Key Facts about Northwestern Urology

• One of the oldest Urology departments in the country (established 1900)

• Residency program began in 1945
  o 167 alumni

• 46 Faculty
  o 26% women
  o 13% African-American

• Faculty achievements include:
  o 101,400 citations
  o Average h-index = 19
  o AAGUS Keyes Medal
  o AUA Distinguished Scholar Alumni Award
  o American Society for Clinical Oncology – Clinical Cancer Advance of the Year
  o Castle Connolly Physician of the Year
  o President of the American Urological Association
  o 2 American Urological Association Eugene Fuller Triennial Prostate Awards
Department Philosophy

• Patient-centric, highly agile program

• Clinical questions and clinical need drive our programs and discoveries
  o Apply key basic science discoveries to “real life” problems
  o Improve the understanding of urologic subspecialties and the conditions we treat

• Strong partnerships with patients
  o “Partners in discovery”
Department Leadership

Robert Brannigan, MD
Vice Chair of Clinical Urology; Chief of Male Reproductive Surgery & Men’s Health

Ted Schaeffer, MD, PhD
Chair

Sarki Abdulkadir, MD, PhD
Vice Chair for Urologic Research

Stephanie Kielb, MD
Residency Program Director; Chief of Reconstruction & Neurourology

Shilajit Kundu, MD
Chief of Urologic Oncology

Dennis Liu, MD
Associate Program Director

Robert Nadler, MD
Chief of Endourology & Stone Disease
Northwestern Urology is a Leader in Clinical Care

• Adult Urology:
  – Top Urology program in Illinois in U.S. News & World Report rankings for past 22 years
  – Market leader in Illinois

• Pediatric Urology:
  – 5th in U.S. News and World Report rankings
  – Highest ranked program in Illinois
  – Market leader in Illinois

• Northwestern Memorial Hospital
  – 10th on U.S. News Best Hospitals Honor Roll

• 2018 Clinical Performance
  – 4,313 surgical cases
  – 30,456 clinic visits
  – 12,474 new patient appointments

• 2020 Graduates case log average: 2,205
Unique Features of Northwestern Urology Residency

• Urology training begins in year one since July 2006
  Format adopted by ACGME for 2019
  Now all Urology programs begin in PGY1 year
  – 2019-20 PGY1 resident average cases - 359

• Personalized, integrated and flexible curriculum
  – 4 months of resident-driven elective rotations
  – ANY specialty
  – National and international away electives
  – Subspecialty experience with fellowship-trained faculty

• Clinical training combined with laboratory/clinical research
  – Fully-funded research year
  – Dedicated research mentor for each resident
  – Statistical, database construction/maintenance, and editorial support

• American Urological Association and Chicago Urologic Society memberships
  – Expenses paid by department for residents with abstracts accepted to AUA meeting
  – Residents attend CUS monthly meetings Nov-April
More than 9,000 patients currently enrolled in 37 clinical trials

167 publications in 2019-20 academic year

$30.5 M in research funding

#2 Urology NIH Funding
Leaders in Research & Discovery -- Highlights
National and International Presence

- Faculty presented at 29 sessions
- Residents presented 15 abstracts

- **William Catalona**, MD, Richard D. Williams, MD Prostate Cancer Research Excellence Award.
- **Emilie Johnson**, MD, MPH, Sushil Lacy, MD Award
- **Adam Weiner**, MD, 2019 Urology Care Foundation Residency Research Award.
- **Lauren Cooley**, MD, PhD, 2020 Urology Care Foundation Residency Research Award

- Nelson Bennett, MD
- Robert Brannigan, MD
- Joshua Halpern, MD
- Anne Darves-Bornoz, MD (Andrology Fellow)
- Mehul Patel, MD (PGY5 resident)
- Anuj Desai, MD (PGY4 resident)

- Ted Schaeffer, MD, PhD (Program Chair 2019-2020)
- Josh Meeks, MD PhD

- Josh Meeks, MD, PhD awarded 2019 AACR-Bayer Innovation and Discovery Grant

- Robert Nadler, MD
- Kieran Breen, MD (Endourology fellow)

- Stephanie Kielb, MD
- Ashima Singal (PGY6 resident)
- Rotimi Nettey (PGY6 resident)
Northwestern Medicine Enterprise

- 12 hospitals
- 36 locations
- 30,000 physicians, nurses and staff
  - 4,000 aligned physicians
  - 1,100 residents and fellows
  - 46 NM urologists
- 85,000 inpatient admissions and 2.2 million outpatient encounters
Our Approach: Complete Resident Training

- **Education**
- **Clinical**
- **Research**
Educational Opportunities

Didactic Conferences – Protected time for residents

- **Conferences (Thursday PM)**
  - GU Oncology Conference
    - Multi-disciplinary oncology conference
  - Resident Teaching Conference
    - Topic-based lectures
    - Board review
    - AUA Clinical Practice Guidelines
    - Journal club

- **Conferences (Friday AM)**
  - Urology Grand Rounds
    - Presented by Northwestern Urology faculty
    - Resident case presentations
    - Guest speakers
    - Research Development Working Group
    - Morbidity and Mortality Conference
  - Pre-operative Conference
  - Site-specific didactics (i.e. pediatric urology during Lurie Children’s rotations)
  - Practice-Based Learning & Improvement
    - Senior residents teach junior residents
    - Board reviews
    - Clinical questions and discussion
Educational Opportunities

Simulation

Northwestern Simulation
- State-of-the-art simulation education center
- Residents have 24 hour access to simulation lab
- Laparoscopic trainer, TURP trainer, Mimic robotic trainer

Robotic trainers
- VA
- Lurie
- Northwestern

Resident Simulation Labs
(1-2 Full days)
- 2019: Laparoscopic skills training
- 2018: Open pelvic & open scrotal surgery
- 2017: Open abdominal surgery, bowel handling
Educational Opportunities

Visiting Professorships

**Adult Urology Visiting Professor**

- 2019 – Richard Santucci (Crane Center for Transgender Surgery)
- 2018 - Shahrokh Shariat (Medical University of Vienna)
- 2017 - Colin Dinney (MD Anderson)

**Pediatric Urology Visiting Professor**

- 2019 – Craig Peters (UT Southwestern)
- 2018 - Joao Luiz Pippi Salle (Sidra Medical & Research Center)
- 2017 - Patrick Cartwright (University of Utah)
Educational Opportunities
Local and National Meetings

Chicago Urological Society
- First Wednesday November-April
- Resident time protected to go to every meeting

AUA Annual Meetings
- All research residents attend the national meeting
- Residents who have abstracts accepted attend the meeting
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Speaker</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 6, 2019</td>
<td>Genetics in Urology</td>
<td>W. Marston Linehan, MD</td>
<td>National Cancer Institute</td>
</tr>
<tr>
<td>December 4, 2019</td>
<td>Female Urology</td>
<td>Kathleen Kobashi, MD</td>
<td>Virginia Mason</td>
</tr>
<tr>
<td>January 8, 2020</td>
<td>Updates on Trauma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resident Simulation Lab &amp; Resident Essay Contest</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Keynote: Allen Morey, MD</td>
<td>Allen Morey, MD</td>
<td>UT Southwestern</td>
</tr>
<tr>
<td>February 5, 2020</td>
<td>Stone Disease</td>
<td>Brian Matlaga, MD, MPH</td>
<td>Johns Hopkins</td>
</tr>
<tr>
<td>March 4, 2020</td>
<td>Infertility</td>
<td>Larry Lipshultz, MD</td>
<td>Baylor</td>
</tr>
<tr>
<td>April 1, 2020</td>
<td>Radiology – New Technologies</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Resident X-Ray contest</td>
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</tr>
</tbody>
</table>
Northwestern Urology Resident Education

100% Board Pass Rate

Didactics

Simulation

Conferences
Mentorship
Clinical & Research

- Career
- Clinical Training
- Research
- Well-Being

1:1 Mentorship
Our Approach: Complete Resident Training

Education

Clinical

Research
Training in all Urologic Subspecialties

Comprehensive Training Program

- Female Pelvic Medicine & Bladder Health
- Benign Conditions
  - BPH
  - Kidney Stones & General Urology
  - Pelvic Pain
- Male Fertility
  - Sexual Dysfunction
- Urologic Oncology
- Reconstructive Surgery
- Pediatric Urology
- Transitional Urology
## Training Sites

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Duration</th>
<th>PGY Levels</th>
<th>Notable Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwestern Memorial Hospital</td>
<td>34 Months</td>
<td>General Surgery (PGY1), Urology (PGY1-PGY6)</td>
<td>#1 Hospital in Illinois, 894 beds, Level I trauma center</td>
</tr>
<tr>
<td>Jesse Brown VA Medical Center</td>
<td>11 Months</td>
<td>PGY1, 2, 3 &amp; 6</td>
<td>Serves 62,000 veterans, 200 beds, VA: 3.3 miles</td>
</tr>
<tr>
<td>John H. Stroger Jr. Hospital of Cook County</td>
<td>3 months</td>
<td>PGY5</td>
<td>464 beds, Level I adult and pediatric trauma center, County: 3.1 miles</td>
</tr>
<tr>
<td>Ann &amp; Robert H. Lurie Children’s Hospital of Chicago</td>
<td>6 months</td>
<td>PGY1 &amp; PGY 3</td>
<td>288 beds, Level I pediatric surgery center</td>
</tr>
</tbody>
</table>
Electives

Resident Selected

**PGY2 & PGY3 (3 months)**

- Plastics
- Colorectal
- Radiology
- Pathology
- Radiation oncology
- Medical oncology

**PGY5 (3 months)**

- **Either on campus or away**
- National
  - Children’s Hospital of Philadelphia-Pediatric Urology
  - Indiana Urology
  - Cincinnati Children’s Hospital- Pediatric and Adolescent Gynecology
  - Vanderbilt Urology
  - UT Southwestern
  - International
International Electives (PGY5)

This Year’s International Electives:
- St. Vincent’s University Hospital, Dublin, Ireland
- Stellenbosch University, Cape Town, South Africa

Recent International Electives:
- Kibagabaga Hospital- Fistula Program, Kigali, Rwanda
- The National Hospital of Sri Lanka, Colombo, Western Province, Sri Lanka
- Keio University, Tokyo, Japan
Our Approach: Complete Resident Training

Education

Clinical

Research
Research Programs: Clinical Translational

**Andrology**
- Nelson Bennett
- Robert Brannigan
- Joshua Halpen
- James Wren

**Endourology**
- Robert Nadler

**GU Oncology**
- William Catalona
- Shilajit Kundu*
- Joshua Meeks*
- Adam Murphy*
- Ashley Ross
  Edward Schaeffer*

**Health Services & Outcomes**
- Greg Auffenberg*
- Karl Bilimoria*
- Emilie Johnson
- David Victorson*

**Inflections, Inflammation & Pelvic Pain**
- Sarah Flury
- Anthony Schaeffer*

**Regenerative Medicine**
- Earl Cheng*
- Edward Gong*
  Jason Wertheim*

**Translational Urology**
- Diana Bowen
- David Chu
- Stephanie Kielb
- Elizabeth Yerkes

*Lab Year Mentor
Italics = Other FSM Department
Research Programs: Benchtop Research

Cancer Biology & Epigenetics
- Sarki Abdulkadir*
- Qi Cao
- David Gius

Translational Scientists

Immunotherapy
- Jennifer Wu
- Jindan Yu

Infections, Inflammation & Pelvic Pain
- David Klumpp
- Praveen Thumbikat*

Nanotechnology
- Shad Thaxton
- Vadim Backman*

Regenerative Medicine
- Arun Sharma*

*Lab Year Mentor
Italics = Other FSM Department

To learn about individual expertise and collaborations:
https://www.scholars.northwestern.edu/
How do I do research?

**Resources**
- Research Development Working Groups
- Data warehouse
- Pilot funding for trainees
- Editorial & IRB support
- Statistical services
- Database development
- Research Coordinator

**Mentoring**
- Rotate through Research Development Working Groups PGY1 and PGY2
- Intensified mentoring PGY2 and PGY3 to prepare for lab year
- Weekly meetings with lab year mentor
- Quarterly meetings with lab year advisors Drs. Auffenberg and Klumpp

**Design your project**
- Identify field of interest
- Select PI and lab
- Choose from any department
- Write proposal

**12 month protected research**
- Only 4 weeks of night float
- Department funds for supplies
- Fully supported

**Goals**
- 1 review paper or chapter
- First author AUA abstract submission
- 4 original manuscripts
Research Development Working Groups

• Disease-based groups of faculty, trainees and students
  – Infection & Inflammation
  – Endourology & Stone Disease
  – Male reproductive Surgery & Men’s Health
  – Reconstruction & Neuourology
  – Urologic Oncology

• Every other month at grand rounds
  - Discuss research ideas
  - Present research proposals
  - Discuss data collection and analysis plans
  - Assign project roles and tasks
PGY 4: The Research Year

- Full year of protected research time
- Work with Northwestern faculty member of your choice based on your research interests
- Limited clinical responsibilities
  - 4 weeks of night float (20 calls) during lab year
- Lab residents receive normal resident stipend and $5,000 allocated for research-related supplies

2020-21 Lab Residents

Lauren Cooley
Mentor: Joshua Meeks

Matthew Hudnall
Mentor: Joshua Halpern

Jeremy Lai
Mentor: Greg Auffenberg

Minh Pham
Mentor: Greg Auffenberg
### Research Year Topics

#### 2017-2018

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channa Amarasekera</td>
<td>Disparities in prostate cancer treatment in sexual minorities (Som Kundu, urology)</td>
</tr>
<tr>
<td>Brian Jordan</td>
<td>Development of a molecular signature for high grade T1 bladder cancer to predict response to BCG therapy (Joshua Meeks, Urology)</td>
</tr>
<tr>
<td>Rotimi Netley</td>
<td>Prostate cancer prevalence and aggression in Nigerian men (Adam Murphy, Urology)</td>
</tr>
<tr>
<td>Ashima Singal</td>
<td>Adherence to active surveillance for localized prostate cancer (Ted Schaeffer, Urology and Emilie Johnson, Pediatric Urology)</td>
</tr>
</tbody>
</table>

#### 2018-2019

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jason Cohen</td>
<td>Create prospective, real-time data mining and processing algorithm for improved empiric treatment of urinary tract infections (Anthony Schaeffer, Urology)</td>
</tr>
<tr>
<td>Adarsh Manjunath</td>
<td>Creating thromboresistant kidney scaffolds for implantation into recipient rodents (Jason Wertheim, transplant)</td>
</tr>
<tr>
<td>Mehul Patel</td>
<td>Role of bladder stem cells in muscle hypertrophy and tissue fibrosis (Edward Gong, Pediatric Urology)</td>
</tr>
<tr>
<td>Emily Yura</td>
<td>Analysis of effects of androgens and estrogens on urethral homeostasis and regeneration (Matthias Hofer, Urology)</td>
</tr>
</tbody>
</table>

#### 2019-2020

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anuj Desai</td>
<td>Relationship between IBD-associated inflammation and prostate cancer tumorigenesis (Sarki Abdulkadir and Shilajit Kundu, Urology)</td>
</tr>
<tr>
<td>Oliver Ko</td>
<td>Development of quality pathway or protocol for utilizing adjuvant and salvage radiotherapy (Gregory Auffenberg, Urology)</td>
</tr>
<tr>
<td>Amanda Vo</td>
<td>Development of procedure-specific protocols to guide postoperative opioid prescriptions (Gregory Auffenberg, Urology)</td>
</tr>
<tr>
<td>Adam Weiner</td>
<td>Comparing tumor molecular profiles of African-American and European American med with prostate cancer to further examine causes of disparate outcomes (Ted Schaeffer, Urology)</td>
</tr>
</tbody>
</table>

#### 2020-21

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lauren Cooley</td>
<td>Gender Differences in Tumor Microenvironment and Genomic Expression in Muscle Invasive Bladder Cancer (Joshua Meeks, Urology)</td>
</tr>
<tr>
<td>Matthew Hudnall</td>
<td>Prevalence of testosterone deficiency in patients undergoing oncologic and non-oncologic surgery (Joshua Halpern, Urology)</td>
</tr>
<tr>
<td>Jeremy Lai</td>
<td>Cost-effectiveness of transrectal and transperitoneal prostate biopsy modalities (Gregory Auffenberg, Urology)</td>
</tr>
<tr>
<td>Minh Pham</td>
<td>Determine clinical and oncologic outcomes among urologists performing transurethral resection of the bladder tumor (Gregory Auffenberg, Urology)</td>
</tr>
</tbody>
</table>
Resident Research and Productivity

Select Publications

37 resident publications in 2019-20 academic year


Our Residents
Current Residents: PGY1 and PGY2

Daniel Greenberg  
Stanford

Emily Ji  
Harvard

Mitali Kini  
Cornell

Kyle Tsai  
Northwestern

Chris Alabastro  
UCLA

Noah Frydenlund  
University of Iowa

Jenny Guo  
Sidney Kimmel Medical College

Eric Li  
Northwestern
Current Residents: PGY3 and PGY4

Dylan Isaacson
UCSF

Neil Mistry
OHSU

Rashid Siddiqui
Univ. Wisconsin

Aisha Siebert
Univ. Rochester

Lauren Cooley
VA Commonwealth

Matthew Hudnall
UCSF

Jeremy Lai
Northwestern

Minh Pham
Univ. of N. Carolina
Current Residents: PGY5 and PGY6

Anuj Desai
Temple University

Oliver Ko
Case Western

Amanda Vo
Northwestern

Adam Weiner
Univ. of Chicago

Jason Cohen
Johns Hopkins

Adarsh Manjunath
Northwestern

Mehul Patel
Univ. of Virginia

Emily Yura
Rush University
Medical Schools

- 28 medical schools represented over the past 10 years
  - Midwest: 50%
  - South: 14%
  - Northeast: 14%
  - West: 20%
  - Outside US: 2%
Career Paths Following Graduation

31 Graduates (past 10 years)

- Private Practice 8 (26%)
- Academic Practice 3 (10%)
- Fellowship 20 (65%)
  - Academic Practice 10 (50%)
  - Private Practice 7 (35%)
  - Currently in Fellowship 3 (15%)
Alumni Fellowship Training

Alumni Fellowship Training Past 10 Years

Fellowship Programs

- Baylor (Andrology)
- Children’s Hospital of Philadelphia (Peds)
- Cleveland Clinic (FPMRS)
- Indiana (Peds)
- MD Anderson (Oncology)
- Memorial Sloan-Kettering (Oncology)
- Michigan (Oncology)
- Rush (Andrology)
- USC (Oncology)
- UCLA (FPMRS)
- UT Southwestern (Reconstruction)

n=20 residents
Health and Safety
Resident Wellness: An Institutional Priority

- Residency training is fundamentally stressful
- Rate of depression among residents is 22% to 35%
- Physicians in practice have a substantially elevated risk of suicide compared to the general population

Northwestern is committed to ensuring that residents remain physically and mentally healthy

- Institutional goal to create a supportive culture to improve resident wellness and to proactively address mental health issues faced by residents
  - Providing resources to our department to improve educational experience
  - Increase awareness of depression risk during training
  - Destigmatizing depression through education
  - Resident Wellness Inventory and Wellness Toolbox containing self-appraisal tools
  - Wellness liaison provides confidential mental health evaluation and treatment to residents
Resident Wellness: An Institutional Priority
Housestaff Wellness Program Liaison: Ashley Bassett

- Available to housestaff through a direct line 24/7
- Resource for wellness or mental health concerns
- Maintains trainee confidentiality
  - Nothing communicated with the program, faculty, or institution
Wellness = FUN  
(A Department Priority)

• Open door communication
  – Program Director
  – Chair
  – Mentors

• Wellness Events
Diversity and Inclusion

• Goal: Create a medical campus environment of belonging and inclusion for all regardless of race, ethnicity, gender, sexual orientation, socio-economic status, marital status, language, education, age, physical abilities, religious and political beliefs

• Feinberg School of Medicine Initiatives
  – Goal: Raise awareness, expand engagement and promote discovery
    • Underrepresented Residents and Fellows Forum
    • Diversity and Inclusion Council
    • Feinberg OutList and AllyList
    • Women’s Health Research Forum
    • Community partnerships

• Department of Urology Initiatives
  – LGBT Safe Space Training
  – Health education, screening and outreach to at-risk communities and underserved populations

I’m Northwestern’s president. Here’s why safe spaces for students are important.