The University of Chicago Cardiothoracic Fellowship

Innovative approaches to training cardiothoracic surgeons
Acclaim

- #11 among universities (world)
- #18 among medical schools (US)*
Training Sites and Service Areas

* Some community areas stretch across multiple zip codes. Our community benefit service area extends only to those parts of a community area within the 12 zip codes identified.
Hyde Park

• Located 7 miles from downtown
• Approximately **80,000** residents including Hyde Park, Kenwood and surrounding community
• Approximately **33%** of Hyde Park residents are associated with the University
• Numerous cultural opportunities including, music, theater, museums and ready access to downtown by public transportation.
• Wide variety of housing options within walking distance to hospital.
811 licensed beds
900 attending physicians
1085 residents and fellows
46 operating rooms
34,116 admissions
24,497 operations
109,671 ER visits
$246.3M NIH funding
Physical Space – Center for Care and Discovery
First Free-standing Cancer Pavilion in Illinois: 575K sq ft

Opening 2027

$815M
Program Objectives

- To be a premier multidisciplinary clinical program
- To train future leaders in cardiothoracic surgery
- To provide the highest standard of surgical care to our patients
Program Profile

- Chicago-style surgery: multidisciplinary
  - Evidence-based training
  - Simulation
  - Maclean Center for Clinical Medical Ethics
- MERITS fellowship in medical education
- Bucksbaum Institute for Clinical Excellence
Diversity, Equity, and Inclusion

Mission: The University of Chicago Department of Surgery Diversity, Equity, and Inclusion (DEI) Steering Committee is committed to addressing and eliminating discrimination in all forms within our department through continuous self-assessment, targeted programming, advocacy, and creation of an increasingly diverse and culturally competent workforce by embedding diversity and inclusion as an integral component of surgical excellence.

In doing so, we aim to remove barriers to healthcare access, to provide the best care for our community, and to create an optimal and equitable environment to work, conduct research, and train.
# Pathways

<table>
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<tr>
<th>Quarter</th>
<th>Q1</th>
<th>Q2</th>
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### Diagrams

**Cardiac**
- UC Card
- UC Thor
- NS Card
- NS Thor

**Thoracic**
- UC Card
- UC Thor
- NS Card
- NS Thor

CC: Critical Care
CPB: Cardiopulmonary bypass
UC: UChicago
NS: NorthShore
Cardiac Track

Thoracic Track

Highlights
- Two tracks
- Majority of time at UChicago (~70%)
- Elective time
  - 4mo in year 2
  - 8mo in year 3

<table>
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<tr>
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<th>Sep</th>
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Other Specialty Experience Options

- Arrhythmia intervention
- Echocardiography
- PFT lab
- EUS/EBUS
- Esophageal function lab
- Endovascular therapies
- Cath lab
- Foregut rotations
### Institutional Resources

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<tr>
<th>Resource</th>
<th>U of C</th>
<th>NorthShore</th>
<th>Total</th>
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<tr>
<td>Beds</td>
<td>568 (+80)</td>
<td>389</td>
<td>957</td>
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<tr>
<td>ORs</td>
<td>44</td>
<td>12</td>
<td>54</td>
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<tr>
<td>CVT ORs</td>
<td>7</td>
<td>1.5</td>
<td>7.5</td>
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<tr>
<td>CVT floor beds</td>
<td>55</td>
<td>34</td>
<td>89</td>
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<td>CT ICU beds</td>
<td>28</td>
<td>26</td>
<td>54</td>
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<tr>
<td>PA/NP</td>
<td>&gt;20</td>
<td>6</td>
<td>30</td>
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<tr>
<td>Outpatient clinic days/week</td>
<td>5</td>
<td>2</td>
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<td>Educational support staff</td>
<td>1</td>
<td>1</td>
<td>2.5</td>
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### Annual Hospital Volume

<table>
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<th>Procedure Type</th>
<th>U of C</th>
<th>NorthShore</th>
<th>Total</th>
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<tr>
<td>Pulmonary/pleural</td>
<td>212</td>
<td>197</td>
<td>409</td>
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<tr>
<td>Esophagus</td>
<td>25</td>
<td>19</td>
<td>44</td>
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<tr>
<td>Other major</td>
<td>75</td>
<td>14</td>
<td>89</td>
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<tr>
<td>CABG</td>
<td>163</td>
<td>86</td>
<td>249</td>
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<td>Valve</td>
<td>180</td>
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<tr>
<td>Congenital</td>
<td>100</td>
<td>3</td>
<td>103</td>
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<td>Transplant</td>
<td>97</td>
<td>0</td>
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<tr>
<td>Other major</td>
<td>189</td>
<td>77</td>
<td>166</td>
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<td><strong>TOTAL MAJOR</strong></td>
<td><strong>1062</strong></td>
<td><strong>483</strong></td>
<td><strong>1545</strong></td>
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<tr>
<td>Minor</td>
<td>418</td>
<td>258</td>
<td>676</td>
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<td><strong>TOTAL</strong></td>
<td><strong>1480</strong></td>
<td><strong>742</strong></td>
<td><strong>2221</strong></td>
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Resident Case Volume 2017-2023

Cases

<table>
<thead>
<tr>
<th>Track</th>
<th>Major Cardiac</th>
<th>Major Thoracic</th>
<th>Minor Procedures</th>
<th>Totals</th>
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<tr>
<td>U of C Thoracic Track</td>
<td>294</td>
<td>338</td>
<td>195</td>
<td>801</td>
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<td>ABTS Thoracic Track Requirements</td>
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<td>171</td>
<td>95</td>
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<td>162</td>
<td>122</td>
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<td>148</td>
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Totals: 801 (Thoracic) + 807 (Cardiac) = 1608

Graph showing the distribution of cases between Major Cardiac, Major Thoracic, and Minor Procedures for each track.
Educational Approaches

• Curricular design
  • Topic related learning objectives
  • Thoracic web of knowledge – TSDA
  • Structured didactics
  • Simulation
  • Board question review (SESATS)
  • Mock orals
  • Key feature scenarios
• The unexamined case is not worth doing
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<th>Conference</th>
<th>Frequency</th>
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<td>Core curriculum</td>
<td>Tuesdays</td>
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<td>CT Morbidity and Mortality</td>
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<tr>
<td>Mock Orals</td>
<td>Wednesdays</td>
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<tr>
<td>Board Review Session/KF scenarios</td>
<td>Thursdays</td>
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<tr>
<td>UCMC Thoracic Case Conference</td>
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<tr>
<td>UCMC Attending Ward Rounds</td>
<td>Daily</td>
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<td>City-wide Joint Journal club</td>
<td>Quarterly</td>
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<tr>
<td>UCMC Adult Cardiac Conference</td>
<td>Weekly</td>
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<tr>
<td>UCMC Pediatric Cardiac Conference</td>
<td>Weekly</td>
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<tr>
<td>UCMC Heart Transplant Conference</td>
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<tr>
<td>UCMC Thoracic Malignancies Staging Conferences</td>
<td>Weekly</td>
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<tr>
<td>NSUH Cardiac Catheter Conference</td>
<td>Weekly</td>
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<tr>
<td>NSUH Thoracic Oncology Conference</td>
<td>Weekly</td>
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Other Educational Opportunities

- TSDA Boot Camp
- Education training
  - RIME (Research in Medical Education monthly lunch conferences)
  - MERITS (Medical Education Research Innovation and Teaching Scholarship—2-year scholarly track)
- Society meetings
- City-wide journal club
- City-wide mock orals
- Industry-funded courses
Unique Educational Opportunities

- Skinner lecture
- Benfield lecture
- Fry lecture
- Scholarship – clinical research, reviews, curriculum development
- Research – basic/translational, outcomes, modeling, education, simulation
Competencies – Thoracic Medical Knowledge & Patient Care

Relevant factors
Medical Knowledge:
• In-training exam
• Structured case discussions
• Simulation
• Evaluation of rotations
• Core curriculum presentations

Patient Care:
• Direct observation
• Structured case discussions
• Simulation
• Review sign-offs
• STAT
Competencies – Nonclinical Attributes

Relevant Factors:

Professionalism
- Direct observation
- Multi-source assessment
- Simulation
- Chart review

Practice-based learning and improvement
- Case logs
- Teaching
- Pt outcomes
- Presentations

Interpersonal and communication skills
- Direct observation
- Chart review
- Mock orals
- Simulation
- Multi-source assess

Systems Based Practice
- Direct observation
- Multi-source assessment
- Mock orals
Education and On-Call Responsibilities

- No in-house call
- APPs and other team members manage routine issues that arise at night and on weekends
- Night duties should be part of the curriculum rather than being a service function
- Transplant call rotations coming in when needed
Heart Failure Program

- Transplantation
- Devices as bridge to transplant
- Devices as destination therapy
- Multiple device studies
- Large support staff
Lung Failure Program

- Transplantation
- Pulmonary hypertension
- LVRS
- Multiple clinical studies
- Large support staff
Chest Oncology Program

- Cooperative interdisciplinary group since 1973
- Advanced diagnostics and therapeutics in every aspect
  - Medical and radiation oncology, surgery, interventional pulmonary medicine, radiology, interventional endoscopy, pathology, cytology
  - Tissue bank
  - Multiple treatment research protocols
Mesothelioma Program

- Cooperative interdisciplinary group for 25 years
- Advanced diagnostics and therapeutics in every aspect
  - Medical and radiation oncology, surgery, palliative care medicine, radiology, pathology, cytology
  - Tissue bank
  - Multiple unique treatment research protocols
Airway Program

- Multidisciplinary group
  - Thoracic
  - ENT
  - Interventional pulmonary
- Expertise in every aspect, including endoscopic and resectional therapy
MIS and CT Surgery

- Valve repair/replacement
- CABG
- Ablation
- RATS
- RAMIE
Robotic Cardiac Program

- Leader in tricuspid repair
- Many firsts
- Only program in the world to do totally robotic multivessel CABG
- 1685 total robotic cardiac cases
  - 200 in 2023
Simulation Curriculum

- Cardiac anatomy
- Airway management
- Interventional bronchoscopy
- CPB
- Vessel anastomosis
- AVR
- Mechanical support (acute, chronic)
- Basic robotic skills
- Cadaver labs
### Thoracic Faculty

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<td>Jessica Donington</td>
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<td>Mark Ferguson</td>
<td>U Chicago, U Chicago</td>
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<tr>
<td>Lucia Madariaga</td>
<td>MGH, U Chicago, Brigham</td>
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<tr>
<td>Darren Bryan</td>
<td>U Chicago, Wash U</td>
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<tr>
<td>Seth Krantz</td>
<td>Northwestern, Wash U</td>
</tr>
<tr>
<td>Weilen Su</td>
<td>Indiana U, U Pittsburgh</td>
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<tr>
<td>Pablo Sanchez</td>
<td>Argentina, Brazil, U Pittsburgh</td>
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Research Initiatives

- Translational
- Clinical
- Outcomes
- Education and training
<table>
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<tr>
<th>Name</th>
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<th>Medical School</th>
<th>Residency</th>
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<th>Specialty</th>
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<td>Trevor Williams, MD, MPH</td>
<td>2015</td>
<td>McGill University</td>
<td>UCSF East Bay</td>
<td>Private practice, CA</td>
<td>Thor</td>
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<td>Zewditu Asfaw, MD</td>
<td>2016</td>
<td>Wake Forest University</td>
<td>Wayne State</td>
<td>Private practice, MI</td>
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<td>Diego Avella, MD</td>
<td>2017</td>
<td>Colombia</td>
<td>Penn State</td>
<td>Northwestern</td>
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<td>Brian Mitzman, MD</td>
<td>2018</td>
<td>SUNY Buffalo</td>
<td>Lenox Hill</td>
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<td>Jamie Eridon, MD</td>
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<td>Lenox Hill</td>
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<td>Andrew Brownlee, MD</td>
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<td>Lenox Hill</td>
<td>Cedars Sinai</td>
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<td>Koln, Germany</td>
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<td>Philip Erwin, DO</td>
<td>2023</td>
<td>W VA Sch of Osteo Med</td>
<td>U South Carolina</td>
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<td>Favin Babu, MD</td>
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<td>University of Illinois</td>
<td>Loyola University</td>
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<td>Ahmed Hozain, MD</td>
<td>2025</td>
<td>Michigan State</td>
<td>SUNY Brooklyn</td>
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<td>Steven Qi, MD</td>
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<td>Tufts</td>
<td>U of Minnesota</td>
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<td>Matthew Wheelwright</td>
<td>2007</td>
<td>U of Minnesota</td>
<td>U of Minnesota</td>
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Recent Resident Educational Activities

- TSRA Travel Award
- Intuitive Fellowship Award
- TSDA Bootcamp
- CT Critical Care Conference
- Thoracic Journal Club
- ACS Thoracic Workgroup
- AATS poster competition
- CTSNet resident video prize
What’s new?

• 2023
  • Staffing Ingalls Hospital
  • Purchase of AdventHealth System
  • Outpt clinics River East, Flossmoor

• 2024
  • New hires in cardiac and thoracic
  • Outpatient facility in northwest Indiana
  • New location for NS cardiac program
  • New PD

• 2027
  • Free standing Cancer Center Hyde Park on campus
Leisure Time

Chicago – my kind of town!

- Midwestern ambience, accessibility
- East coast / west coast amenities
- Theater, music festivals, restaurants, sports, outdoor activities

On Campus

- Ratner Center (gym)
- Doc Films ($5 movies)
- Smart Museum of Art
- Oriental Museum
- Court Theatre
- Cafés and bookstores
“Crescat scientia; vita excolatur”

“Let knowledge grow from more to more; and so be human life enriched”