has been invited for over 450 visiting professorships, invited lectures and live surgery demonstrations world-wide. He is elected to the prestigious American Association of Genito-Urinary Surgeons (2003) and the Clinical Society of AAGUS (2009).

His various honors include: the Dr. B. C. Roy National Award for Eminent Medical Person awarded by the President of India (2005); St. Paul's Medal by the British Urological Association (2006); honorary Fellow of the Royal College of Surgeons of England; President, 24th World Congress of Endourology & SWL (2006); USC Presidential Medallion (2013); listed in Thomson Reuters "The World's Most Influential Scientific Minds" (2014); AUA Ramon Guiteras Lecturer (2015); AUA Chair, Global Initiatives (2015-2017); AAGUS

LUGPA 2023 CME Program
Faculty Biographies

Membership Committee (2021-2025); AUA Presidential Citation for Outstanding Contributions to Robotic Urologic Oncologic Surgery (2022); and SIU Distinguished Career Award by the Societe' Internationale D' Urologie (2022).

His primary academic focus is advanced robotic urologic oncologic surgery for cancers of the kidney, bladder and prostate. His aggregate team has amongst the world's pre-eminent robotic/laparoscopic case volumes for urologic oncologic surgery, with over 15,000 cases in the USA. More recently, his interest has expanded to focal targeted therapy for prostate cancer. He and his team are now exploring artificial intelligence (AI) applications in urology. In 2021, under his leadership, USC Urology established the nation's first, foundation-funded, dedicated Urology AI Center in a urology department.

Dr Gill has had the enormous privilege to train numerous urology residents and over 120 minimally invasive urologic oncology fellows. His fellows and faculty members are also making innovative contributions to the field. Notably, at this writing, 12 of them are current Chairs of highly prestigious urology departments nationally and internationally.

Sarah Girardi, MD

Dr. Girardi received her medical degree from the University of North Carolina at Chapel Hill. Her postgraduate training was completed at The New York Hospital/Cornell Medical Center where she was awarded the Resident Physician Prize for excellence in teaching for two consecutive years.

Dr. Girardi completed her fellowship in male infertility and microsurgery at The New York Hospital/Cornell Medical Center. Dr. Girardi is the former Chief, Division of Infertility and Female Urology, North Shore University Hospital and an Attending Urologist at St. Francis Hospital, Roslyn. In addition, she is Clinical Associate Professor of Urology and Clinical Associate Professor of Reproductive Medicine at Cornell Medical Center, as well as Clinical Associate Professor of Urology at Hofstra School of Medicine.

She joined Integrated Medical Professionals in 2014, and currently specializes in female urology and male infertility as a full partner in Advanced Urology Centers of New York Manhasset Division.

Jason M. Hafron, MD

Dr. Hafron is the Chief Medical Officer and Director of Clinical Research at the Michigan Institute of Urology (MIU). Dr. Hafron is a Professor of Urology at the William Beaumont School of Medicine, Oakland University, Royal Oak, Michigan. He is experienced in all areas of adult urology, specializing in the minimally invasive treatment of cancers involving the prostate, kidney and bladder utilizing robotic surgery.

Dr. Hafron received his Bachelor of Science degree from the University of Michigan and his Doctor of Medicine degree from Loyola University Chicago-Stritch School of Medicine. Dr. Hafron completed his General Surgery and Urology Residency at Albert Einstein College of Medicine, Montefiore Medical Center in New York City. He continued his training as a Fellow in Advanced Laparoscopic and Robotic Surgery at the Cleveland Clinic Foundation, Glickman Urological and Kidney Institute, Cleveland, Ohio. Dr. Hafron has published numerous peer reviewed journal articles on topics related to his expertise and presented his work at many national and international scientific meetings. He is the recipient of many clinical research awards. He is on the Editorial Board of the journal International Urology and Nephrology, Urologists in Cancer Care and Advances in Urology. He previously served on the Board of Directors of United Physicians Organization. Dr. Hafron is board certified in the specialty of Urology by the American Board of Urology.

Jonathan Henderson, MD

Dr. Henderson earned a Bachelor of Science Degree at LSU in Baton Rouge in microbiology. After receiving his M.D. at LSU Medical Center in Shreveport, he completed his internship and residency in Urology at LSUMC Hospital.

Dr. Henderson spent the next six years in practice in Alabama where he pioneered urologic laparoscopy. In 2002, Dr. Henderson was asked to return to Shreveport to join the nascent Regional Urology and served as CEO. In March 2022 Dr. Henderson joined Arkansas Urology in Little Rock, Arkansas.

Dr. Henderson is certified by the American Board of Urology. He is a member of the American Urologic Association (and sits on many committees for that organization), Shreveport Medical Society, Louisiana State Medical Society, and the Alpha Omega Alpha Medical Honor Society. He has been on the LUGPA Board of Directors since 2011 and is the Immediate Past President.

Gautam Thomas Jayram, MD

Dr. Jayram is a urologic oncologist with Urology Associates, P.C. in Nashville, TN. He has developed a large urologic oncology practice and performs a high volume of open and minimally-invasive cancer operations yearly. Dr. Jayram completed a fellowship at the Brady Urological Institute at Johns Hopkins Hospital and did his urology residency at the University of Chicago Hospitals.

As Director of the Advanced Therapeutic Center at Urology Associates, P.C, Dr. Jayram focuses on caring for patients with complex urinary tract cancers and helps direct an extremely busy clinical trials program that serves a wide geographic area in the Southeast. Under Dr. Jayram's

LUGPA 2023 CME Program
Faculty Biographies

leadership, Urology Associates P.C has developed one of the first urology-specific comprehensive immuno-oncology programs where patients can receive novel personalized therapies or trials which can significantly impact their life. He is a Clinical Associate Professor of Urology at Vanderbilt University and mentors resident physicians during their training. He has served in several advisory and leadership roles within urologic oncology. He is passionate about integrating novel technologies and therapeutics in community urology and promoting high-value care in independent group practice.

Jayrahm Krishnan, DO

Dr. Krishnan is a member of the Summit Health Urology Team. He treats a variety of urologic disorders with a particular focus on urologic cancers of the prostate, kidney, and bladder. Dr. Krishnan enjoys connecting with his patients on a personal level. His older brother is a physician and inspired him to pursue a career in medicine. “I love taking care of patients. My goal is to make your visit as easy and informative as possible while also delivering the highest quality health care,” he says. Dr. Krishnan is passionate about helping his patients restore their quality of life. “I love seeing my patients smile after I have been able to help them with their medical issues.”

Benjamin Lowentritt, MD

Dr. Benjamin Lowentritt serves as the Medical Director of the Comprehensive Prostate Cancer Care Program and Director, Minimally invasive Surgery and Robotics at Chesapeake Urology Associates, a member of United Urology’s group practices. He also serves as Vice-President of Physician Services and Director of Prostate Cancer Services for United Urology Group. Dr. Lowentritt is a member of United Urology’s Executive Leadership Team. In his role, Dr. Lowentritt is responsible for working with member practices to build and optimize services for prostate cancer patients. This includes supporting physicians, staff, and operational teams treatment options are expanded. The goal is for each member group to have a comprehensive, state-of-the-art program that helps patients through a difficult diagnosis. He is also directing Disease-State-Management programs for other conditions commonly treated by urologists.

Dr. Lowentritt received his Doctor of Medicine degree from Baylor College of Medicine, completed his medical residency at the University of Maryland School of Medicine and a fellowship in Robotic, Laparoscopic and Endoscopic Urology at Tulane University.

Dr. Lowentritt has served as Past-President of the Mid-Atlantic Section of the American Urological Association and of the Baltimore City Medical Society. He is the President-Elect of MedChi, the Maryland State Medical Society and is a Board member of the Large Urology Group Practice Association (LUGPA). He has been recognized as a Top Doctor in multiple publications.

Guy Manetti, MD

Dr. Manetti graduated from the University of Pennsylvania and earned his Medical Degree from the University of Medicine & Dentistry of New Jersey. He completed his general surgery internship and urology residency at Yale New Haven Hospital in New Haven, Connecticut, where he served as chief resident of Urology. Dr. Manetti has published numerous peer-reviewed articles and was awarded a research grant from the Department of Surgery at Yale University. In addition to general urology, Dr. Manetti’s areas of special expertise and interest are minimally invasive surgery of the kidney, robotic prostate surgery, management of stone disease and erectile dysfunction. He is a member of American Urological Association and an attending at Danbury Hospital/ Western Connecticut Health Network.

Jodi Maranchie, MD, FACS

Dr. Maranchie is an associate professor of urology at the University of Pittsburgh School of Medicine. Dr. Maranchie graduated from Brown University and earned her medical degree from Northwestern University. Following surgery and urology residencies at Harvard University, Brigham and Women’s Hospital in Boston, she completed a postdoctoral fellowship in urologic oncology as an American Foundation of Urologic Diseases Scholar at the National Cancer Institute. She comes to Pittsburgh after serving most recently as director of Urologic Oncology at the University of Massachusetts. She is actively involved in basic and clinical research of urologic cancers with a special interest in kidney cancer. Her surgical focus on cancers of the kidney, testis, bladder, and prostate, including reconstructive nerve- and kidney-sparing procedures. Dr. Maranchie is board certified by the American Board of Urology.

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LUGPA 2023 CME Program
Faculty Biographies

David S. Morris, MD

Originally from Cleveland in East Tennessee, Dr. Morris attended The Baylor School in Chattanooga, TN. He graduated Summa Cum Laude from Vanderbilt University and then earned his doctorate from Vanderbilt University School of Medicine. Dr. Morris completed his residency training at The University of Michigan in Ann Arbor, MI with a special research interest in genetics that predict the aggressiveness of prostate and bladder cancers. Since completion of training, he has been with Urology Associates in Nashville, Tennessee. He serves the group as President and the Co-director for the Advanced Therapeutics Center. The ATC center also works closely with the Clinical Research Department as a center for multiple phase 2 and 3 trials primarily focused on GU oncology.

Thomas J. Mueller, MD

A graduate of the Robert Wood Johnson Medical School, Dr. Thomas Mueller is a member of many professional societies, including the American Urologic Association and the American College of Surgeons. Certified by the American Board of Urology, he has been practicing urology for nearly 20 years.

In addition to his general urology practice, Dr Mueller's clinical expertise focuses on minimally invasive urologic techniques. Dr Mueller utilizes robotic and standard laparoscopy for oncologic and reconstructive processes of the adrenal gland, kidney, prostate and bladder, in addition to complex endourologic interventions for urinary tract stone disease. More recently, Dr Mueller has focused his attention on surgical techniques for treating men with the symptoms of an enlarged prostate

Dr Mueller is also committed to teaching future Urologists. He presently serves as the Residency Director for Rowan University School of Osteopathic Medicine.

Daniel R. Saltzstein, MD

Daniel R. Saltzstein, MD, is a practicing urologist who has been involved in medical education, clinical research, and practice growth for over 30 years. He is a part of a 26-person urology group in San Antonio, Texas. Dr. Saltzstein is the medical director of research and director of the Advanced Therapeutic Clinic at Urology San Antonio. He has been the principal investigator on over 150 clinical trials and authored numerous papers over the last 29 years. He has a special interest in prostate cancer, bladder cancer, and related biomarkers. He serves as a clinical assistant professor at the University of Texas Health Science Center at San Antonio (UTHSCSA) and is actively involved in resident education. Dr. Saltzstein completed his undergraduate degree at Carleton College in Northfield, Minnesota. He earned his medical degree at UTHSCSA and completed his general surgery internship and urology residency at the University of Texas Medical Branch in Galveston.

Arpeet Shah, MD

Dr. Shah brings a wealth of leading-edge knowledge and experience to his compassionate care. He is a fellowship trained, board-certified urologist with a particular interest in robotic and minimally invasive urological surgery. He performs complex robotic procedures including prostatectomy, cystectomy, nephrectomy, partial nephrectomy, nephroureterectomy, pyeloplasty, and ureteral reimplantation.

He also has an interest in minimally invasive BPH procedures including Rezum, UroLift, Greenlight PVP, Aquablation and robotic simple prostatectomy.

Alongside his clinical role, Dr. Shah is on the AUS leadership team and serves as the Director of APP Program. Dr. Shah also serves as a member of the National Clinical Board of Solaris, a national urology platform. He also is on the Robotic Surgical Committee at Advocate South Suburban Hospital and the Surgical Quality Committee at University of Chicago Ingalls Memorial Hospital.

His collegiate education began as part of the prestigious Guaranteed Professional Program Admissions (GPPA) Medical Scholars Program at University of Illinois at Chicago where he completed his Bachelor in Sciences in Biology summa cum laude. He then completed his Doctorate in Medicine at University of Illinois at Chicago with a distinctive honor of being a member of the Urban Medicine Program. He then went on to Loyola University Medical Center and completed his internship in general surgery, residency in urology, and fellowship in robotic surgery and endourology. A true asset to his field, he is board-certified in urology by the American Board of Urology (ABU).

Licensed to practice medicine in Illinois and Indiana, Dr. Shah holds privileges at Advocate South Suburban Hospital, UChicago Medicine Ingalls Memorial, and Community Hospital- Munster. He is a member of several professional associations, including the American Urological Association, Chicago Urological Society, and the North Central Section of the American Urological Association.

Throughout his fruitful career, Dr. Shah has published over 30 peer reviewed articles that have contributed to the subject of urology and like topics. When he's not in the office, Dr. Shah enjoys playing golf, listening to music as well as playing the drums and piano. He also likes to travel and ride bikes.

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LUGPA 2023 CME Program
Faculty Biographies

Daniel Spratt, MD

Dr. Spratt is the Chairman and Professor of Radiation Oncology at University Hospitals (UH) Seidman Cancer Center and Case Western Reserve University (CWRU). He obtained his medical degree from Vanderbilt Medical School and completed his radiation oncology residency at Memorial Sloan Kettering Cancer Center. He served as the Vice Chair in the Department of Radiation Oncology and Chair of the Genitourinary Clinical Research Team at the University of Michigan until April 2021 when he joined UH and CWRU.

Dr. Spratt is an international expert in the management of prostate cancer and the development and validation of prognostic and predictive biomarkers. He has published over 300 peer-reviewed manuscripts and runs a National Institute of Health-funded translational lab. He serves as the Chair for NRG Oncology's Intact Prostate Cancer Subcommittee, and for the National Cancer Institute's Genitourinary Steering Committee. He is the PI of numerous national and international randomized clinical trials in prostate and bladder cancer, and has mentored over 40 students and faculty.

Kevin Zorn, MD

Dr. Kevin Zorn is a dual-board-certified (US and Canada), minimally-invasive urologist, oncology-fellowship trained at the University of Chicago.

Dr. Zorn attended McGill University for his pre-med Bachelor program, then completed his medical degree followed by residency in urological surgery at McGill. He became a fellow of the Royal College of Physicians and Surgeons of Canada in 2005. He has completed a two-year fellowship in oncology and endourology at the University of Chicago.

In 2007, Dr. Zorn also became American Board of Urology certified and a fellow of the American College of Surgeons. After remaining on faculty at the University of Chicago until 2009, Dr. Zorn returned to Canada in 2010 to join the faculty of the Division of Urology at the University of Montreal.

Dr. Zorn helped prepare the AUA (American Urological Association) and CUA (Canadian Urological Association) BPH treatment guidelines.

He is also active in supporting the development of minimally invasive therapies like UroLift, Rezum, Aquablation, iTind and other cutting edge technologies.
Doctor Zorn offers all these minimally invasive BPH therapies, and others, at the BPH Canada clinic in Montreal.

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CME Program

Presentations

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2023 | ANNUAL MEETING

November 2 – 4

Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

SUCCESSFUL BLADDER CANCER PROGRAMS:

What Should You Be Offering Your Patients Today and Tomorrow?

15th ANNIVERSARY LUGPA

2023 | ANNUAL MEETING

November 2 – 4

MEET OUR DISCUSSANTS

Moderator

Tom Jayram, MD
Urology Associates P.C.
Nashville, TN

Jay Krishnan, MD
New Jersey Urology
Township, NJ

Panelists

Jonathan Henderson, MD
Arkansas Urology
Little Rock, AR

Daniel Saltzstein, MD
Urology San Antonio
San Antonio, TX

THE LAST 10 YEARS: PROSTATE CA

- A flurry of new approved therapies enter the market for advanced disease
- Changing understanding of disease biology (Hormone-resistant)
- Consolidation/regionalization of surgical therapy concentrated amongst high volume providers
- Genomics, advanced imaging, biomarkers assist treatment selection
- Urologists start infusing Sipleucel-T immunotherapy, and prescribing oral oncolytics
- Clinical cancer trials start entering community urology
- Dramatic improvement in clinical outcomes for early and late stage prostate cancer, guideline-based care, and additional revenue opportunities

THE NEXT 10 YEARS: BLADDER CA

- A flurry of new approved therapies enter the market for advanced disease
- Changing understanding of disease biology (BCG unresponsive)
- Consolidation/regionalization of surgical therapy concentrated amongst high volume providers
- Genomics, advanced imaging, biomarkers assist treatment selection
- Urologists start infusing immuno-oncology therapy
- Clinical trials in these spaces become heavily populated by community patients
- Dramatic improvement in clinical outcomes/efficiency and evidence-based care for patients with these cancers along with additional revenue opportunities for practices

GOOD SURGERY: THE MOST IMPORTANT THING WE CAN DO !

- **TURBT** – paramount in optimizing outcomes in papillary disease
  - Complete, deep resection initially for adequate staging and risk stratification
  - Restaging in high grade NMIBC
  - Debulking/completion TURBT in patients prior to NAC or TMT
- **Radical Cystectomy**
  - Timely surgery in BCG failure patients
  - Appropriately discussing and utilizing chemotherapy when eligible
  - Centralizing surgery to high volume and experienced providers
  - Developing standardized postoperative pathways to optimize recovery and function after surgery

BLADDER CANCER: WHAT'S NEW IN DIAGNOSTICS

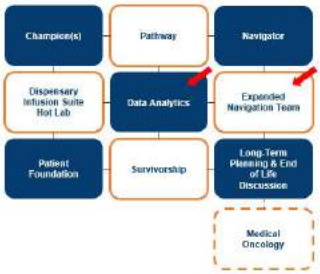
- Biomarkers
  - Uro17, CxBladder, Oncuria, Convergent, FISH, cytology
  - Somatic tumor testing: FGFR, PDL1, MSI; basal/luminal typing
  - ctDNA – post cystectomy- potential for guiding adjuvant therapy and assessing disease burden
- Enhanced cystoscopic techniques now part of NCCN guidelines
  - Blue light/NBI
- Imaging
  - PET
  - MRI

BCG UNRESPONSIVE DISEASE – WHERE ARE WE TODAY

- BCG shortage – still an issue for many groups
  - Updated guidelines suggest holding BCG for low grade disease and limit 1 yr of maintenance
  - Utilizing a BCG log or registry has helped rationing and understand group BCG practices, populate trials
- **BCG Unresponsive definition = persistent disease despite adequate BCG (6+3) – Ta/CIS within 12 months; HGT1 after induction BCG (highest risk group)**
  - Pembroluzimab – 19% CR at 1 yr; systemic toxicity; urologists still getting comfortable
  - Gemcitabine/Docetaxel – 50-60% CR at 1 yr; excellent data in both CIS/papillary disease; challenging for community urologists to acquire and give in facility
  - Nadofarogene firadenovec – 24% CR at 1 yr; convenient dosing; some local /lab tox than; best practices in buy/bill and administration still need to be clarified
  - Clinical trials – pretzel, photodynamic therapy, IO combinations, BCG alternatives

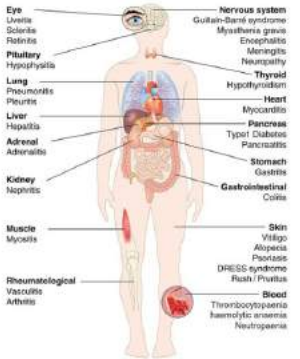
OPERATIONAL CONSIDERATIONS

- Provider/Team
- Patient identification/Navigation
- Pathway
  - Treatment
  - disease surveillance
  - adverse event management
- Facilities/Infrastructure



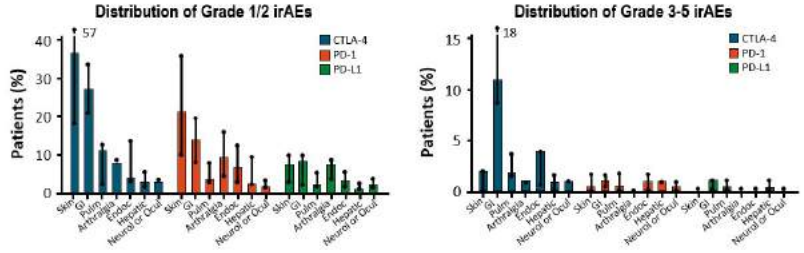
IMMUNE-RELATED AES (IRAES)

- ICIs introduce the potential for transformative, durable responses in multiple malignancies
- ICIs also introduce the potential for new toxicity
- irAEs
  - Activation of immune cells in nontumor compartments
  - Can mimic autoimmune conditions



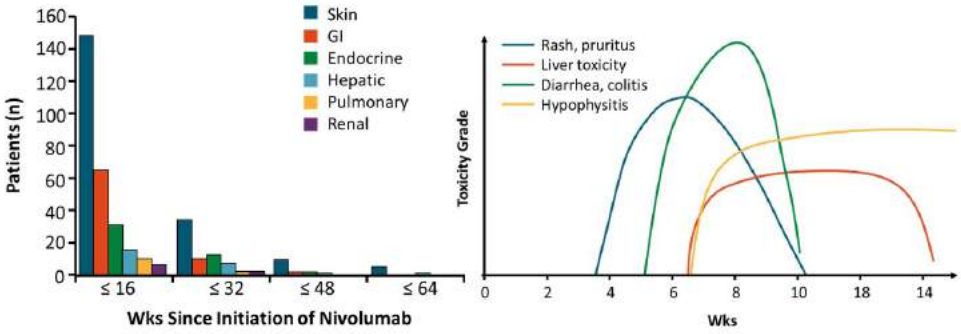
Varricchi G, et al. ESMO Open 2017;2(4):e000247. doi:10.1136/esmoopen-2017-000247.

IRAES WITH ICI MONOTHERAPY



Michot. Eur J Cancer. 2016;54:139.
Owen. ESMO 2018. Abstr 1772P.

ONSET OF IRAES



Weber. JCO. 2017;35:785.

PD-1/PD-L1 EDUCATION PRINCIPLES

Prior to start
- Document any underlying conditions
- History of autoimmune diseases
- Current or new medical issues
- Medication history
- Baseline Laboratory profile
- Goals/Duration of treatment
- Provide wallet card or other identification

Patient Instructions
- Notify HCPs of new signs and symptoms
  - Fatigue, rash, cough, SOB, muscle pain, weight loss, etc
- Any new symptom since start of treatment
- Notify all healthcare provider of ICI tx
- Symptoms should be monitored for 1 year after completion
- Medication changed and vaccines

Toxicity Management
- Review medications for DDIs
- Symptomatic management for mild to moderate irAEs
  - Supportive care
  - Hormone therapy
  - May delay until recovery
- Severe irAEs
  - Discontinue treatment
  - Steroids and other immunosuppressants
  - Hospitalization may be required

NCCN. Management of Immunotherapy-Related Toxicities. V.1.2019. (Accessed 08/23/19)

GENERIC TOXICITY MANAGEMENT OF IRAES

- **Corticosteroids remain cornerstone of care for immune mediated adverse events**
  - Resolved most irAEs among UC trials
  - Mild skin reactions can be treated with topical steroids
  - Higher grade/persistent toxicity requires systemic steroids
  - Oral preferred; IV may be used when absorption compromised (i.e. colitis)
- **Moderate Cases (Grade II)**
  - Hold drug, redose if toxicity improves, consider low-dose steroids (prednisone 0.5-1 mg/kg/day)
- **Severe cases (Grade III/IV)**
  - Start high-dose steroids (prednisone 1-2 mg/kg/day) with a slow taper (≥ 1 mo)
  - Infliximab 5 mg/kg once every 2 weeks can be used
- **Endocrine side effects**
  - Hormonal replacement

CTCAE Grade	Corticosteroids	Other Adjunctive Therapies	Immunotherapy Action
1	Not required	Not required	Continue
2	Topical or systemic steroids	Not required	Hold temporarily
3	Systemic steroids	If no response to steroids after 3-5 days	Discontinue and may consider resuming therapy* based on risk/benefit
4	Systemic steroids	If no response to steroids after 3-5 days	Discontinue

*Doses are either given or held. There are no dose reductions.

Petrylak DP. Clin Genitourin Cancer 2017;15(3):53-17.
Weber J, et al. J Clin Oncol. 2012; 30: 2691-2697.
Brahmer. JCO. 2018;36:1714.

UPPER TRACT TCC

- Nephron sparing option for patients with low grade upper tract disease
- Proper patient identification and counseling
- Retrograde or antegrade approach
- Disease surveillance post treatment
- Real world experience has been favorable
- Easy and practical for all urologists
- Bladder indication for intermediate risk disease anticipated

CONCLUSIONS

- Importance of the TURBT
- Newer tests can improve upon cysto/cytology
- BCG stewardship and monitoring
- Understand the newer options for BCG unresponsive disease
- Appropriate risk stratification and multimodal/internal referral when needed
- Embrace IO and understand the side effects – even if you are not giving it
- Nonsurgical options in upper tract TCC
- Clinical trial opportunities abound in this disease and can be life changing for patients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Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

BUILDING A SUCCESSFUL FEMALE SEXUAL HEALTH PROGRAM/ MEDICAL SPA

15th ANNIVERSARY LUGPA

MEET OUR DISCUSSANTS

2023 ANNUAL MEETING
November 2 – 4
Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

Moderator

Guy Manetti, MD, FACS
Urology Associates of Danbury PC
Danbury CT

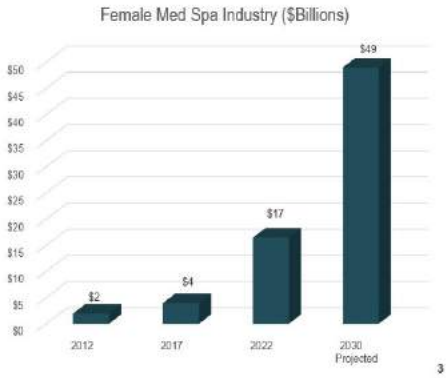
Panelists

Sarah K. Girardi, MD
Integrated Medical Professionals
Manhasset, NY

Anika Ackerman, MD
Atlantic Medical Group
Morristown, NJ

MEDICAL SPA INDUSTRY GROWTH

- Female medical spas (medispa) are a growing industry particularly as more options have become available for peri and post menopausal women
- Urologists are uniquely positioned to meet the needs of these patients
- The medispa industry generated $16.5 billion in revenue in 2022 up from $4 billion in 2017 and is projected to generate $49 billion by 2030
- In 2022, there were 8,841 spas in operation with an average annual revenue of $1.98 million



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MEDICAL SPA INDUSTRY OPPORTUNITIES

- Wide range of potential services ranging from management of female sexual dysfunction, cosmetic procedures such as Botox and laser hair removal to vaginal rejuvenation procedures.
- In office procedures that are non-surgical and less invasive than traditional surgical options are the trend and treatment modalities continue to improve
- How can urologists identify the need for such services in their communities and efficiently set up services to take advantage of the lucrative opportunities of this booming industry?

4

WOMEN'S HEALTH AND SEXUAL DYSFUNCTION

When evidenced-based is not enough

MENOPAUSE DEFINITION

- A natural process of aging when the ovaries stop producing hormones
- 12 months without a menstrual period
- Average age 51

PERIMENOPAUSE DEFINITION

- Perimenopause is the period of transition from reproductive years to menopause
- Includes the years leading up to and following menopause
- Can last 10 to 15 years

SCOPE OF THE PROBLEM

- 1.3 million US women per year become menopausal
- 74% experience vasomotor symptoms (VMS)
- 60% experience genitourinary symptoms (GSM)
- 5% experience menopause 40-45
- Many women will spend close to half their lives in menopause

SYMPTOMS OF MENOPAUSE

- Hot flashes
- Sleeplessness
- Depression
- Weight gain
- Decreased libido
- Osteopenia
- Sarcopenia
- Arousal disorders
- Hair loss
- VVA
- GSM

HISTORY OF HORMONE REPLACEMENT

- Early 1900s Premarin approved for hot flashes
- 1966 Wilson's "Feminine Forever" recognizes menopause as hormone deficiency disease
- 1970s unopposed estrogen associated with endometrial cancer
- 1988 FDA approves HRT for VSM and prevention of osteoporosis
- 1998 Women's Health Initiative

WOMEN'S HEALTH INITIATIVE

- Largest randomized, placebo-controlled study to date
- Assess effects of HRT on common causes of death and disability in postmenopausal women
- 16,608 with uteri, 10,739 without
- 0.625 CEE by mouth +/- 2.5 mg oral medroxyprogesterone
- Average age 63
- Endpoints: cardiovascular disease, cancer, osteoporosis
- Study stopped prematurely due to CAD, stroke despite osteoporosis, colon CA

NAMS POSITION STATEMENT

- Hormone therapy is the most effective treatment for VMS and GSM and has been shown to prevent bone loss and fracture.
- Risks of hormone therapy differ for women, depending on type, dose, duration of use, route of administration, timing of initiation, and whether a progestogen is needed. Treatment should be individualized using the best available evidence to maximize benefits and minimize risks, with periodic reevaluation.
- For women aged younger than 60 years or within 10 years of menopause onset and without contraindications, the benefit-risk ratio appears favorable for treatment of bothersome VMS and for the prevention of bone loss and reduction of fracture. Based on the WHI RCTs, longer duration may be more favorable for ET than for EPT.
- For women who initiate hormone therapy more than 10 or 20 years from menopause onset or when aged 60 years or older, the benefit-risk ratio appears less favorable than for younger women because of greater absolute risks of CHD, stroke, VTE, and dementia.
- For GSM symptoms not relieved with nonhormone therapies, low-dose vaginal ET or other government-approved therapies (eg, vaginal DHEA or oral ospemifene) are recommended.

NAMS POSITION STATEMENT Menopause, Vol. 29, No. 7, 2022 79

HRT

- Systemic
- Estrogen patch, cream, spray, pellet
- Alleviate vasomotor symptoms of menopause, osteoporosis, cognitive, depression

- Local
- Estrogen cream, tablet, suppository, ring
- Reduce GSM, VVA, UTIs, SUI, UUI

J NAMS Vol 29(7):May 2022

HRT AND BREAST CANCER CONTINUED

- Risk of breast cancer with use of estrogen therapy is rare (less than 1 case per 1000 women per year)

- Risk is similar to modifiable risk factors e.g. 2 alcoholic bev/day, sedentary lifestyle, obesity

- Assess prior estrogen use, individual risk, duration and type of use

HRT AND BREAST CANCER CONTINUED

- HRT not recommended in BCA survivors, but can be considered for tx VMS when non hormonal treatment fails

- Low dose vaginal E or DHEA can be considered in BCA survivors with GSM after shared decision making with oncologist

- Regular breast cancer surveillance recommended for all women on HRT according to current BCA screening guidelines

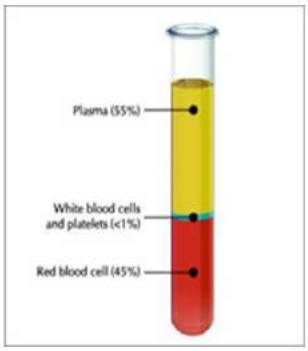
J NAMS Vol 29(7):May 2022

ALTERNATIVES TO HORMONES

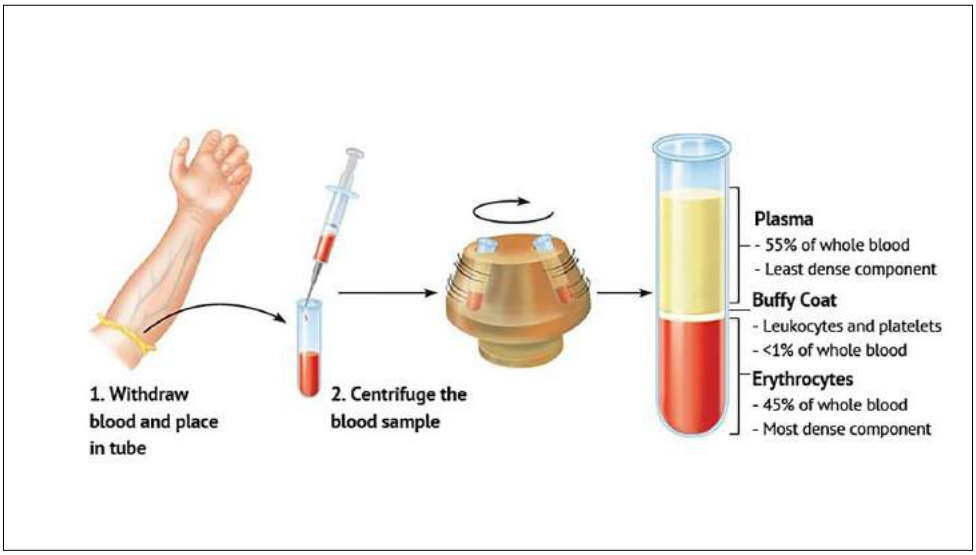
- Compounded creams
- Laser treatment
- Radiofrequency Ablation
- Platelet Rich Plasma

- Radiofrequency ablation is used to stimulate collagen, blood supply, nerve supply
- One to three treatments every 4 weeks
- Contraindicated in pregnancy, vaginal infection, open wound
- Consult physician if metal device (defibrillator, IUD, cochlear implant)

PRP



- Platelet Rich Plasma used in orthopedics, dermatology, hair restoration
- Plasma rich in cytokines and growth factors
- Enhances healing, reduces inflammation
- Orgasm shot, ED shot
- Lichen sclerosis, Lichen planus
- Recommend 3 treatments spaced 1 month apart



SUMMARY

- Over 60% of women will experience symptoms of menopause
- Education is needed to better understand risks and benefits of local and systemic HRT
- Options are available for those who cannot or elect not to pursue HRT
- Laser treatment, Radiofrequency, and PRP have all shown benefit for alleviating GSM and VVA with little to no risk
- Women no longer have to accept VSM and GSM as simply "aging"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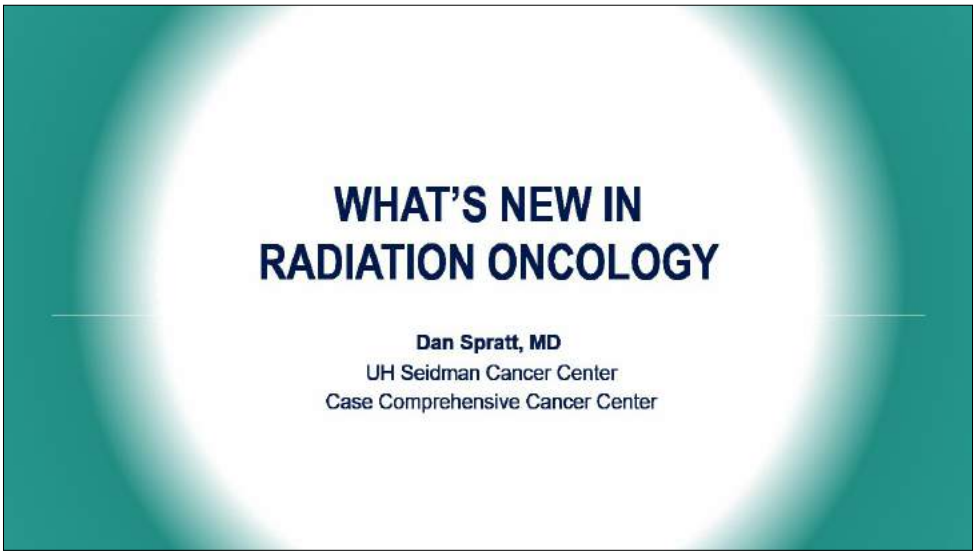
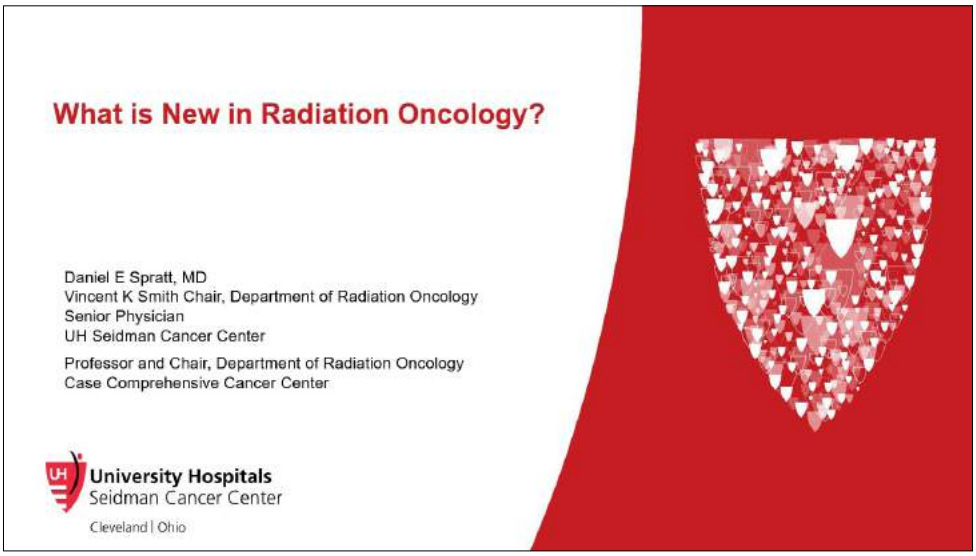

WHAT'S NEW IN
RADIATION ONCOLOGY
Dan Spratt, MD
UH Seidman Cancer Center
Case Comprehensive Cancer Center


What is New in Radiation Oncology?
Daniel E Spratt, MD
Vincent K Smith Chair, Department of Radiation Oncology
Senior Physician
UH Seidman Cancer Center
Professor and Chair, Department of Radiation Oncology
Case Comprehensive Cancer Center
University Hospitals
Seidman Cancer Center
Cleveland | Ohio


Our purpose as physicians…
University Hospitals
Seidman Cancer Center
Cleveland, Ohio | 3

To improve the way cancer patients experience life

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Seidman Cancer Center

Cleveland, Ohio | 4

Four main options for localized prostate cancer

Active Surveillance

Radical Prostatectomy
"Surgery"

Radiation Therapy

Experimental Therapies

Focal Therapy:
- HIFU
- Microwave
- RFA
- Focal Cryotherapy
- Focal brachy
- Focal SBRT
- TULSA
- Gold nanoparticles

University Hospitals
Seidman Cancer Center

Four main options for localized prostate cancer

Active Surveillance

Radical Prostatectomy
"Surgery"

Radiation Therapy

Experimental Therapies

?

Similar Outcomes for Low Risk Prostate Cancer

University Hospitals
Seidman Cancer Center

ProtecT Trial

Cleveland, Ohio | 6

Four main options for localized prostate cancer

Active Surveillance | Radical Prostatectomy "Surgery" | Radiation Therapy | Experimental Therapies

?

Similar Outcomes for Intermediate Risk Prostate Cancer

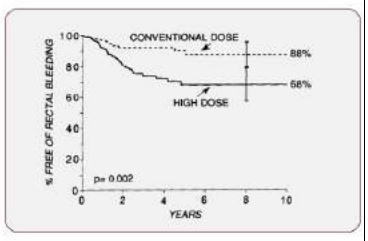
ProtecT Trial

University Hospitals Seidman Cancer Center

Cleveland, Ohio | 7

The early years of radiation therapy: "2D"

1950s- mid 1980s



75 Gy

32% rectal bleeding!

71 days to complete

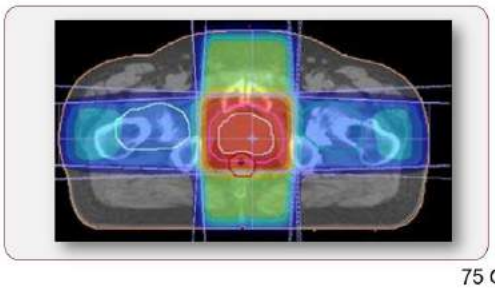
Shipley et al, IJROBP 1995

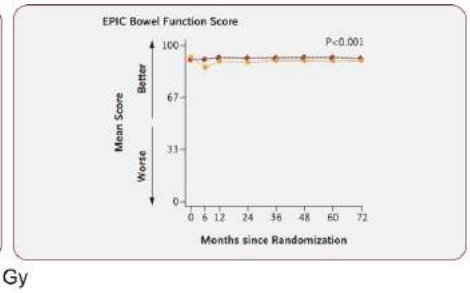
University Hospitals Seidman Cancer Center

Cleveland, Ohio | 8

What many older physicians and patients experienced: "3D"

1980s to late 1990s/early 2000s





75 Gy

8% <u>bothersome</u> rectal toxicity

60 days to complete

Donovan, NEJM, 2016

University Hospitals Seidman Cancer Center

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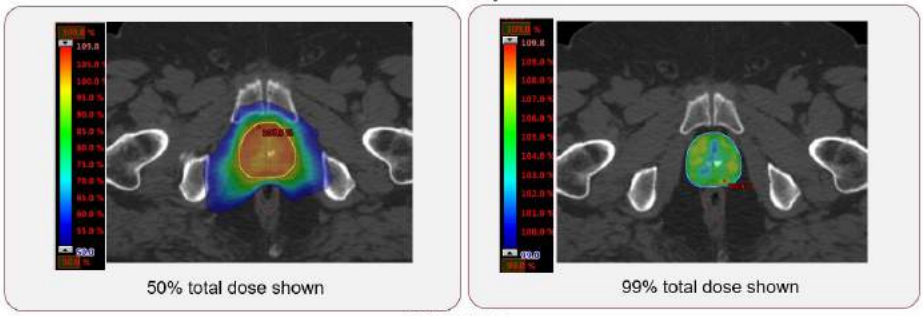
Semi-modern technology: "IMRT"

1990s until early 2015



50% total dose shown | 99% total dose shown

EBRT: 80 Gy

1-3% Grade 3+ rectal toxicity

60 days to complete

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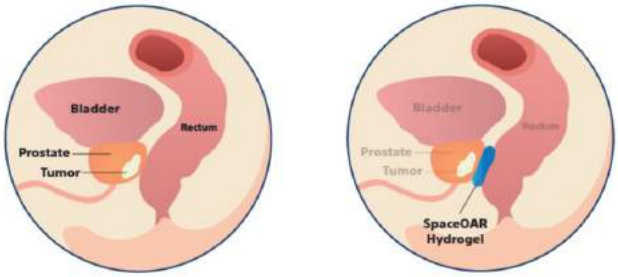
Introduction to rectal spacer gels (others on the market now too)



Anatomy without SpaceOAR Hydrogel | **Anatomy with SpaceOAR Hydrogel**

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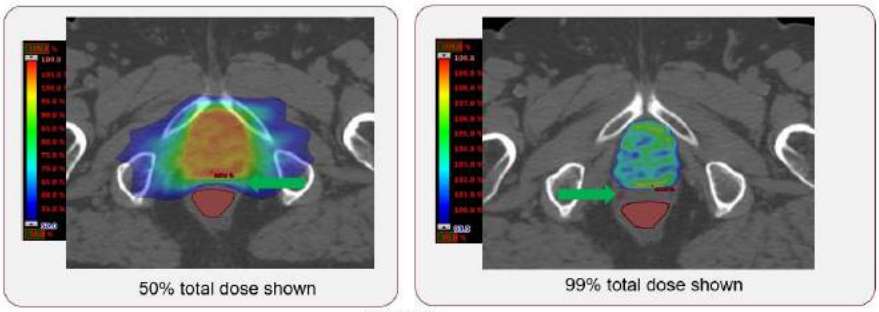
Spacer gel enables rectum to be greatly spared from radiation

2016 (spacer gel entered my practice)



50% total dose shown | 99% total dose shown

80-90 Gy

0% Grade 2+ rectal toxicity

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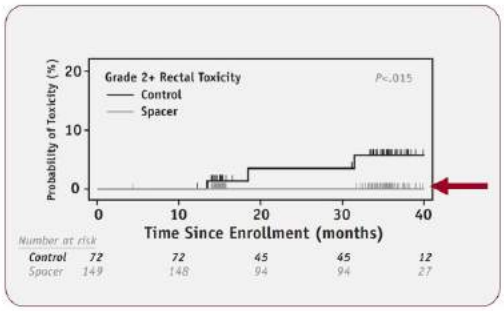
Rectal side effects very rare now

Continued Benefit to Rectal Separation for Prostate Radiation Therapy: Final Results of a Phase III Trial



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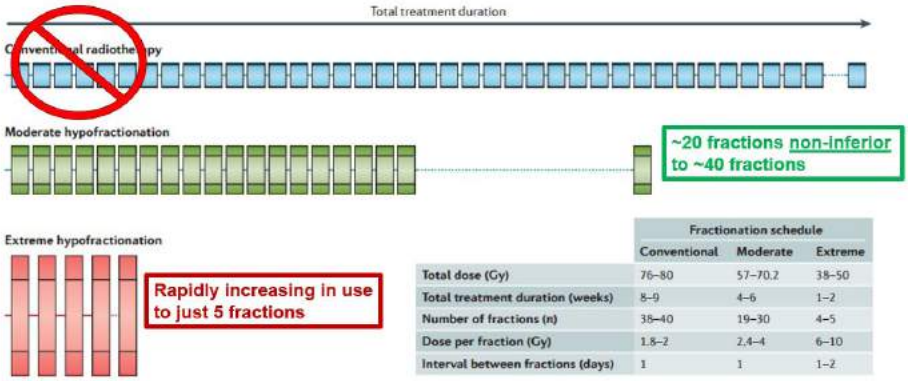

	Fractionation schedule		
	Conventional	Moderate	Extreme
Total dose (Gy)	76–80	57–70.2	38–50
Total treatment duration (weeks)	8–9	4–6	1–2
Number of fractions (n)	38–40	19–30	4–5
Dose per fraction (Gy)	1.8–2	2.4–4	6–10
Interval between fractions (days)	1	1	1–2

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Arcangeli S, Nature Reviews Urology 2016

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Evolution to new spacer gels with contrast

2021 to Present (my practice)

- ~90% receive SBRT
  - 5 treatments

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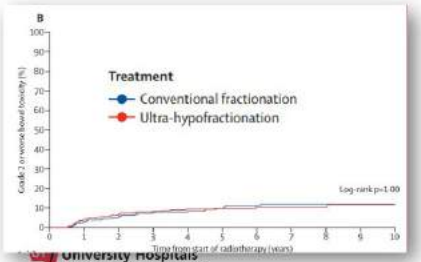
SBRT or SABR: Now guidelines recommended standard of care

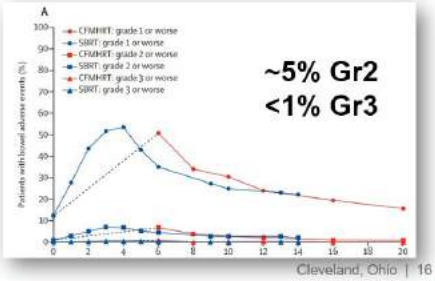
Ultra-hypofractionated versus conventionally fractionated radiotherapy for prostate cancer: 5-year outcomes of the HYPO-RT-PC randomised, non-inferiority, phase 3 trial

Intensity-modulated fractionated radiotherapy versus stereotactic body radiotherapy for prostate cancer (PACE-B): acute toxicity findings from an international, randomised, open-label, phase 3, non-inferiority trial

N=1200



N=844



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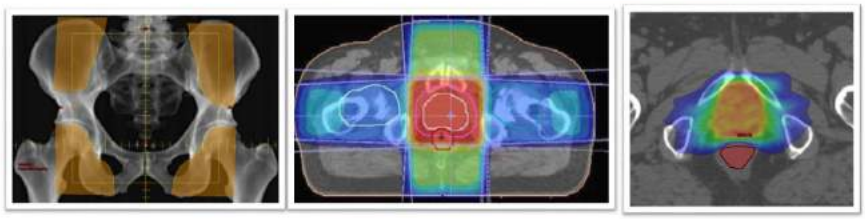
To improve the way cancer patients experience life

Fiducial markers Rectal spacers

Conebeam CT

2-dimensional 3-dimensional IMRT IGRT SBRT



45 treatments over **9 weeks**
>30% bothersome GI toxicity

5 treatments over 1-2 weeks
0% even moderate GI toxicity

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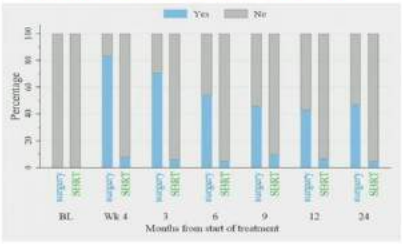
Differences between radiation and surgery

PACE-A
Randomized intermediate risk patients to radical prostatectomy vs SBRT

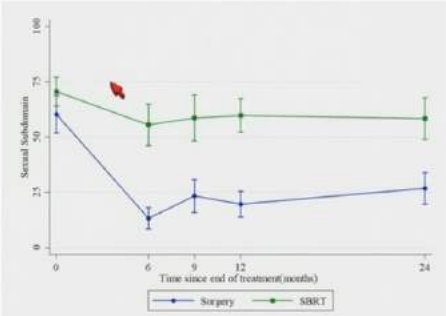
Urinary incontinence rare after SBRT



No significant differences in bowel side effects

EPIC-26 overall bowel habits at 24 months post treatment (Binary outcome)		
No problem/very small problem/small problem	31 (100)	45 (97.8)
Moderate problem/big problem	0 (0)	1 (2.2)
Chi-square p-value	0.41	

~12% increase in erectile dysfunction with SBRT



Convenience

Localized Prostate Cancer Radiotherapy

40 tx → 28 tx → 20 tx → 7 tx → 5 tx → 4 tx → 2 tx → 1 tx

Post Prostatectomy Radiotherapy

39 tx → 36 tx → 25 tx → 20 tx → 15 tx → 5 tx

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Are we headed to even shorter regimens?

Localized Prostate Cancer Radiotherapy

40 tx → 28 tx → 20 tx → 7 tx → 5 tx → 4 tx → **2 tx** → 1 tx


Two versus five stereotactic ablative radiotherapy treatments for localized prostate cancer: A quality of life analysis of two prospective clinical trials


STUDY PROTOCOL Open Access

A randomized phase II trial of MR-guided prostate stereotactic body radiotherapy administered in 5 or 2 fractions for localized prostate cancer (FORT)

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Are we headed to even shorter regimens?

Localized Prostate Cancer Radiotherapy

40 tx → 28 tx → 20 tx → 7 tx → 5 tx → 4 tx → 2 tx → **1 tx**

CAUTION FOR NOW

JAMA Oncology
American Medical Association

Safety and Efficacy of Virtual Prostatectomy With Single-Dose Radiotherapy in Patients With Intermediate-Risk Prostate Cancer

Results From the PROSINT Phase 2 Randomized Clinical Trial

Carlo Greco, MD, Oriol Pares, MD, [...], and Zvi Fuks, MD

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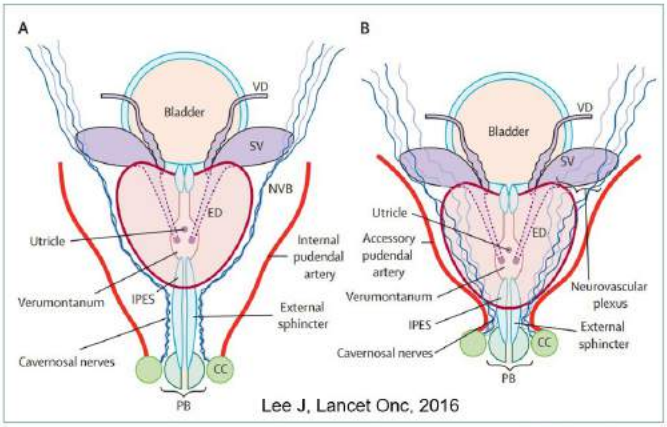
Side Effects

Vessel-sparing radiation and functional anatomy-based preservation for erectile function after prostate radiotherapy

Vessel-Sparing RT



Lee J, Lancet Onc, 2016

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Figure 5: Favourable and unfavourable variations in anatomy for preservation of erectile function after radiotherapy

2

Prostate Cancer

Vessel-sparing Radiotherapy for Localized Prostate Cancer to Preserve Erectile Function: A Single-arm Phase 2 Trial

JAMA 2011

Using PROSTQA Model to Predict Erectile Dysfunction after Nerve Sparing RP or Conventional EBRT:

Median age 63	Nerve-Sparing Prostatectomy Expected % Potent (95%CI)	Conventional External Beam Radiotherapy Expected % Potent (95%CI)	Vessel-Sparing Radiotherapy Observed % Potent (95%CI)	P-value*
Total Cohort	24% (22-27%)	42% (38-45%)	78% (71-85%)	<0.001
Top quartile baseline erectile function	35% (32-38%)	55% (51-59%)	87% (77-97%)	<0.001
Bottom quartile baseline erectile function	13% (8-18%)	26% (21-31%)	69% (55-83%)	<0.001
Age <65	31% (28-34%)	44% (40-48%)	81% (72-90%)	<0.001
Age ≥65	15% (13-17%)	38% (33-43%)	73% (61-85%)	<0.001
No ADT	26% (23-29%)	51% (48-54%)	84% (76-92%)	<0.001
ADT	21% (18-24%)	22% (19-25%)	66% (52-80%)	<0.001

Abbreviations: ADT, Androgen Deprivation Therapy; CI, Confidence Interval

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Vessel Sparing RT Randomized Trial

Phase II randomized controlled trial of stereotactic ablative body radiotherapy (SAbR) with or without neurovascular sparing for erectile function preservation in localized prostate cancer: a study of prostate oncologic therapy while ensuring neurovascular conservation (SAbR POTEN-C)

Multi-center randomized trial of:

SBRT +/- Vessel-Sparing RT

95% enrolled
(120 total planned)

All patients get:

- IGRT
- 5 fractions of SBRT
- Rectal Spacer

POTEN-C

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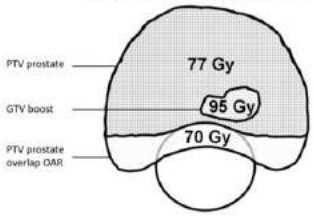
Dose painting

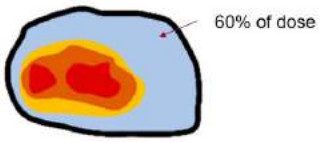
Approach 1: Increase tumor control
Isoeffective toxicity

FLAME Trial
Full dose to whole gland
Very high dose to dominant nodule



Approach 2: Reduced toxicity
Isoeffective tumor control

Reduced dose to whole gland
Very high dose to dominant nodule



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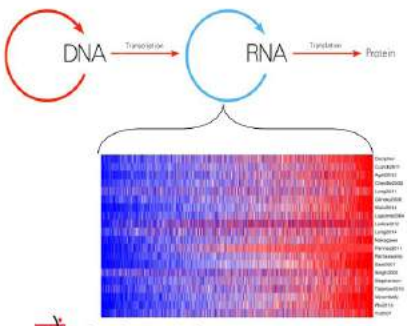
Personalizing Hormone Therapy Use

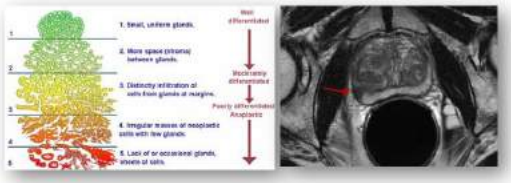
Genotype (objective)

Phenotype (subjective and error prone)



Histology
(Gleason Grade)

Radiology
(PI-RADS)



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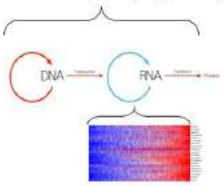
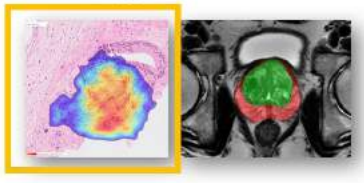
Personalizing Hormone Therapy

Genotype (objective)



AI
Histology

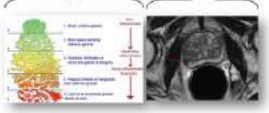
AI
Radiology



Phenotype
(subjective and error prone)

Histology
(Gleason Grade)

Radiology
(PI-RADS)



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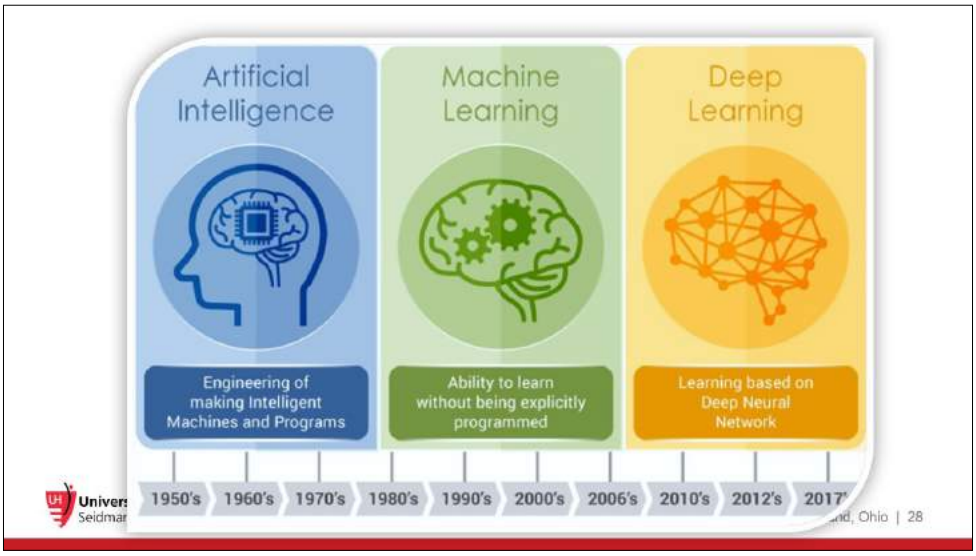
Artificial Intelligence
Machine Learning
Deep Learning
Engineering of making Intelligent Machines and Programs
Ability to learn without being explicitly programmed
Learning based on Deep Neural Network
1950's
1960's
1970's
1980's
1990's
2000's
2006's
2010's
2012's
2017
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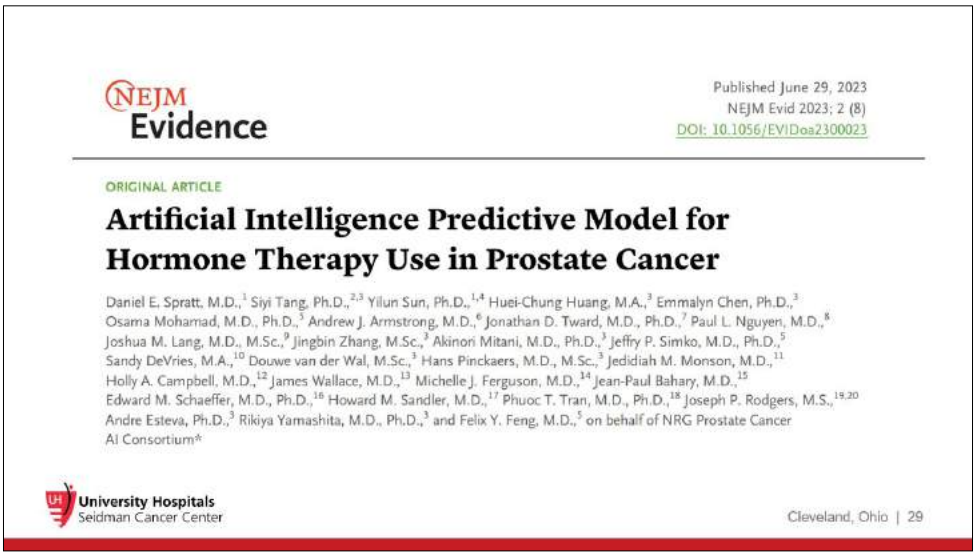
Seidma
Ohio | 28


NEJM Evidence
Published June 29, 2023
NEJM Evid 2023; 2 (8)
DOI: 10.1056/EVIDoa2300023
ORIGINAL ARTICLE
Artificial Intelligence Predictive Model for Hormone Therapy Use in Prostate Cancer
Daniel E. Spratt, M.D.,[1] Siyi Tang, Ph.D.,[2,3] Yilun Sun, Ph.D.,[1,4] Huei-Chung Huang, M.A.,[3] Emmalyn Chen, Ph.D.,[3] Osama Mohamad, M.D., Ph.D.,[3] Andrew J. Armstrong, M.D.,[6] Jonathan D. Tward, M.D., Ph.D.,[7] Paul L. Nguyen, M.D.,[8] Joshua M. Lang, M.D., M.Sc.,[9] Jingbin Zhang, M.Sc.,[3] Akinori Mitani, M.D., Ph.D.,[3] Jeffry P. Simko, M.D., Ph.D.,[5] Sandy DeVries, M.A.,[10] Douwe van der Wal, M.Sc.,[3] Hans Pinckaers, M.D., M.Sc.,[3] Jedidiah M. Monson, M.D.,[11] Holly A. Campbell, M.D.,[12] James Wallace, M.D.,[13] Michelle J. Ferguson, M.D.,[14] Jean-Paul Bahary, M.D.,[15] Edward M. Schaeffer, M.D., Ph.D.,[16] Howard M. Sandler, M.D.,[17] Phuoc T. Tran, M.D., Ph.D.,[18] Joseph P. Rodgers, M.S.,[19,20] Andre Esteva, Ph.D.,[3] Rikiya Yamashita, M.D., Ph.D.,[3] and Felix Y. Feng, M.D.,[5] on behalf of NRG Prostate Cancer AI Consortium*
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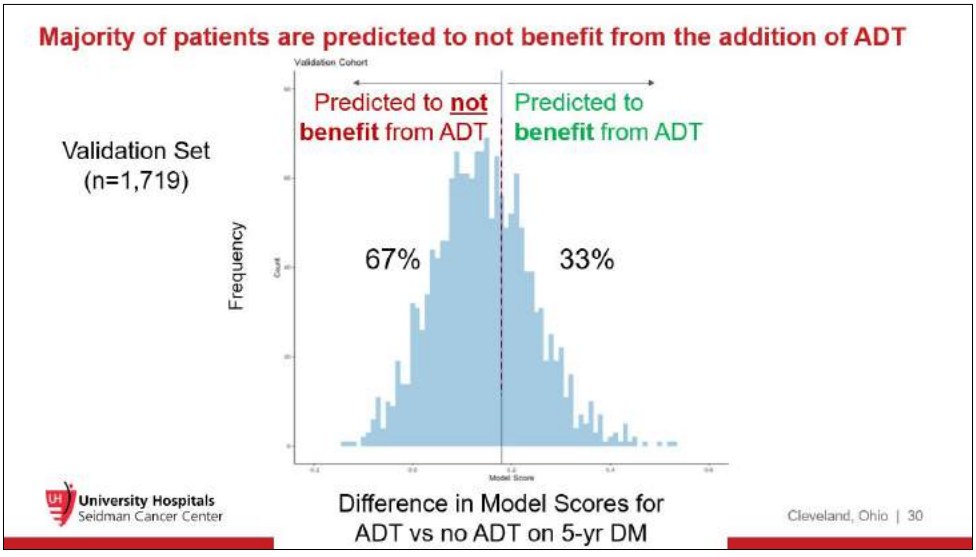
Majority of patients are predicted to not benefit from the addition of ADT
Validation Set
(n=1,719)
Validation Cohort
Predicted to not benefit from ADT
Predicted to benefit from ADT
Frequency
67%
33%
Model Score
Difference in Model Scores for ADT vs no ADT on 5-yr DM
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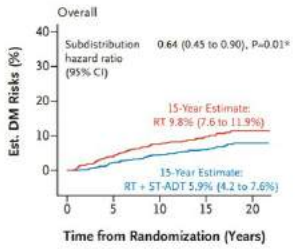
MMAI predictive model successfully identified differential benefit from the addition of ADT to RT



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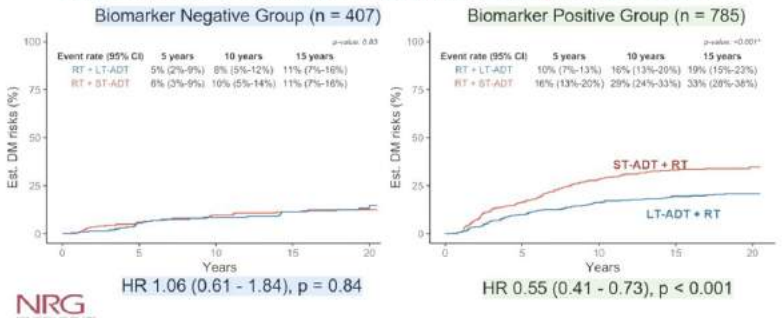
Predictive Biomarker of short-term vs long-term ADT now validated

Validation Results in NRG/RTOG 9202

~⅓ of men with high-risk prostate cancer could safely avoid LT-ADT

254 men (21%) developed DM, and risk differed by AI Biomarker groups AND treatment



HR 1.06 (0.61 - 1.84), p = 0.84

HR 0.55 (0.41 - 0.73), p < 0.001

NRG ONCOLOGY

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Armstrong A, et al. ASCO 2023

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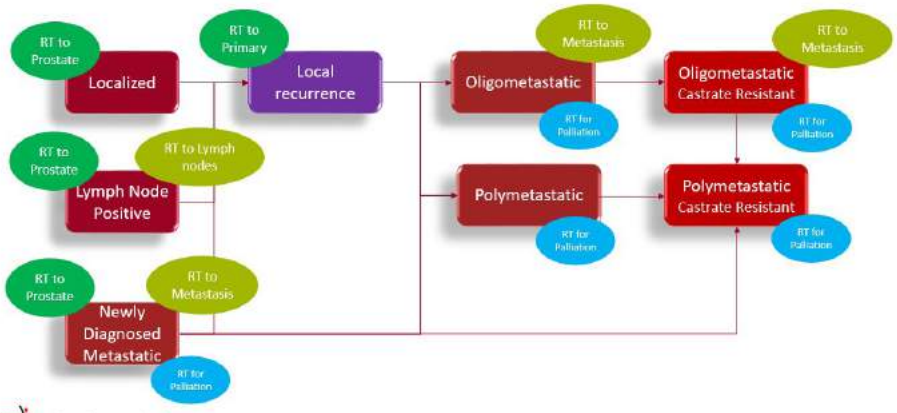
New Indications



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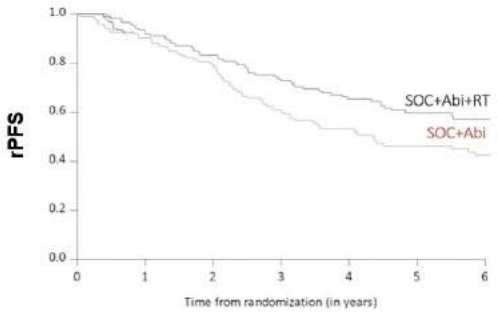
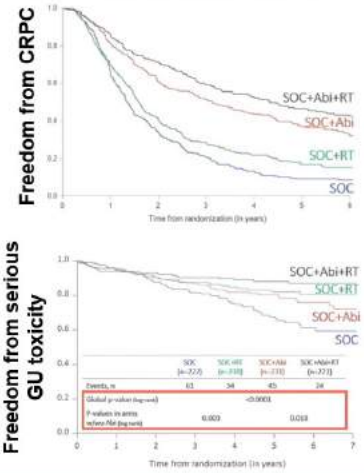
New Indications: High Volume mHSPC

Low Volume Metastatic Prostate Cancer



All Men with Metastatic Prostate Cancer



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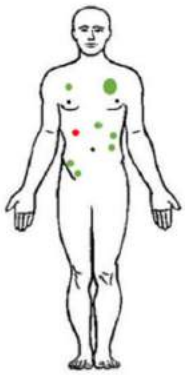
PEACE-1

New Indications: Oligoprogression mCRPC



OLIGOPROGRESSION

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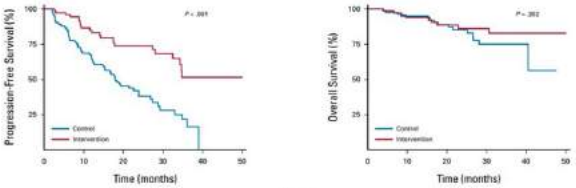
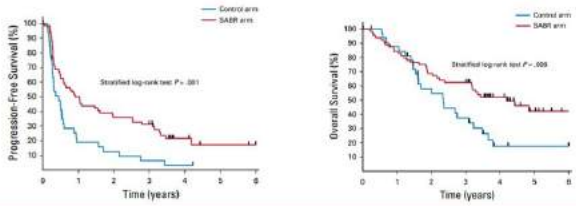
New Indications: Oligoprogression mCRPC

Stereotactic Body Radiation Therapy and Abiraterone Acetate for Patients Affected by Oligometastatic Castrate-Resistant Prostate Cancer: A Randomized Phase II Trial (ARTO)



Stereotactic Ablative Radiotherapy for the Comprehensive Treatment of Oligometastatic Cancers: Long-Term Results of the SABR-COMET Phase II Randomized Trial



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New Indications: Viewing Radiotherapy as 'Cycles"

When a patient recurs after radiotherapy people say they "failed" radiotherapy (really the treatment didn't eradicate all disease)

When a patient recurs after 1 cycle of chemotherapy no one says the treatment failed

Even after 6+ cycles of chemotherapy often a "rechallenge" can be given if tolerable

177Lu-PSMA (Pluvicto) we give cycles (some have given >10!)

Why not give serial SBRT to all visible sites of disease to continue to cytoreduce?

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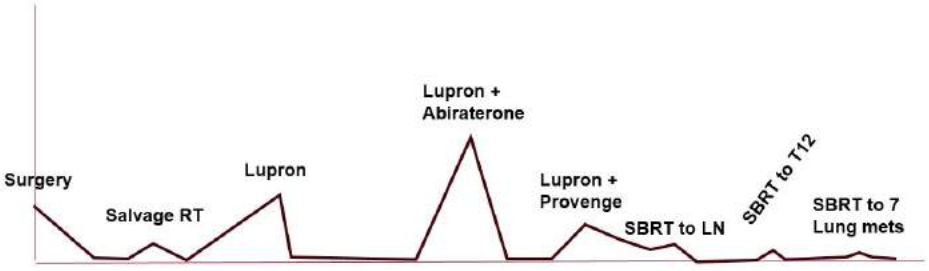
New Indications: Viewing Radiotherapy as 'Cycles"



He has been alive for 6 years with mCRPC and currently has mHSPC on just Lupron!

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Honorable mentions

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Protons: Not *clearly* better or worse

PARTIqol randomized trial has finished enrollment

n=400

Results expected in 2025?

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MRI guided RT: Can debate it both ways

MIRAGE randomized trial reduced acute toxicity and improve QOL

Changed PTV margins due to improved image guidance

Not powered to determine tumor control

Viewray that makes MRIdian went bankrupt

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Summary

- Radiotherapy continues to expand its role in the management of prostate cancer
  - Localized, locally advanced, cN+, low volume M1, high volume M1, oligomet, mHSPC, BCR post-RP, palliative, radiopharm (ie 177Lu-PSMA, 223-Radium, etc)
- Radiotherapy continues to become increasingly convenient, less invasive (ie brachy use declining), and more accurate
- Imaging enabling dose painting to improving therapeutic window
- Biomarkers enabling more personalized use/duration of ADT with radiotherapy

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Seidman Cancer Center
Case Western Reserve University
Radiation Oncology Reimagined
@DrSpratticus


LUGPA
Integrated Practices
Comprehensive Care

15th ANNIVERSARY LUGPA Since 2008

2023 ANNUAL MEETING
November 2 – 4
Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

GOOD, BAD and UGLY of NEW BPH TREATMENTS

15th ANNIVERSARY LUGPA

MEET OUR DISCUSSANTS

2023 ANNUAL MEETING
November 2 – 4
Disney's Yacht and Beach Club Resorts | Lake Buena Vista, Florida

Moderator

Gregg Eure, MD
Urology of Virginia
Virginia Beach, VA

Arpeet Shah, MD
Associated Urological Specialists, LLC
Homewood, IL

Panelists

Kevin Zorn, MD
University of Montreal
Montreal, QC

Tom Mueller, MD
New Jersey Urology LLC
Sewell, NJ

AUS BPH Pathway

ASSOCIATED UROLOGICAL SPECIALISTS

Initial Office Visit

- H&P/IPSS with QOL Score/DRE
- U/A/PVR
- PSA (based on age)
- **BPH Brochure**

IPSS ≤ 7

(or not interested in therapy)

- **Behavior Modification** (double voiding, avoid caffeine, alcohol, and other Diuretics, nighttime fluid restriction)
- **Shared decision discussion** – if interested in therapy, treat as IPSS ≥ 8 Pathway

IPSS ≥ 8

(or interested in therapy)

- **Medical Therapy**
- **Urecuff** (preferred) or Uroflow
  - Non-Obstructed: Observation, behavior modification.

AND/OR

(Obstructed, failed medical therapy, or interested in procedure)

- **Cystoscopy**
- **TRUS** (MRI if TRUS not available or >150g prostate)

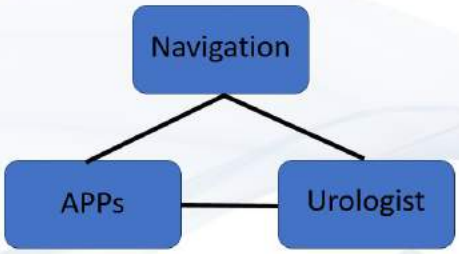
AUR

- See AUR Pathway under "General"

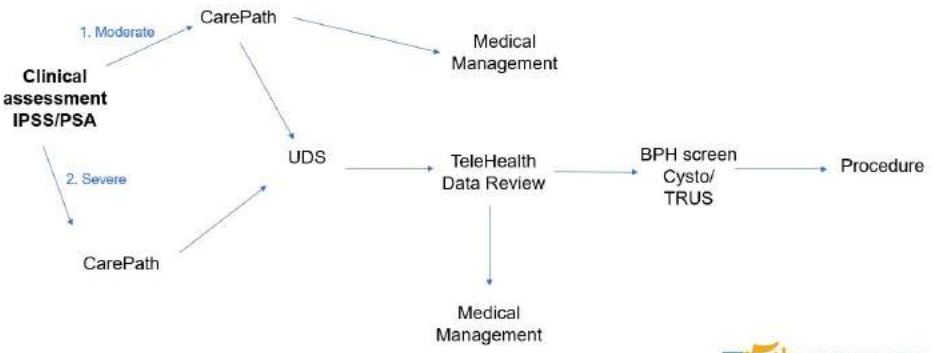
Observation | **Surgical Therapy** | **Medical Therapy**

Optimizing our Pathway

- Prompt re-evaluation (2-4 weeks)
  - Patient momentum
- Getting objective evidence of prostate/bladder health to the patient
- Clearing schedules for TRUS and cystoscopy with physicians
- Maximizing the expertise of all levels of staff within a practice (navigators, APPs, and urologists)



BPH PATHWAY ~ within 6-8 weeks



Flex Disposable Cysto

- Rigid Cysto
- Disposable, more affordable
- Working channel

PROSTATE VOLUME

- Prostate volume important
  - Choose therapy
  - Guide therapy
  - Educate the pt
- Advantage to obtain early
- MRI, CT, Transabdominal
- TRUS
  - Traditional/trials
  - Clarius-bluetooth

Urology of Virginia

- Digital navigation system
- Educate patients on their time
- Treasure trove of data
- Accurate measurement, cell connection

Urology of Virginia

- Collect data @ home; 21 days
- Medication trial
- Engages, motivates the patient
- Remote Patient Monitoring (RPM)

Urology of Virginia

Urology of Virginia

SOCIETY OF BENIGN PROSTATE DISEASE

My Stats

Previous

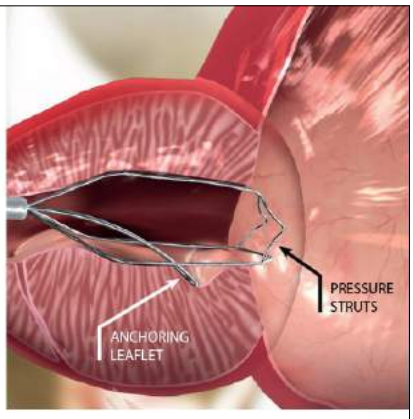
- Cysto ~30%
- Intervention rate 15%

Current

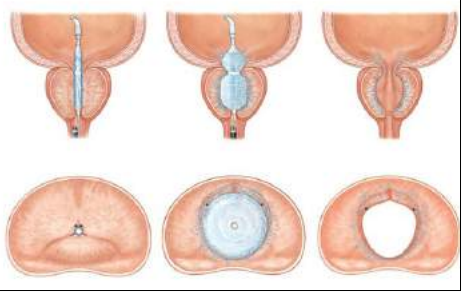
- Data Driven Intervention X 3
- Cysto 80 +%
- Procedures 42%

(PPS Data, 2023)

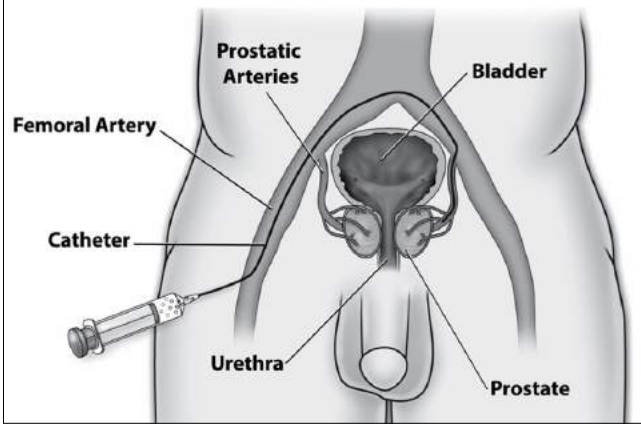
- Durability?
- Reimbursement?



- Previous balloon therapy failed
- Time will tell
- FDA Approved



Prostate Artery Embolization (PAE)



- AUA Guidelines update accepting
- Rising uptake
- Role in select patients

AQUABLATION BY PROCEPT

- Usage growing
- Reimbursement/Marketing driven
- Hospital based
- Cost
- Reliable ablation
- Water II Study (80-150 gms)

Urology of Virginia

MIST Uptake and Impact

- 12 Million BPH Pts / Intervention 250 K (<3%) [Symphony Pt Source 2020]
- Laborie, Olympus, Boston Sci and TeleFlex invested > $2 Billion
- 14 Million BPH Pts / Intervention 300 K (2%) [IQVIA Data 2022]
- Intervention rate stable (Cannibalized TURP)

Alan Aladdin

- IPSS 24
- PVR 130
- TRUS Vol: 50 cc
- Cysto: Bilobar

- IPSS 24
- PVR 130
- TRUS Vol: 50 cc
- Cysto: Moderate median lobe

- IPSS 16
- PVR 45 ml
- TRUS Vol: 145 cc
- Cysto: Trilobar

- IPSS 16
- PVR 45 ml
- TRUS Vol: 145 cc
- Cysto: Massive intravesical middle lobe

- IPSS 5
- QOL 1
- Two prior episodes of retention
- PVR 350 ml
- TRUS Vol: 80 cc
- Cysto: 4+ trabeculation

Tommy Tarzan 93 yo

- Persistent retention
- Eliquis, Plavix, ASA
- MRI Vol: 60 cc

Mickey Mouse 65 yo

- IPSS 8
- PSA 1.5
- PVR 30 CC
- Symptoms well controlled on Tamsulosin
- Management?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Best Practices for Active Surveillance
LUGPA CME Session
November 2, 2023


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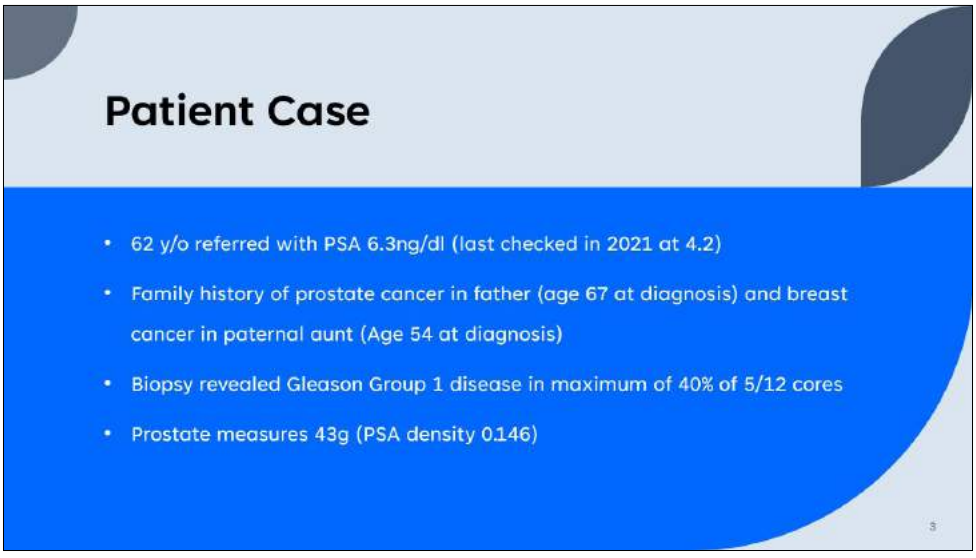
November 2 – 4
Panel
Ronney Abaza, MD
Aaron Berger, MD
David Crawford, MD
David Morris, MD
See Program for Disclosures
2


Patient Case
62 y/o referred with PSA 6.3ng/dl (last checked in 2021 at 4.2)
Family history of prostate cancer in father (age 67 at diagnosis) and breast cancer in paternal aunt (Age 54 at diagnosis)
Biopsy revealed Gleason Group 1 disease in maximum of 40% of 5/12 cores
Prostate measures 43g (PSA density 0.146)
3

Would anyone NOT recommend AS?

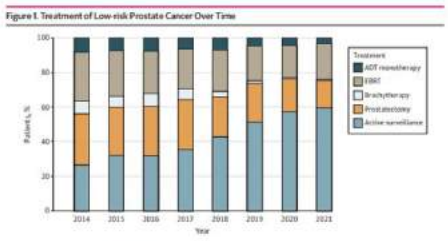
- Candidacy for Active Surveillance:
  - Active surveillance is preferred for patients with very-low-risk prostate cancer (See Risk Group Criteria [PROS-2]) and a life expectancy ≥10 years. (Observation is preferred for patients with a life expectancy <10 years and very-low-risk disease.)
  - Active surveillance is preferred for most patients with low-risk prostate cancer (See Risk Group Criteria [PROS-2]) and a life expectancy ≥10 years. The panel recognizes that there is heterogeneity across this risk group, and that some factors may be associated with an increased probability of near-term grade reclassification including high PSA density, a high number of positive cores (eg, ≥3), and high genomic risk (from tissue-based molecular tumor analysis).[3] In some of these cases, upfront treatment with RP or prostate RT may be preferred based on shared decision-making with the patient.
  - Patients with favorable intermediate-risk prostate cancer (See Risk Group Criteria [PROS-2]) and a life expectancy >10 years may also consider active surveillance. Particular consideration for active surveillance may be appropriate for those patients with a low percentage of Gleason pattern 4 cancer, low tumor volume, low PSA density, and/or low genomic risk (from tissue-based molecular tumor analysis).

NCCN Guidelines Version 4.2023
Prostate Cancer

4

National Trends in AS adoption

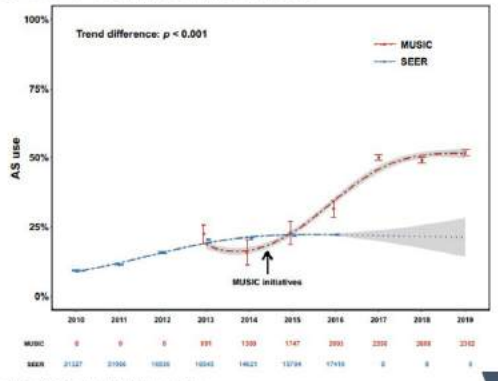
Updated AQUA Data



Time Trends and Variation in the Use of Active Surveillance for Management of Low-risk Prostate Cancer in the US

5

Effect of implementing AS program MUSIC experience



R.A. Vince Jr, Y Sun, B Mahal et al, The Impact of a Statewide Active Surveillance Initiative, Eur Urol (2022)

6

Program Leadership

- Do you have a pathway for patient selection for Active Surveillance for your practice?
- Do you monitor adherence?
- How do you handle outlier physicians?

7

Genomic Testing

- Should all patients on AS have tissue testing?
- What findings in genomic testing drive physician decision-making?
  - What drives Patient decision making?
- What data in the AS population are you looking to see?
- Do you have a preference in test?

8

Patient Case

- 62 y/o referred with PSA 6.3ng/dl (last checked in 2021 at 4.2)
- Family history of prostate cancer in father (age 67 at diagnosis) and breast cancer in paternal aunt (Age 54 at diagnosis)
- Biopsy revealed Gleason Group 1 2 disease in maximum of 40% of 5/12 cores
- Prostate measures 43g (PSA density 0.146)

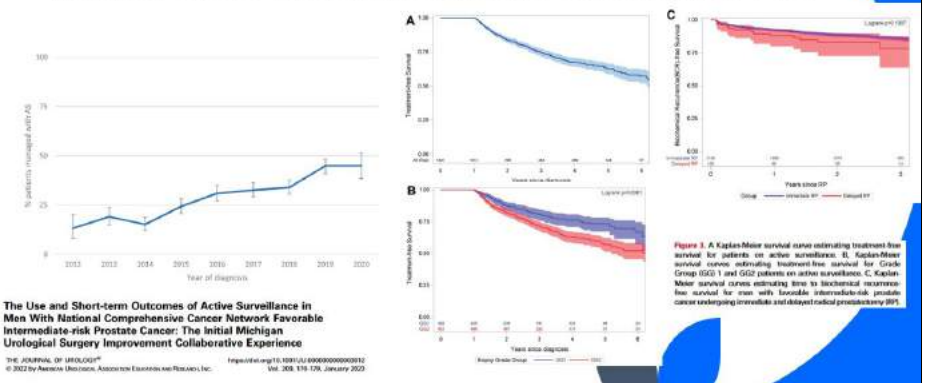
9

Patient Case

- 53y/o referred with PSA 6.3ng/dl (last checked in 2021 at 4.2)
- Family history of prostate cancer in father (age 67 at diagnosis) and breast cancer in paternal aunt (Age 54 at diagnosis)
- Biopsy revealed Gleason Group 1 2 disease in maximum of 40% of 5/12 cores
- Prostate measures 43g (PSA density 0.146)

10

Favorable Intermediate Risk and AS



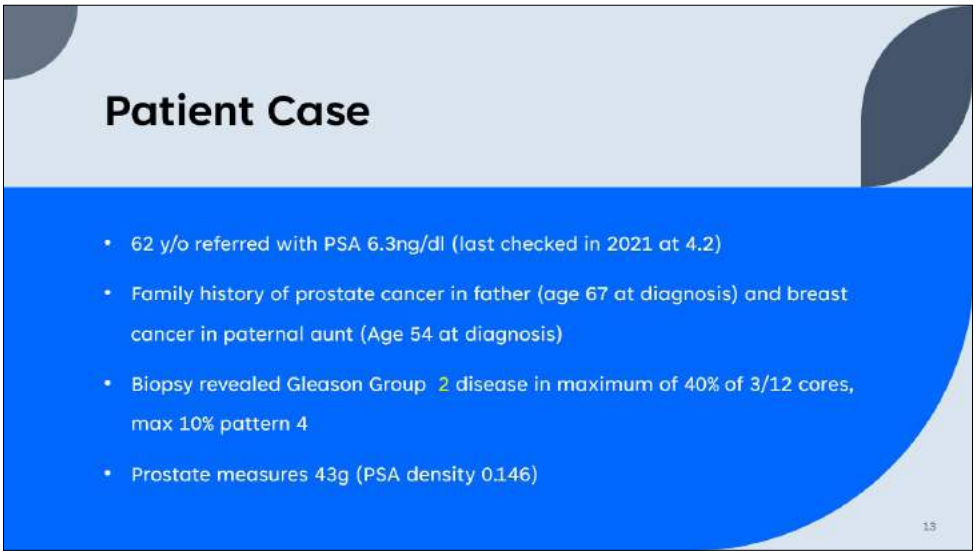
The Use and Short-term Outcomes of Active Surveillance in Men With National Comprehensive Cancer Network Favorable Intermediate-risk Prostate Cancer: The Initial Michigan Urological Surgery Improvement Collaborative Experience

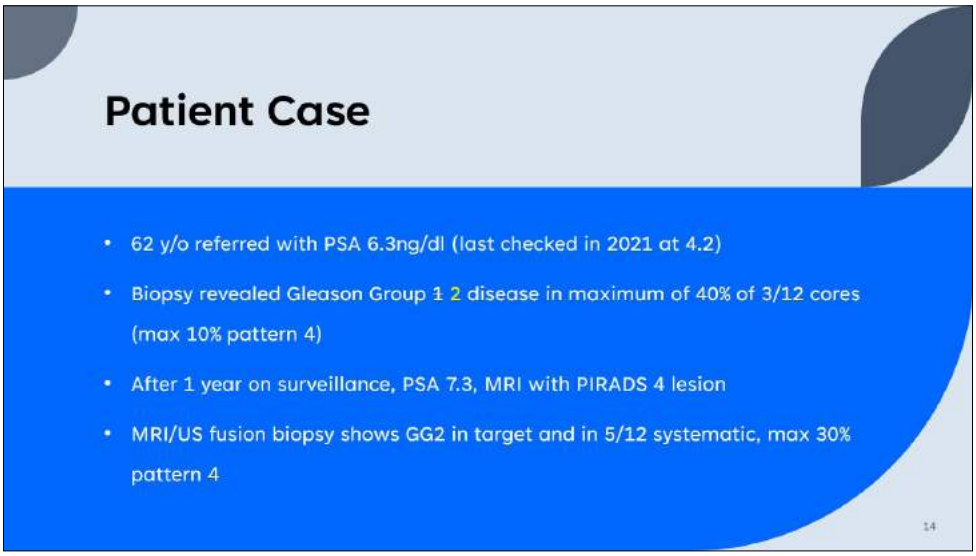
11

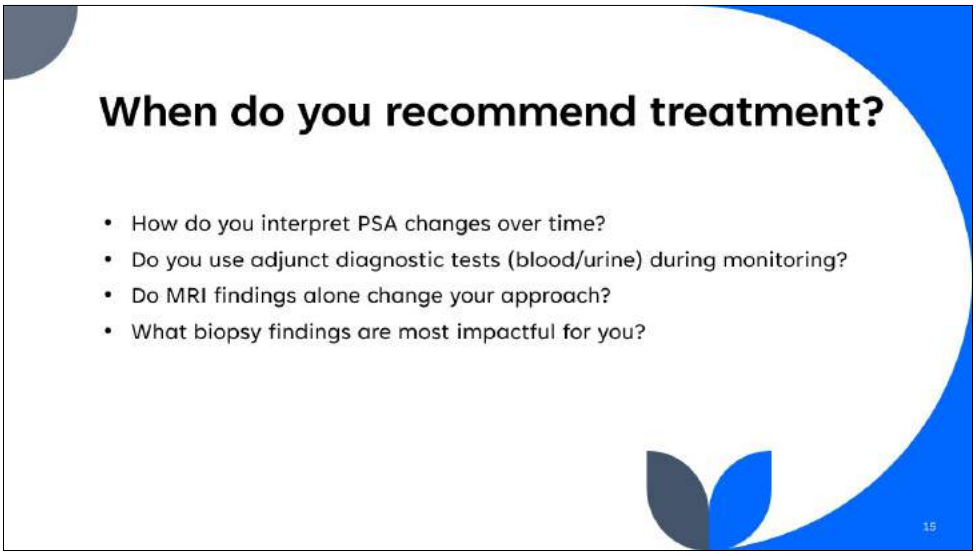
Favorable Intermediate Risk and AS

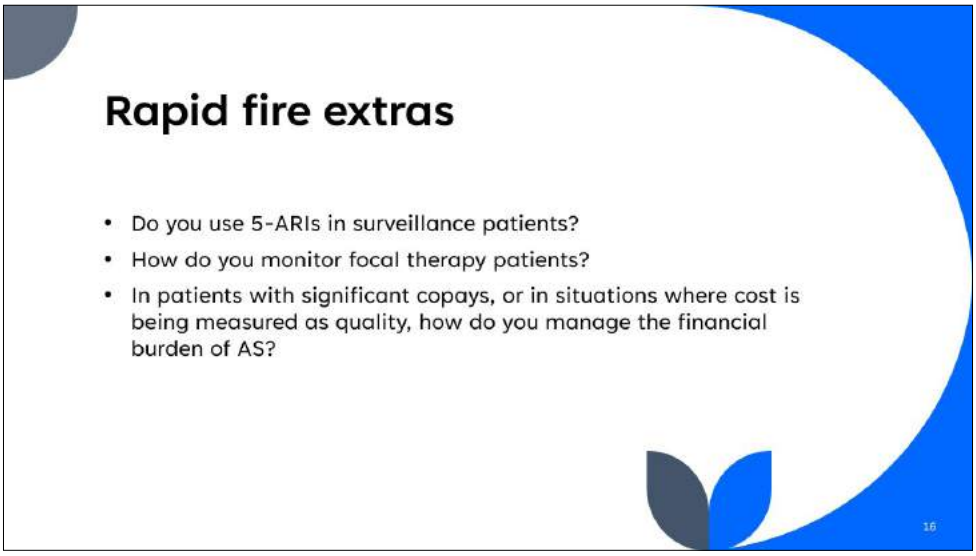
- Is there a sub-type of FIR that you are more comfortable with AS?
- Do you monitor FIR patients differently than LR?
- Do you watch all FIR patients the same (i.e. GG1 vs. GG2)

12


Patient Case
• 62 y/o referred with PSA 6.3ng/dl (last checked in 2021 at 4.2)
• Family history of prostate cancer in father (age 67 at diagnosis) and breast cancer in paternal aunt (Age 54 at diagnosis)
• Biopsy revealed Gleason Group 2 disease in maximum of 40% of 3/12 cores, max 10% pattern 4
• Prostate measures 43g (PSA density 0.146)
13


Patient Case
• 62 y/o referred with PSA 6.3ng/dl (last checked in 2021 at 4.2)
• Biopsy revealed Gleason Group 1 2 disease in maximum of 40% of 3/12 cores (max 10% pattern 4)
• After 1 year on surveillance, PSA 7.3, MRI with PIRADS 4 lesion
• MRI/US fusion biopsy shows GG2 in target and in 5/12 systematic, max 30% pattern 4
14


When do you recommend treatment?
• How do you interpret PSA changes over time?
• Do you use adjunct diagnostic tests (blood/urine) during monitoring?
• Do MRI findings alone change your approach?
• What biopsy findings are most impactful for you?
15


Rapid fire extras
• Do you use 5-ARIs in surveillance patients?
• How do you monitor focal therapy patients?
• In patients with significant copays, or in situations where cost is being measured as quality, how do you manage the financial burden of AS?
16


Thank You!!
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Comprehensive Care

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THE POWER of ARTIFICIAL INTELLIGENCE in UROLOGY

AI in APPLICATIONS in UROLOGIC ONCOLOGY

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MEET OUR DISCUSSANTS

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Inderbir Gill, MD
Institute of Urology,
Keck School of Medicine
University of Southern California
Los Angeles, CA

Jodi Maranchie, MD, FACS
University of Pittsburgh/UPMC
Pittsburg, PA

ARTIFICIAL INTELLIGENCE IN HEALTHCARE: BEYOND SCIENCE FICTION

3

ARTIFICIAL INTELLIGENCE

Everyday Applications:

Voice Recognition	Natural Language Processing	Image Recognition	Transport
Robotics	Customer Experience	Optimization	Decision Making
Sentiment Analysis	Pattern Analysis	Forecasting	Assessments
Research	Event Processing	Productivity	Design Tools
Design	Efficiency	Human-Computer Interaction	Games
Strategy	Problem Solving	Planning	Resilience

Oncologic Applications

- Classifying cancer
- Grading / staging cancer
- Devising Treatment Plans
- Predicting Treatment Response
- Patient Education

4

MACHINE LEARNING—FEATURE TRAINING

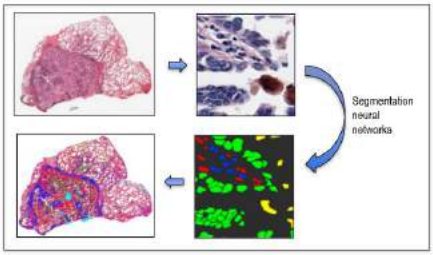
5

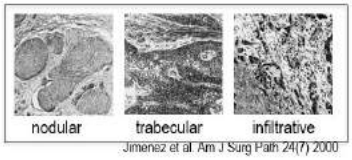
MACHINE LEARNING—FEATURES PITFALLS

6

MACHINE LEARNING IN PATHOLOGY: TISSUE AND CELL SEGMENTATION

- Detect and label area of interest
  - Mucosa / lamina propria / muscle
  - Nuclei / cytoplasm / stroma
- Identification of areas of cancer
  - Universal features
  - Recall similar cases in database
- Classify grade/stage
  - Nuclear and cell features
- Classify MIBC tumor architecture
  - Nodular / infiltrative / trabecular
- Generate reports





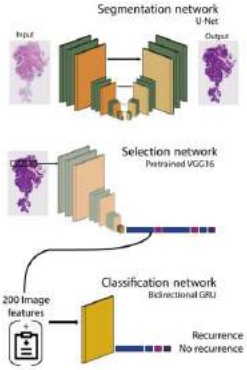
Jimenez et al. Am J Surg Path 24(7) 2000

PATHOLOGIC DEEP LEARNING FOR PREDICTION OF OUTCOME

Deep Learning–based Recurrence Prediction in Patients with Non–muscle-invasive Bladder Cancer

Marit Lucas [a,c,], Ilaria Jansen [a,b,c], Ton G. van Leeuwen [a], Jorg R. Oddens [b], Daniel M. de Bruin [a,b], Henk A. Marquering [c,d,e]*

	5-yr recurrence		
	Clinical data	Digital histopathology slides	Clinical data + digital histopathology slides
Sensitivity	0.67 (0.46–0.83)	0.93 (0.76–0.99)	0.89 (0.71–0.98)
Specificity	0.35 (0.16–0.57)	0.38 (0.19–0.59)	0.57 (0.34–0.77)
Accuracy	0.52 (0.37–0.66)	0.67 (0.52–0.79)	0.74 (0.60–0.85)
NPV	0.47 (0.29–0.66)	0.82 (0.52–0.95)	0.81 (0.58–0.93)
PPV	0.55 (0.45–0.64)	0.63 (0.55–0.70)	0.71 (0.60–0.80)
AUC	0.57 (0.41–0.73)	0.72 (0.58–0.84)	0.76 (0.62–0.87)



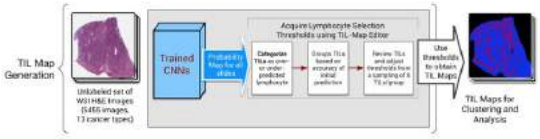
Lucas et al. European Urology Focus: 8, 2022

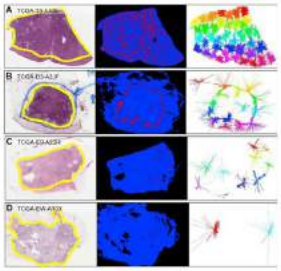
8

PATHOLOGIC DEEP LEARNING: SPATIAL PATTERNS

Spatial Organization and Molecular Correlation of Tumor-Infiltrating Lymphocytes Using Deep Learning on Pathology Images

Joel Saltz,[1,*] Rajarsi Gupta,[1,4] Le Hou,[2] Tahsin Kurc,[1] Pankaj Singh,[2] Vu Nguyen,[2] Dimitris Samaras,[2] Kenneth R. Shroyer,[3] Tianhao Zhao,[4] Rebecca Batiste,[4] John Van Arnam,[5] The Cancer Genome Atlas Research Network, Ilya Shmulevich,[6] Arvind U.K. Rao,[3,7] Alexander J. Lazar,[8] Ashish Sharma,[9] and Vésteinn Thorsson[6,10,*]

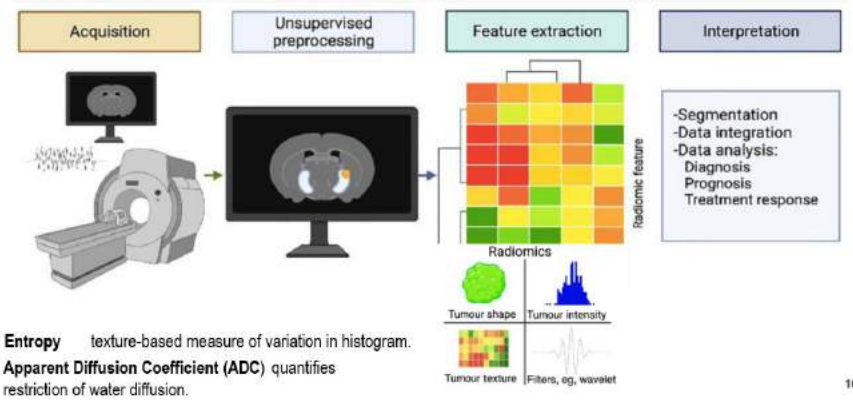




Saltz et al., 2018, Cell Reports 23, 181–200

9

RADIOMICS



- **Entropy** texture-based measure of variation in histogram.
- **Apparent Diffusion Coefficient (ADC)** quantifies restriction of water diffusion.

10

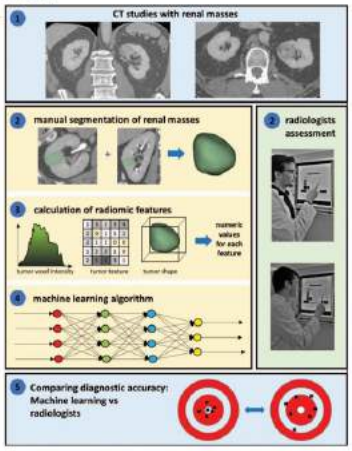
RADIOMICS: CANCER VS NORMAL CLASSIFICATION

- Computed Tomography Texture Analysis (CTTA)
- Random forest model (RF)

- Standard CT imaging from 100 small renal masses
- Accurately classified tumors in 93%

	Sensitivity	Specificity
Oncocytoma	89%	99%
Clear cell RCC	91%	97%
Papillary RCC	100%	98%
Simple cysts	100%	100%

Ramen et al. Acad Radiol. 2014 Dec; 21(12):

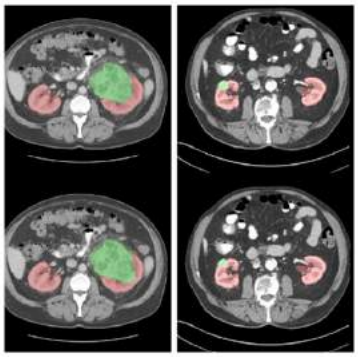


RADIOMICS: OTHER CLASSIFICATIONS

- Prediction of Fuhrman Grade
  - Entropy increased with higher grade

- Prediction of molecular markers (Radiogenomics)
  Distinguish BAP1 / VHL/ PBRM1 clear cell RCC

- Predict Oncologic Outcomes
  - metastases, PFS and OS
  - Response to treatment with TKI or IO



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MULTIMODAL AI IN PROSTATE CANCER

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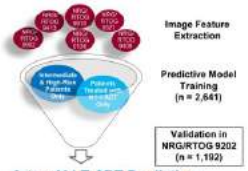
Development and validation of an AI-derived digital pathology-based biomarker to predict benefit of long-term androgen deprivation therapy with radiotherapy in men with localized high-risk prostate cancer across multiple phase III NRG/RTOG trials

Andrew J. Armstrong, Vinnie Y.T. Liu, Ramprasaath R. Selvaraju, Emmalyn Chen, Jeffry P. Simko, Sandy Devries, A. Oliver Sartor, Howard M. Sandler, Osama Mohamad, Andre Esteva, Phuoc T. Tran, Daniel E. Spratt, John H. Carson, Christopher Peters, Elizabeth Gore, Steve P. Lee, Jedidiah M. Monsoon, Joseph P. Rodgers, Felix Y. Feng, Paul L. Nguyen

2023 ASCO – June 4th, 2023

- Can we predict who will benefit from long term ADT?
- Histologic images from six large phase III RTOG studies
- Baseline clinical data
- Validate using 20 year follow up from NRG/RTOG 9202



ArteraAI LT-ADT Predictive

13

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MULTIMODAL AI

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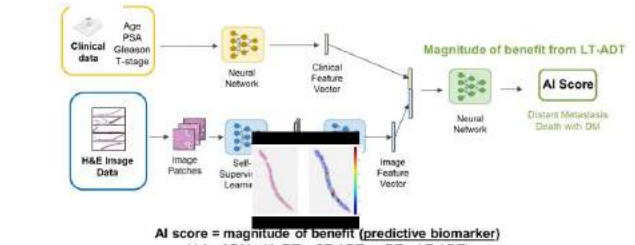
ArteraAI Multimodal Artificial Intelligence (MMAI) Architecture



AI score = magnitude of benefit (predictive biomarker)
(risk of DM with RT + ST-ADT vs RT + LT-ADT)

Armstrong et al, ASCO 2023

14

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RTOG 9202 OBSERVED 20-YEAR OUTCOMES

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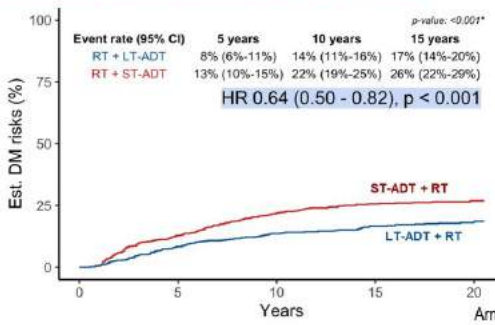
Treatment benefit from addition of LT-ADT observed



Armstrong et al, ASCO 2023

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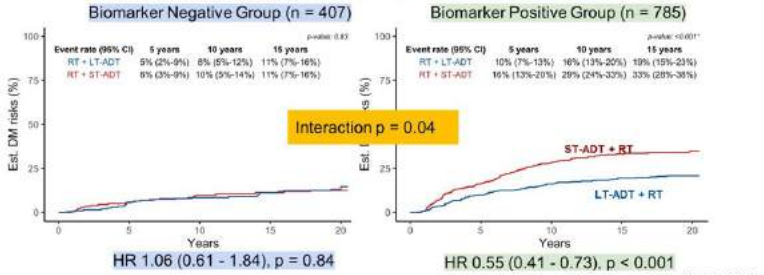
Primary Endpoint Results (DM)

~⅓ of men with high-risk prostate cancer could safely avoid LT-ADT

254 men (21%) developed DM, and risk differed by AI Biomarker groups AND treatment



Armstrong et al, ASCO 2023

16

SUMMARY

- Streamline workflow to improve detection and efficiency
- Extract and quantify features not previously recognized from existing data sets
- Recognize diagnostic patterns previously unimagined
- Potential to limit the use of invasive procedures, toxicity and burden of healthcare.
- Current limitations of small data sets will be overcome by the rapid accumulation of digital images

17

Thank you

18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Integrated Practices
Comprehensive Care

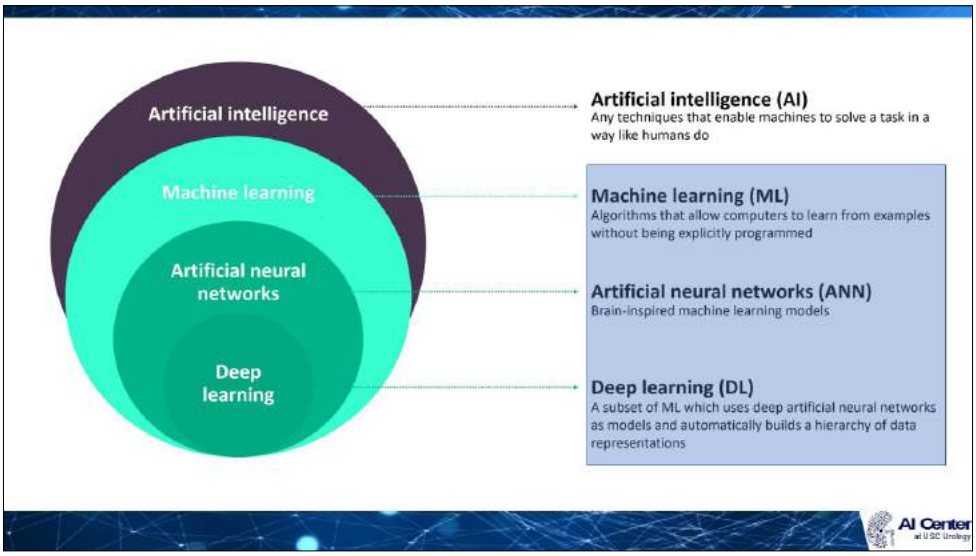
Generative Artificial Intelligence in Healthcare

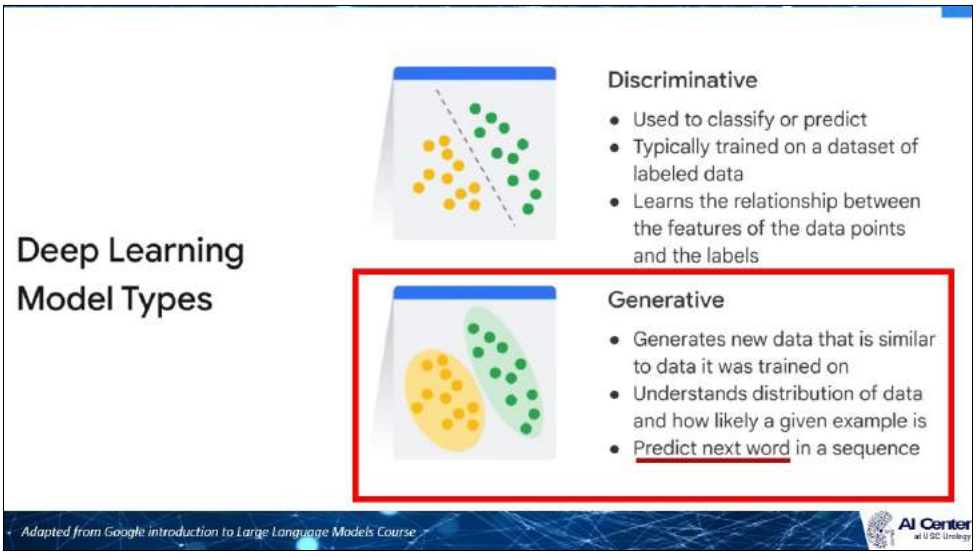
'Practical' AI

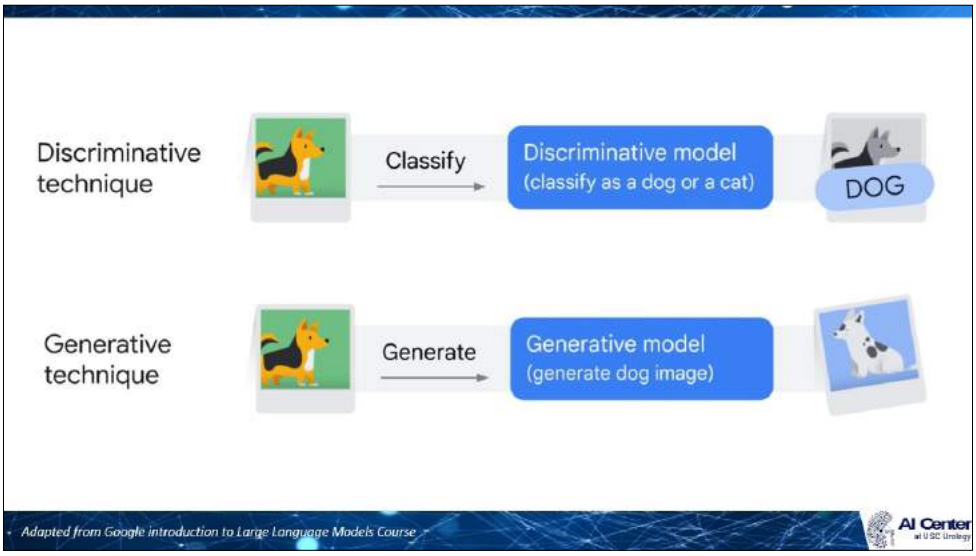
Decreasing Work … Increasing Rewards … Today

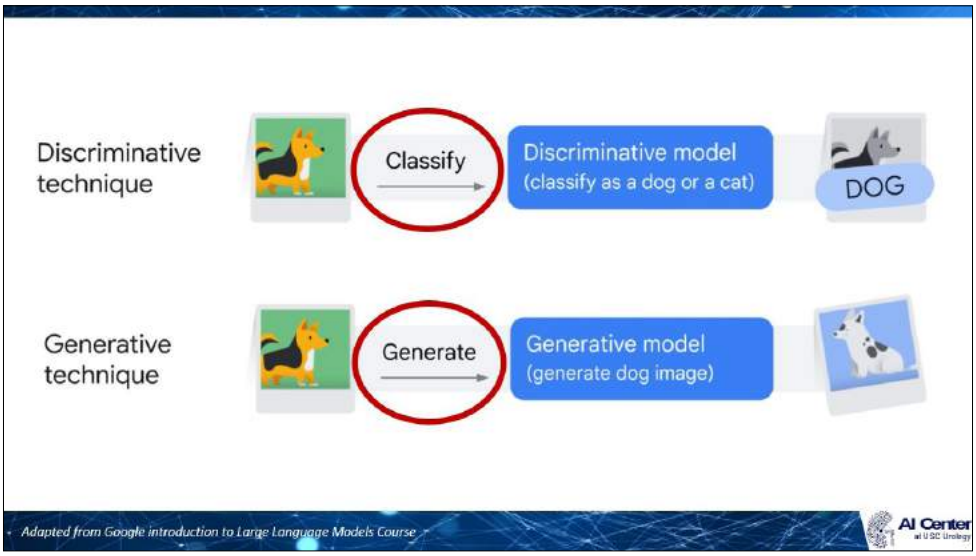
Inderbir S. Gill, MD and Giovanni Cacciamani, MD
USC Institute of Urology
Catherine & Joseph Aresty Department of Urology
University of Southern California, Los Angeles, California

Disclosures: OneLine Health, Karkinos






Discriminative technique
Classify
Discriminative model (classify as a dog or a cat)
DOG
Generative technique
Generate
Generative model (generate dog image)
Adapted from Google introduction to Large Language Models Course
AI Center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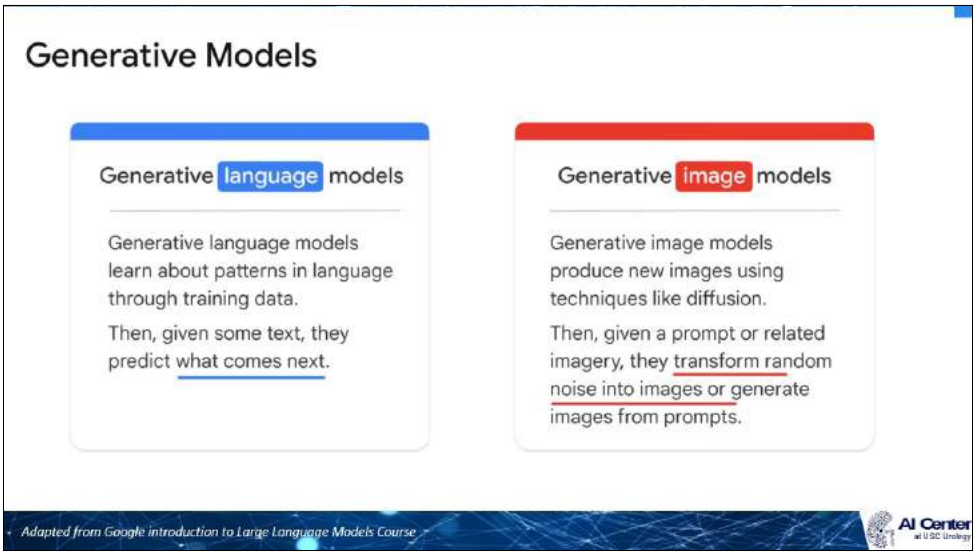
Generative Models
Generative language models
Generative language models learn about patterns in language through training data.
Then, given some text, they predict what comes next.
Generative image models
Generative image models produce new images using techniques like diffusion.
Then, given a prompt or related imagery, they transform random noise into images or generate images from prompts.
Adapted from Google introduction to Large Language Models Course
AI Center

STATISTICS	DATA MINING / MACHINE LEARNING
Teaching humans what has happened or what is happening by looking at data	Teaching computers to predict the unknown by learning from known data
Data collected to answer a given question	Data collected electronically for future possible use
Questions come first, data come second	Data come first, questions come second
Data analyzed by people with the aid of computers	Data processed by computer algorithms with the aid of people

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'Practical' AI

Decreasing Work - Increasing Reward in your practice **TODAY**

1. **Academic publishing**
2. **Clinical practice**

'Practical' AI

Decreasing Work - Increasing Reward in your practice **TODAY**

1. **Academic publishing**
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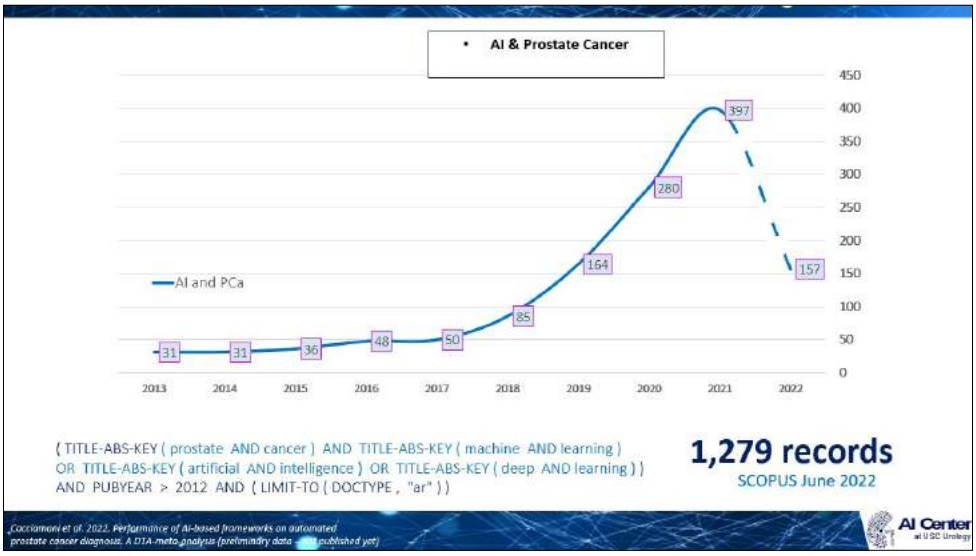
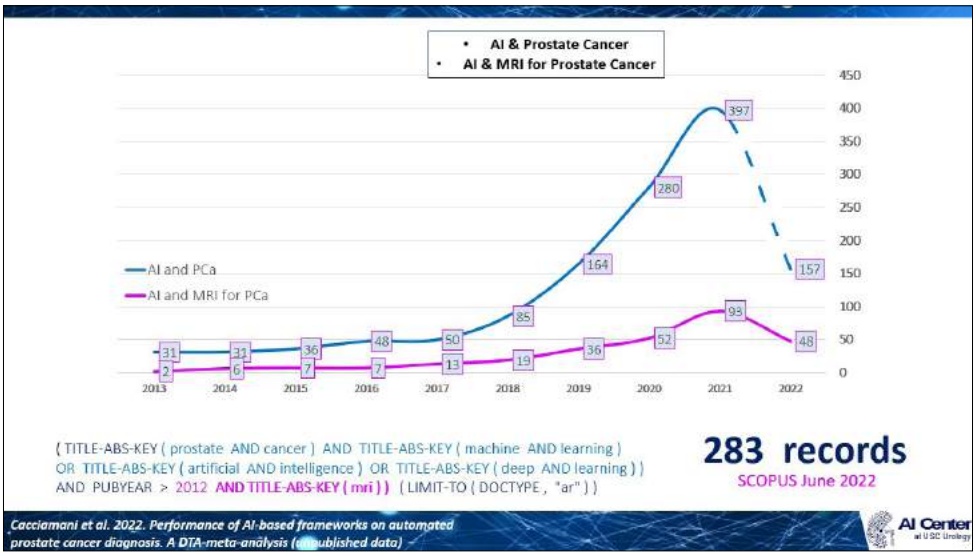

AI & Prostate Cancer
AI and PCa
31 31 36 48 50 85 164 280 397 157
2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
0 50 100 150 200 250 300 350 400 450
(TITLE-ABS-KEY (prostate AND cancer) AND TITLE-ABS-KEY (machine AND learning) OR TITLE-ABS-KEY (artificial AND intelligence) OR TITLE-ABS-KEY (deep AND learning)) AND PUBYEAR > 2012 AND (LIMIT-TO (DOCTYPE , "ar"))
1,279 records
SCOPUS June 2022
Cacciamani et al. 2022. Performance of AI-based frameworks on automated prostate cancer diagnosis. A DTA-meta-analysis (preliminary data unpublished yet)
AI Center


AI & Prostate Cancer
AI & MRI for Prostate Cancer
AI and PCa
AI and MRI for PCa
31 31 36 48 50 85 164 280 397 157
2 6 7 7 13 19 36 52 93 48
2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
0 50 100 150 200 250 300 350 400 450
(TITLE-ABS-KEY (prostate AND cancer) AND TITLE-ABS-KEY (machine AND learning) OR TITLE-ABS-KEY (artificial AND intelligence) OR TITLE-ABS-KEY (deep AND learning)) AND PUBYEAR > 2012 AND TITLE-ABS-KEY (mri)) (LIMIT-TO (DOCTYPE , "ar"))
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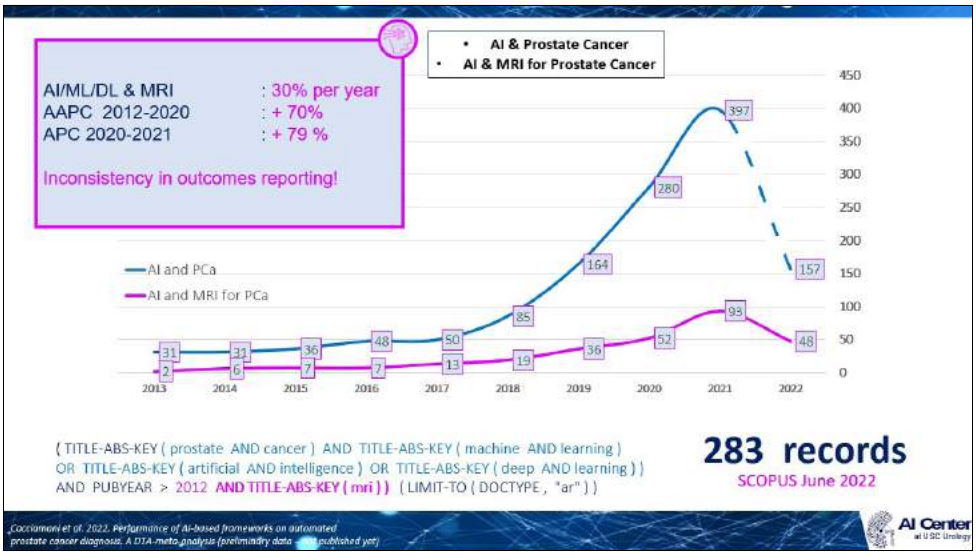
SCOPUS June 2022
Cacciamani et al. 2022. Performance of AI-based frameworks on automated prostate cancer diagnosis. A DTA-meta-analysis (unpublished data)
AI Center


AI/ML/DL & MRI : 30% per year
AAPC 2012-2020 : + 70%
APC 2020-2021 : + 79 %
Inconsistency in outcomes reporting!
AI & Prostate Cancer
AI & MRI for Prostate Cancer
AI and PCa
AI and MRI for PCa
31 31 36 48 50 85 164 280 397 157
2 6 7 7 13 19 36 52 93 48
2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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AI Center

nature

Explore content ~ About the journal ~ Publish with us ~ Subscribe

NEWS | 07 July 2023 | Correction 31 July 2023

Scientists used ChatGPT to generate an entire paper from scratch – but is it any good?

By designing an autonomous system that fed prompts to the chatbot, researchers produced a paper that was flawless and insightful. Yet they still have concerns.

An artificial intelligence chatbot, ChatGPT, has been a co-pilot in the production of a research paper. Credit: Ascannio/Shutterstock

"We will likely need to do more in the future if producing fake papers will be so easy."

Generative AI tools have **the potential to accelerate the research process** by carrying out straightforward but time-consuming tasks — such as writing summaries and producing code — says Shantanu Singh, a computational biologist at the Broad Institute of MIT and Harvard in Cambridge, Massachusetts. They might be used for generating papers from data sets or for developing hypotheses, he says. But because **hallucinations and biases are difficult for researchers to detect,** Singh says, "I don't think writing entire papers — at least in the foreseeable future — is going to be a particularly good use.

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COPE Guidance ~ Member resources ~ About COPE ~

Home / Resources / Forum discussion topics

Artificial intelligence (AI) and fake papers

Comments from the COPE Forum, March 2023

- Artificial intelligence (AI) is a broad term encompassing computer systems, algorithms and technologies that exhibit behaviour or perform tasks that can be considered 'smart'. These could include making decisions, recognising and translating speech, and different types of visual perception.
- Machine learning (ML) is a subset of AI and contains algorithms that detect patterns based on a pool of training data, and use them to predict, detect and make decisions. Natural language processing (NLP) is another subset of AI which transforms and uses language.
- ChatGPT is an example of both ML and NLP and is generative: it creates new content. Such generative AIs can create text, code, images, videos and full research articles.
- AI tools are already being used in scholarly publishing, for example in pre-peer review checks (e.g., language quality; confirming that a submission is in scope for the journal) or as part of peer review (e.g., identifying reviewers, checking for data or image manipulation). See COPE's discussion document on AI in Research reading and COPE's seminar on Trustworthy AI for the future of publishing.
- The current focus for attention is the use of AI to create whole articles or images, and particular on the creation of false data, analyses and attributions. In this context AI tools can be used maliciously, for example by paper mills.
- COPE has recently issued a position statement on the use of AI as an author. This stated that tools like ChatGPT cannot fulfil the ICMJE criteria for authorship and that the use of such tools should be transparently declared.
- Detection tools are currently in development, and it is likely that existing tools, for example, for the detection of plagiarised text, will start to incorporate AI detection. Several companies, including CrossRef together with Turnitin/iThenticate have been working on the detection of plagiarism of ideas for some time in the context of paper mills. They, and others, are also working on tools for the detection of image manipulation and image duplication (and copyright infringement), but the latter is hindered by the fact that no tool can have access to all possible images in scholarly publishing.

CANGARU

PRISMA-AI Guidelines

nature medicine

Correspondence | Published: 16 January 2023

PRISMA AI reporting guidelines for systematic reviews and meta-analyses on AI in healthcare

Giovanni E. Cacciamani, Timothy N. Chu, Daniel I. Sanford, Andre Abreu, Vinay Duddalwar, Assad Oberai, C.-C. Jay Kuo, Xiaoxuan Liu, Alastair K. Denniston, Baptiste Vasey, Peter McCulloch, Robert F. Wolff, Sue Mallett, John Mongan, Charles E. Kahn Jr, Viknesh Sounderajah, Ara Darzi, Philipp Dahm, Karel G. M. Moons, Eric Topol, Gary S. Collins, David Moher, Inderbir S. Gill & Andrew J. Hung

Nature Medicine **29**, 14–15 (2023) | Cite this article

1259 Accesses | 74 Altmetric | Metrics

Our **PRISMA-AI extension(s) criteria** will reflect the most relevant reporting details that data scientists require for future reproducibility and help the clinician reader to critically ascertain outcomes of systematic reviews.

AI Center at USC Urology

PRISMA-AI

USC University of Southern California · uOttawa · University of Oxford · Universiteit Utrecht · University of Birmingham · New York University · Cochrane · equator network

nature medicine

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AI Center at USC Urology

CANGARU Guidelines

nature

CORRESPONDENCE | 06 June 2023

ChatGPT: standard reporting guidelines for responsible use

Giovanni E. Cacciamani, Gary S. Collins & Inderbir S. Gill

CANGARU

ChatGPT, Generative Artificial Intelligence & Natural Large Language Models for Accountable Reporting and Use

Our CANGARU Guidelines aim to establish guidelines for the ethical use, disclosure and proper reporting of Generative AI (GAI), GPTs, and Large Language Models (LLMs) in academia

AI Center at USC Urology

Steering Committee
G. Cacciamani
M. Eppler
C. Ganjavi
B. Biedermann
A. Pekcan
I. Gill

Top-SCI Journal (EIC, DE,ExE)
- Nature
- Nature Medicine
- Nature Machine Intelligence
- Lancet
- Lancet Digital Health
- JAMA
- eLIFE
- PNAS
- Cell
- APS Journals
- JACS
- BMJ (group)

Publishers
- Springer Nature
- Wiley
- Elsevier
- PLOS

Regulatory Bodies
- EQUATOR Network
- COPE
- WAME
- EASE
- STM (AI Ethics)
- ISMTE

'Practical' AI

Decreasing Work - Increasing Reward in your practice **TODAY**

1. Academic publishing
2. **Clinical practice**

Minimizing the daily mundane tasks ... Decreasing physician burnout

Bringing back the "Joy of Medicine"!

GPTs/LLMs

Clinical "Co-piloting"

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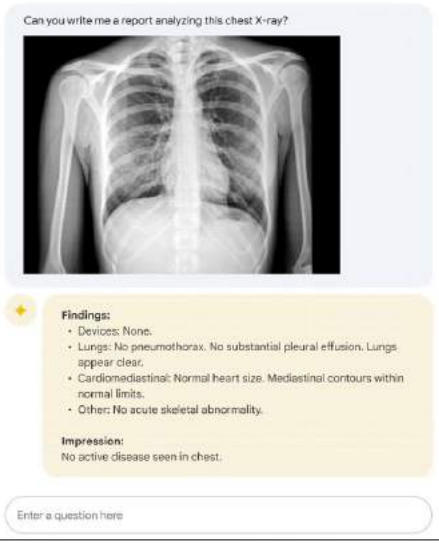
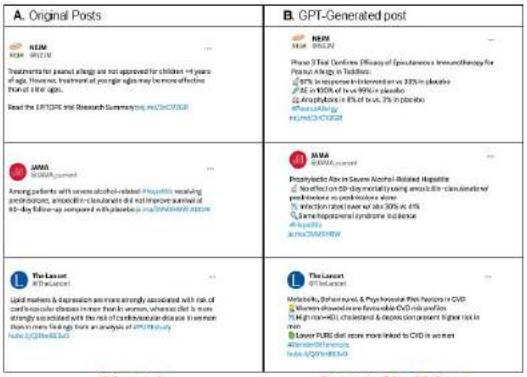
MedPALM2



AI Center at USC Urology

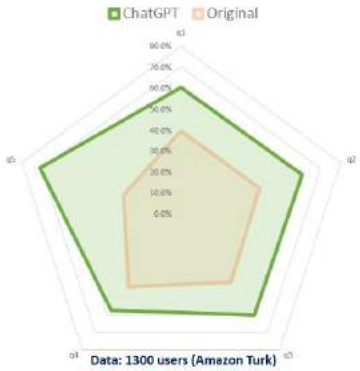
AI-automated Tweets

Social Media Content Generation….Twitter (X), Facebook (Meta), Instagram, LinkedIn; Multiple languages



9 journals
30 papers

Generated in: 13.8 sec
Accuracy rate: 86%-100%



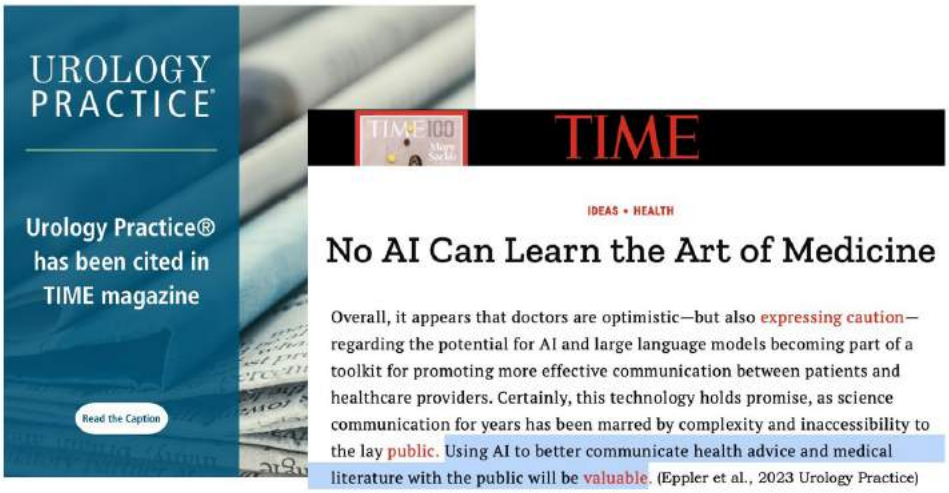
Ramacciotti LS, Gill IS, Cacciamani, GE:
Development of a Generative AI Framework for Automating Social Media Posts from Journal Articles: A Prospective Study (In preparation)

AI-automated Tweets

Social Media Content Generation….Twitter (X), Facebook (Meta), Instagram, LinkedIn; Multiple languages

"Correctness" of GPT Automated Posts	% Correctness
Title of Article (Likert Scale 1-5)	**100%**
Findings of the Article (Likert Scale 1-5)	**97%**
Hash-tags: No. of correct hashtags / total n of hash-tags	**98%**
Emojis: No. of correct emojis / total n of emojis	**86%**
Tetra-fecta of "Correctness"	**80%**

Ramacciotti LS … Gill IS, Cacciamani, GE:
Development of a Generative AI Framework for Automating Social Media Posts from Journal Articles: A Prospective Study (In preparation)



Physician Burn-out

Disclosures: OneLine Health, Karkinos

Research

JAMA Surgery | Original Investigation

Multiple-Institution Comparison of Resident and Faculty Perceptions of Burnout and Depression During Surgical Training

Michael L. Williford, MD; Sara Scarlet, MD; Michael O. Meyers, MD; Daniel J. Luckett, BS; Jason P. Fine, ScD; Claudia E. Goettler, MD; John M. Green, MD; Thomas V. Clancy, MD; Amy N. Hildreth, MD; Samantha E. Meltzer-Brody, MD, MPH; Timothy M. Farrell, MD

JAMA Surg. 2018;153(8):705-711
doi:10.1001/jamasurg.2018.0974

Figure. Perceived Prevalence of Burnout and Depression Among Surgery Residents

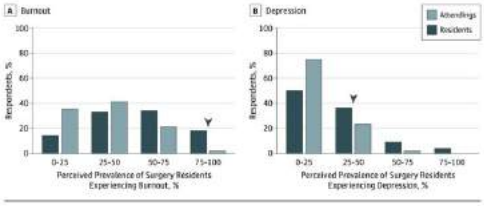


Table 1. Dimensions of Burnout in Surgery Residents According to the Maslach Burnout Inventory

Dimension of Burnout	Residents, No (%) (n = 77)
Only high emotional exhaustion	10 (13)
Only high depersonalization	6 (8)
Only low personal achievement	11 (14)
High emotional exhaustion and depersonalization	42 (55)
High emotional exhaustion, high depersonalization, and low personal achievement	11 (14)
Burnout present	58 (75)

75%!

Annals of Internal Medicine — ORIGINAL RESEARCH

Physician Time Spent Using the Electronic Health Record During Outpatient Encounters

A Descriptive Study

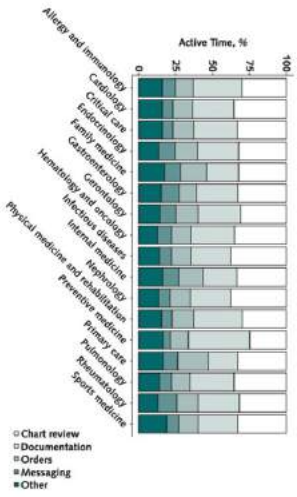
J. Marc Overhage, MD, PhD, and David McCallie Jr., MD

Table 3. Time Spent per Encounter on Major Clinically Focused EHR Functions

Function Category	Time, *s*	Time, % *of total*
Chart review	322	33
Documentation	231	24
Orders	162	17
Message center	101	10
Patient discovery	75	8
Other	47	5
Problem/diagnosis	17	2
Departure	9	1
History	7	1
Health maintenance	2	0
Alerts	1	0
Allergy	1	0

74%

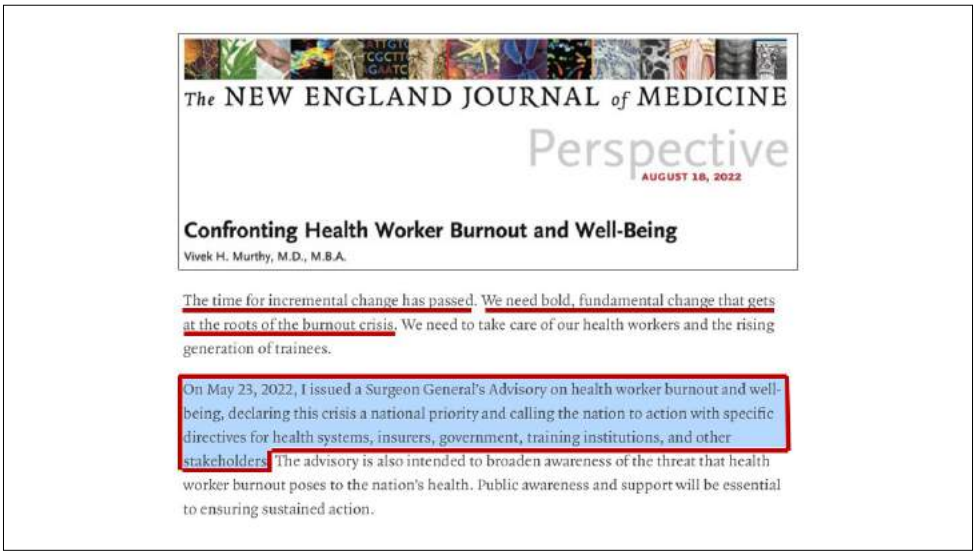
EHR = electronic health record.



Urologists Burnout

In the 2020 Medscape survey, the highest percentage of physician burnout occurred in:

- **Urology : 54%**
- Neurology : 50%
- Nephrology : 49%
- Diabetes/Endo : 46%
- Family medicine : 46%



The NEW ENGLAND JOURNAL of MEDICINE

Perspective

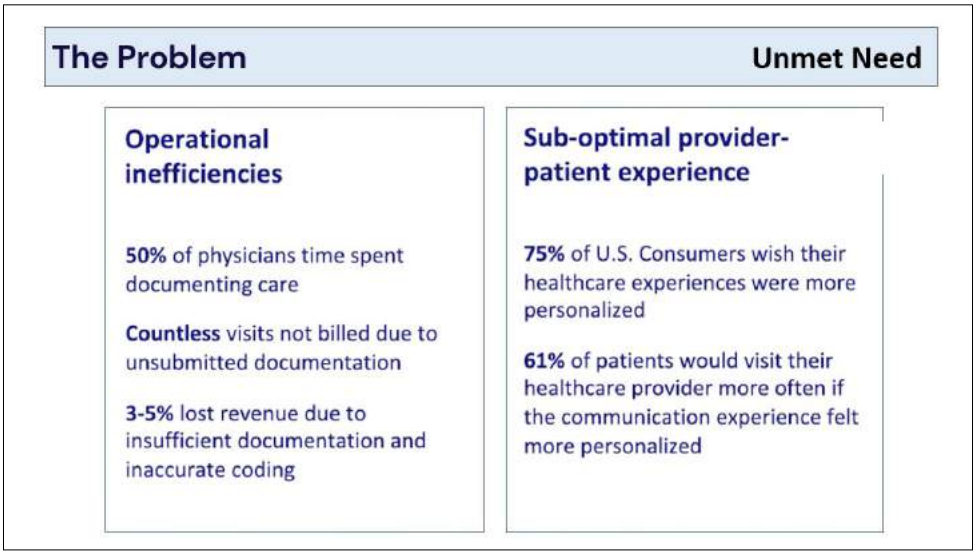
AUGUST 18, 2022

Confronting Health Worker Burnout and Well-Being

Vivek H. Murthy, M.D., M.B.A.

The time for incremental change has passed. We need bold, fundamental change that gets at the roots of the burnout crisis. We need to take care of our health workers and the rising generation of trainees.

On May 23, 2022, I issued a Surgeon General's Advisory on health worker burnout and well-being, declaring this crisis a national priority and calling the nation to action with specific directives for health systems, insurers, government, training institutions, and other stakeholders. The advisory is also intended to broaden awareness of the threat that health worker burnout poses to the nation's health. Public awareness and support will be essential to ensuring sustained action.



The Problem **Unmet Need**

Operational inefficiencies

50% of physicians time spent documenting care

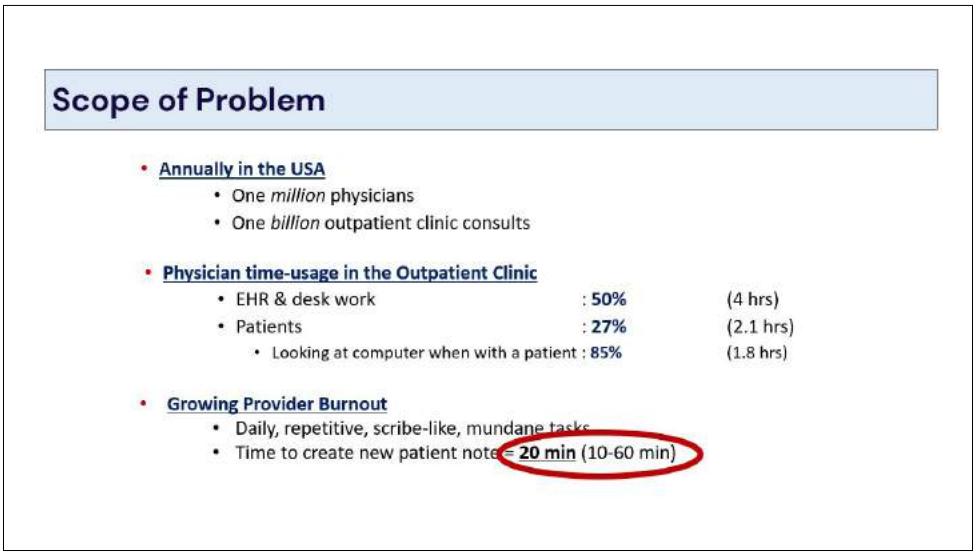
Countless visits not billed due to unsubmitted documentation

3-5% lost revenue due to insufficient documentation and inaccurate coding

Sub-optimal provider-patient experience

75% of U.S. Consumers wish their healthcare experiences were more personalized

61% of patients would visit their healthcare provider more often if the communication experience felt more personalized



Scope of Problem

- **Annually in the USA**
  - One *million* physicians
  - One *billion* outpatient clinic consults
- **Physician time-usage in the Outpatient Clinic**
  - EHR & desk work : **50%** (4 hrs)
  - Patients : **27%** (2.1 hrs)
    - Looking at computer when with a patient : **85%** (1.8 hrs)
- **Growing Provider Burnout**
  - Daily, repetitive, scribe-like, mundane tasks
  - Time to create new patient note = **20 min** (10-60 min)

Issues that need to be Fixed

- **Redundant, repetitive, scribe-like tasks** – Automate it
- **Clinic workflow** – Automate it
- Work at **"Top of License"** (MDs/PAs/NPs/MAs/Scribes)

Technology Options available **TODAY...**

EMRs

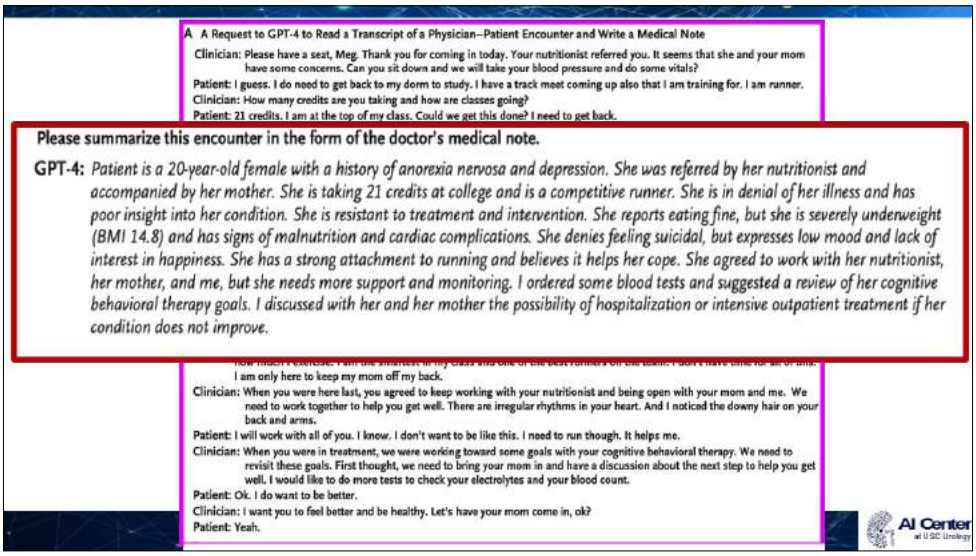
EMR	Epic	Cerner	Meditech	Allscripts
FY'22 market share in U.S.	31%	25%	16%	5%

EMR Apps

Physician-generated AI Scribing platforms | Patient-generated Intake Platforms

EMR Apps	Nuance (DAX)	DeepScribe	Abridge AI	Notable
Timing	During consult	During consult	During consult	Peri-consult
Type	Voice recognition	Voice recognition	Voice recognition	Workflow Automation

GPT



EMRs

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EMR Apps	Nuance (DAX)	DeepScribe	Abridge AI	Notable	Phreesia	HealthNote	Novel AI
Timing	During consult	During consult	During consult	Peri-consult	Pre-consult	Pre-consult	Pre-consult
Type	Voice recognition	Voice recognition	Voice recognition	AI workflow Automation	Demographics; ID Registration	Questionnaire Only basic clinical data	Questionnaire Detailed clinical data; AI/ML algorithms

These two platforms lack:
- Clinical detail/depth
- AI extraction of outside records

AI-Scribe Platforms *vs* AI-Intake Platform

AI-Scribe platforms (Voice-driven AI software)	AI-Intake platform (AI/OCR/Logic-driven)
• **Technology** works : ***During*** the consult	• **Technology** works : ***Before*** the consult
• **Note is created** : ***After*** the consult	• **Note is created** : ***Before*** the consult
• **Note is finalized** : ***After*** the consult	• **Note is finalized** : ***During*** the consult
• **Physician must do** : "Extractive" conversations	• **Physician does** : "Confirmatory" conversations
• **Pre/Post-clinic work by MD:** ***YES***	• **Pre/Post-clinic work by MD:** ***NO***
• **External records** : ***Manually*** extracted by the physician/provider	• **External records:** ***Automatically*** extracted by the technology

EMRs

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PRIVILEGED & CONFIDENTIAL

Novel AI platform

Automating the Outpatient Clinic Note

The AI Platform

Two components

AI *pre*-Consult intake
- *Patient- & Specialty-specific adaptive questionnaires*
- *Mirrors real-time physician logic/reasoning*

***AI* Engine**
- *Patient/referring office uploads outside records*
- *AI automatically extracts only relevant data*

CLINICAL CONSULTATION NOTE
- *Editable note automatically presented in EMR*

The Novel Technology

1. **AI takes** *Subjective History*
- *Standardized, automated clinical data collection (**Pre-consult**)*
- *Intelligent simulation of an expert physician's step-wise history taking*

2. **AI extracts** *Objective History*
- *Eliminates manual review of prior records via automation*
- *Provides understandable analytics on clinical data (**Pre-consult**)*

3. **Seamless** *EMR Integration*
- *Automation combines Subjective + Objective data to create editable note*
- *Note automatically lands in EMR before* encounter (***Pre-consult***)

New workflow of your clinic

Patient schedules clinic appointment: Immediately, the patient is also sent the **AI engine link**

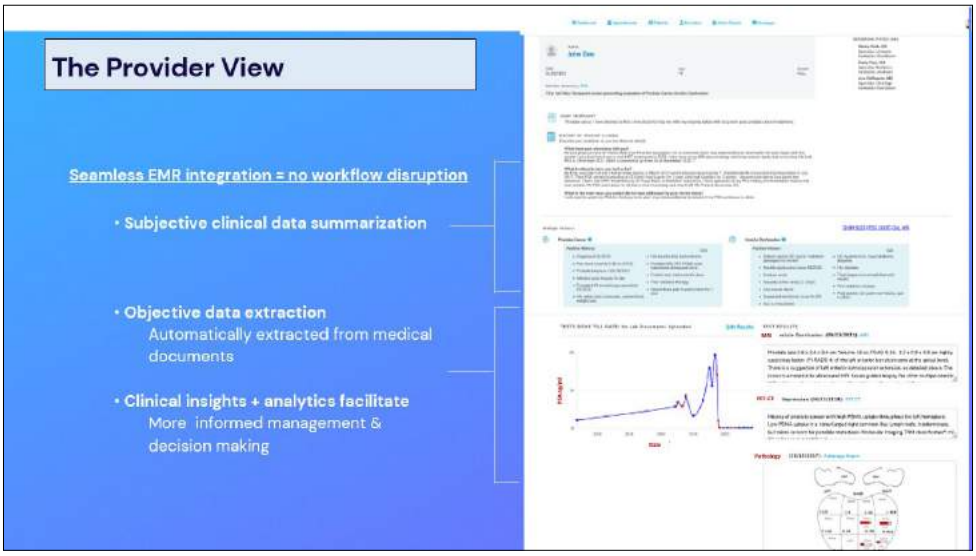
→ **From home AI Pre-Consult**: Patient completes Link (in 10-15 min) and clicks "Submit"

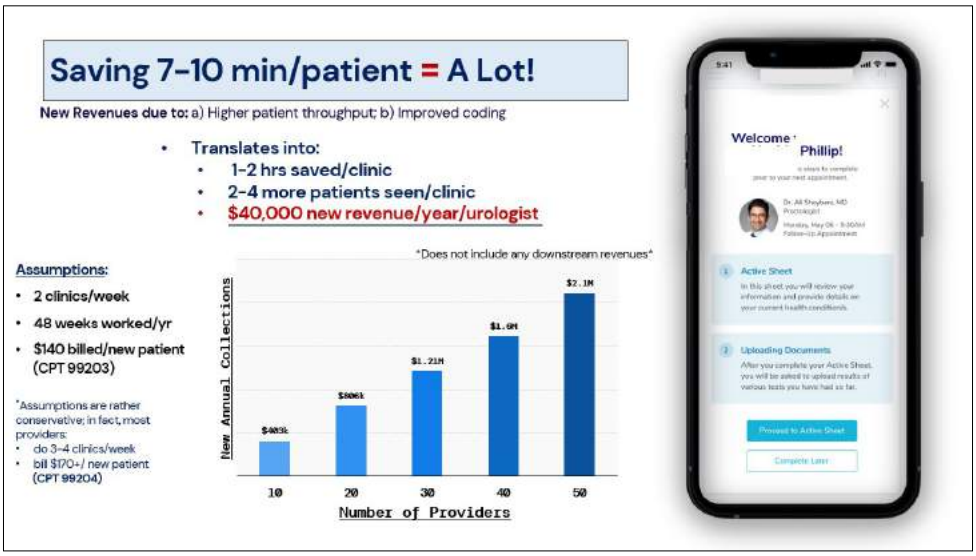
→ **AI engine** instantly creates the *subjective* Clinic Note; PLUS **AI engine** extracts *objective* data from any outside records; And then automatically combines the two to construct the Note

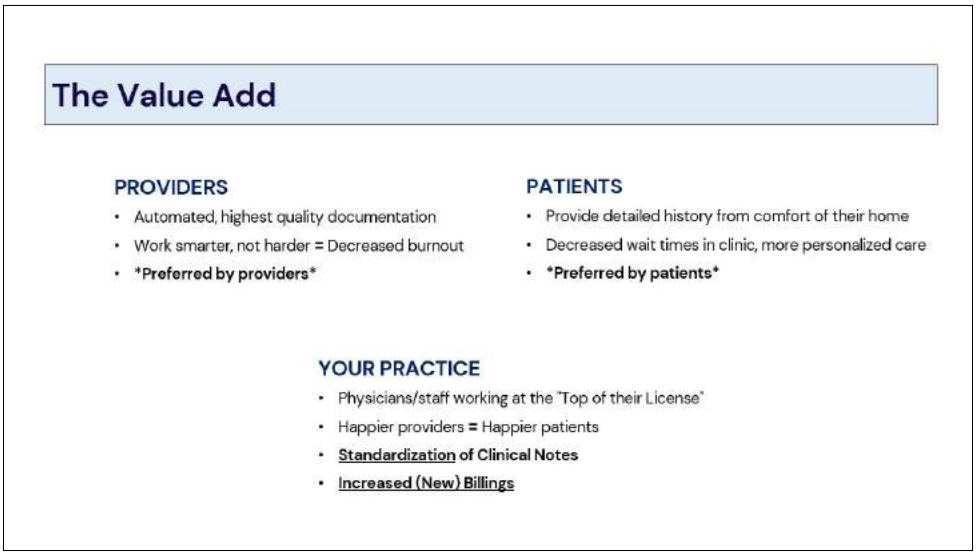
↓ **Near-complete Clinic Note lands automatically in your EMR/EHR** days before the actual consult, with no work on the part of the physician

← **During the actual, in-person consultation**: the physician -
- opens note & re-confirms data
- does physical exam
- finalizes management plan
- Signs off

The ONLY work your team has done: Sent the link!
On the back end: the physician receives a near-complete clinical note in advance of the patient consultation


The Provider View
Seamless EMR integration = no workflow disruption
• Subjective clinical data summarization
• Objective data extraction
Automatically extracted from medical documents
• Clinical insights + analytics facilitate
More informed management & decision making


Saving 7-10 min/patient = A Lot!
New Revenues due to: a) Higher patient throughput; b) Improved coding
• Translates into:
• 1-2 hrs saved/clinic
• 2-4 more patients seen/clinic
• $40,000 new revenue/year/urologist
Assumptions:
• 2 clinics/week
• 48 weeks worked/yr
• $140 billed/new patient (CPT 99203)
*Assumptions are rather conservative; in fact, most providers:
• do 3-4 clinics/week
• bill $170+/ new patient (CPT 99204)
Does not include any downstream revenues
New Annual Collections
$2.1M
$1.6M
$1.2M
$806k
$403k
10
20
30
40
50
Number of Providers
Welcome
Phillip!
Active Sheet
Uploading Documents


The Value Add
PROVIDERS
• Automated, highest quality documentation
• Work smarter, not harder = Decreased burnout
• *Preferred by providers*
PATIENTS
• Provide detailed history from comfort of their home
• Decreased wait times in clinic, more personalized care
• *Preferred by patients*
YOUR PRACTICE
• Physicians/staff working at the "Top of their License"
• Happier providers = Happier patients
• Standardization of Clinical Notes
• Increased (New) Billings

Summary Clinical Data

THE DATA

EXCELLENT PATIENT COMPLIANCE	HIGHER PATIENT SATISFACTION	HIGHER PROVIDER SATISFACTION
88-91%	97-98%	87-100%

IMPROVED CLINICAL DOCUMENTATION	PROVIDER TIME SAVINGS	INCREASED (New) COLLECTIONS
+59%	1.9 hrs/clinic	$40K+/physician/yr

ANCILLARY BENEFITS OF AI Platforms

Patient Visits

Before Visit
- Appointment Confirmation
- Pre-Visit Registration
- Consent Forms
- ID/Insurance Card Capture
- E-Signature
- Easy Patient Document Uploading
- Medical Record Requests

During Visit
- Automated Note Creation
- Patient Reported Outcomes
- E-Signature
- Clinical Decision Support
- Coding and Billing Support

After Visit
- Satisfaction Survey
- Health Record Management
- Data Mining

Between Visits
- Follow-up Questions
- Medical Record Processing

Self Avatars

AI avatars humanize clinical support

- **Providers** self-avatar **conducts tasks on their behalf:**
  - **Patient registration/check-in**
  - **Preliminary telemed consult + clinical history taking**
  - **Patient education/support**

ADVANTAGES
- Leveraging technology without the cost of physicians time
- Humanize + automate clinical support
- AI avatar available anytime for patient education/support

AI rendered video of provider

Benefits for our practices …

"Decreases work – Increases reward"

AI checks the boxes

- ✓ **Quality of Note** : Higher quality, standardized clinic note (compared to current manually-constructed notes)
- ✓ **Patient Access** : Decreases appointment wait times - more patient throughput (saves 7-10 min/consult)
- ✓ **Patient Experience** : Improves patient experience; increases "happiness" & "satisfaction"
- ✓ **Physician Wellness/"Joy"** : Decreases burnout; brings back physician "Joy" & work satisfaction
- ✓ **Optimized Coding** : Automates & improves coding; Higher reimbursement (ICD-10)
- ✓ **New Revenue ($40k/yr)** : By: a) More patients seen in clinic, b) Improved coding

Work smarter – Not harder

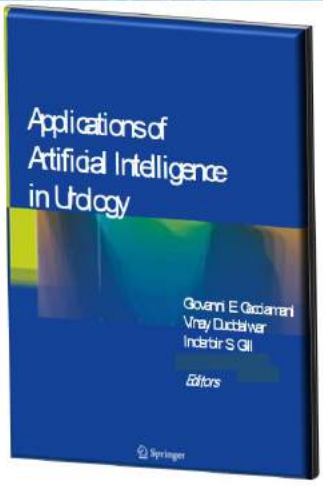
Take-Home Message

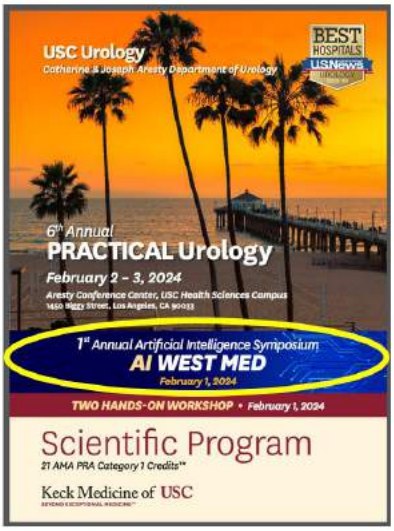
AI Center

- **AI's potential:** Automates, enhances & augments repetitive, daily tasks;
  Deep learning … Deep Teaching … Deep Understanding
- **Physician Burnout is Real…**
  - Need to decrease mundane, repetitive, scribe-like tasks
  - Work at the "Top of our License"
- **Urologists must robustly explore the potential of AI**

AI Center at USC Urology

Coming soon..
2024

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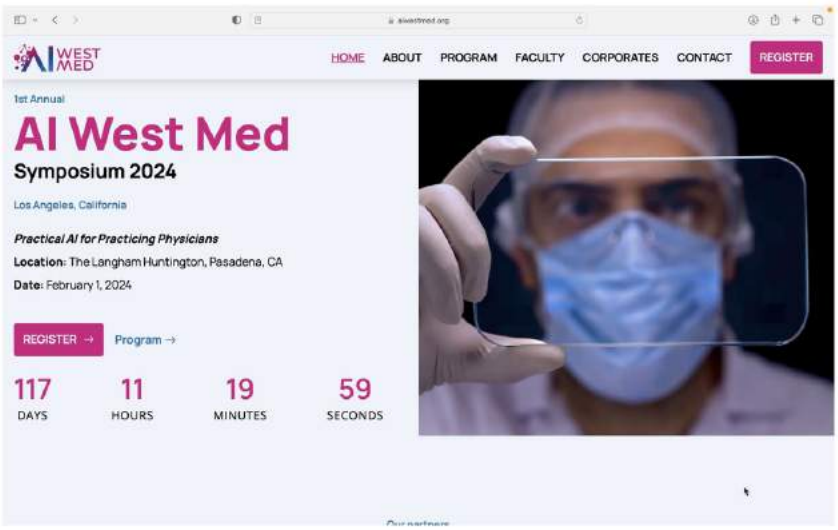
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