Welcome!
Who are we?

WE ARE
NEBRASKA MEDICINE & UNMC

Our mission is to lead the world in transforming lives to create a healthy future for all individuals and communities through premier educational programs, innovative research and extraordinary patient care.

UNMC Nebraska Medicine
OUR VALUES

reflect who we are and why we’re here.

ITEACH

Innovation
Search for a better way. Seek and implement ideas and approaches that can change the way the world discovers, teaches and heals. Drive transformational change.

Teamwork
Respect diversity and one another. Communicate effectively and listen well. Be approachable and courteous. There is no limit to what we can achieve when we work together.

Excellence
Strive for the highest standards of safety and quality in all that you do. Work to achieve exceptional results.

Accountability
Commit. Take ownership. Be resilient, transparent and honest. Always do the right thing and continuously learn.

Courage
Make the tough decisions. Have no fear of failure in the pursuit of excellence. Admit mistakes and learn from them.

Healing
Show the empathy you feel. Be selfless in caring for patients, one another and the community.

UNMC Nebraska Medicine
Nebraska Medicine & UNMC

- Academic medical center
- Integrated enterprise > 17 years in the making
- Clarkson Hospital + University Hospital + UNMC Physicians + private practice physicians
- Nebraska Medicine + Nebraska Medicine-Bellevue + Village Pointe + >40 specialty and primary care clinics + additional community health systems
- > 1000 physicians
Nebraska Medicine & UNMC
Nebraska Medicine - TNMC
UNMC Department of Anesthesiology

“The primary goal of the Department of Anesthesiology is to provide the best in patient care as well as the finest educational experience for our residents, fellows, and students. The individuals trained here will be the leaders of the future in anesthesiology and perioperative medicine.”
UNMC Department of Anesthesiology

At a glance:
• Residents - 48
• Fellows
  • Cardiothoracic - 2
  • Critical Care - 4
  • Pediatric - 2
  • Pain - 2
• 50+ Anesthesiologists (UNMC); Children’s faculty
• 50+ CRNAs
• Echo ultrasonographer
• 2 NIH funded researchers
• One Residency Coordinator
• Two Fellowship/Residency Coordinators
• Administrative support
• Research support
Our program: CBY

Clinical Base Year
- Started 2012
- 12 residents per year
- 12 positions in the Match
- Rotations:
  - Anesthesiology
  - Cardiology (Wards, Interventional)
  - Critical Care (CCM, CCS/Trauma)
  - Emergency Medicine
  - ENT + Transfusion Medicine (two weeks each)
  - General Surgery
  - Internal Medicine (Wards, Co-management/Surgical Home)
  - Nephrology
  - Vascular surgery
Our program: CBY

Goals
• Transition to physician role in supportive environment
• Develop outstanding patient care skills
• Become comfortable at Nebraska Medicine/UNMC

Didactics
- Every Wednesday, 3-5pm
- “Basics” anesthesia lectures weekly
- Supplemental lectures and monthly simulation
- Exams over anesthesia topics every 8 weeks
- Structured curriculum for each rotation
- Additional education by rotation faculty

All CBYs are assigned a faculty mentor/advisor
Evaluations done with PD or APD
“Call” is rotation dependent
Clinical Anesthesia: CA-1s

Rotations

- CA-1s:
  - General OR – no limits on case experiences
  - PASC (Pre-Anesthesia Screening Clinic)
  - Critical Care (one month)
  - Orthopedics
  - Acute Pain Service (2 weeks)
  - Subspecialty rotations, occasionally begin in the spring of CA-1 year
Clinical Anesthesia

Rotations
- CA-2s and CA-3s:
  - Airway techniques (VA)
  - Ambulatory anesthesia
  - Cardiothoracic anesthesia
  - Critical care (CCA)
  - General OR
  - Neuroanesthesia
  - Obstetrical anesthesia
  - Regional anesthesia (NOH)
  - APS
  - Chronic Pain
  - PACU
  - Pediatrics (Children’s)
Clinical Anesthesia: CA-3s

Rotations
- 3 months of advanced training may be selected from the following:
  - Cardiovascular anesthesia
  - Neuroanesthesia
  - Pediatric anesthesia (UNMC)
  - Thoracic/vascular anesthesia
- Advanced out of OR elective:
  - Option 1: a month at Children’s and a month of APS
  - Option 2: two months at Children’s
  - Option 3: two months of APS

Electives for >30th percentile on ITE:
- Perioperative practice management
- Research
- Bryan LGH
- Chronic pain
- UNMC CCA (critical care)
Subspecialty Experience

PASC
- Team approach, one month rotation
- Hospitalists also work in clinic

Transplant:
- Liver, pancreas, kidney, small bowel
- 100-120 liver transplants per year; ¼ pediatric
- TEE used on all adult cases

Neuro:
- Brain tumors, aneurysms, spine surgeries
- Neuroradiology coiling procedures are abundant

Obstetric:
- High risk and normal deliveries
- New in 2016, > $20 million OB unit with 3 ORs
Subspecialty Experience

Pediatric:
- Board certified pediatric anesthesiology faculty
- Range of cases from “bread and butter” to very complex

Pain Medicine:
- > 7500 procedures per year
- Five dedicated faculty for chronic pain

Acute Pain Service:
- Dedicated faculty team, all US guided blocks (200-300/month)
- Multi-modal techniques; Inpatient daily census > 20

PACU:
- Resident and Faculty co-assigned each day
Subspecialty Experience - Cardiac Anesthesiology

- 3 cardiac suites, one Hybrid room, Cardiac Cath lab
- > 600 cardiac cases annually (and growing!)

- 8 cardiac anesthesiologists; 2 ACTA Fellows
- 4 cardiac surgeons; 2 thoracic surgeons; multiple vascular surgeons

- 69 cardiothoracic beds at Nebraska Medicine
- One of the only perioperative echocardiography services in the country.
Subspecialty Experience - Cardiac Anesthesiology

- Procedures include:
  - Heart transplants, lung transplants, LVADs, RVADs, CABG, valve repair and replacement, TAVR and MitraClip, congenital cardiac procedures on adults, thoracic procedures including aortic

- Heart Failure program
  - One of the largest LVAD centers in the country.
  - > 60 LVADs per year.
Subspecialty Experience - Cardiac Anesthesiology

- 8 *advanced* echo certified anesthesiologists and 1 testamur
- 8 additional anesthesiologists achieved echo certification in 2015
- > 1000 TEEs performed annually; echocardiography education in OR
- CAE TEE and TT simulator in state of the art perioperative echocardiography suite
- Multiple echo machines dedicated to anesthesiology
- Didactics specific for echocardiography
- National training program in echocardiography for practicing physicians – top 10 echocardiography education in the country!
Subspecialty Experience - Critical Care Anesthesiology

• One month per year, CA-1, CA-2, CA-3
• Admits all patients from cardiac surgery, cardiology, thoracic surgery, vascular surgery, surgical oncology
• In the last two years, our residents provided care for:
  • 74 heart transplant patients
  • 107 LVAD patients
  • 99 ECMO patients
  • 3 total artificial heart patients
Subspecialty Experience - Critical Care Anesthesiology

- Seven anesthesiologist-intensivist faculty
  - All Board Certified in Critical Care
  - All trained in basic trans-thoracic and transesophageal echocardiography
  - Trained at: UNMC, Creighton, Harvard (MGH, B&W), Florida, Michigan, Cincinnati, Stanford
  - Leaders in department and institution
- Four fellows
- Daily multi-disciplinary rounds
- Formal didactics on rotation
- Residents receive bedside training in basic trans-thoracic, transesophageal echocardiography, ultrasound
Subspecialty Experience - Critical Care Anesthesiology

• Resident call: one night per week
• Fellow/faculty backup 24 hours/day, 365 days per year
• Residents seeking advanced training in Critical Care
  • Mentored by faculty
  • Recent fellowship “matches” include:
    • UNMC
    • Stanford
    • Beth Israel Deaconess
    • Massachusetts General Hospital
Rotation Sites

• Nebraska Medicine:
  • Nebraska Medical Center
  • Bellevue
• Omaha VA
• Nebraska Orthopaedic Hospital
• Children’s Hospital and Medical Center
• Bryan Medical Center West (elective)
• Rwanda (elective)
Nebraska Medicine

- U.S. News & World Report
  - Ranked #1 in Nebraska
    - Five consecutive years
  - High-performing:
    - Cancer
    - Gastroenterology and GI Surgery
    - Geriatrics
    - Gynecology
    - Nephrology
    - Neurology and Neurosurgery
    - Pulmonology
    - Urology
Nebraska Medicine: NMC

- 606 beds
- 33 Operating Rooms (Hybrid room)
- > 27,000 anesthetics
- > 1800 births
  - High risk;
  - > 75-85% regional
  - NICU (34 bed, Level 3; ECMO)
- 10 bed Biocontainment Unit
  - one of the nation’s original three Biocontainment Units
  - National Ebola Training and Education Center
- State designated Comprehensive Trauma Center serving pediatric and adult patients 24/7
Nebraska Medicine

• Becker’s Hospital Review
  • One of the 100 Great Hospitals in America – three years in a row

• National Research Corporation Consumer Choice Award winner
  • 14 years in a row
OB ORs
Nebraska Medicine - Bellevue

- CBYs – Emergency Medicine
- 10 miles south of TNMC
- 55 beds; CRNAs in-house 24/7
- Community hospital, six years old
- LEED certification (Leadership in Energy and Environ. Design)
- 8 ORs, 2 interventional suites, 4 procedure rooms (>3000 anesthetics; > 800 births)
- ED > 30,000 annual visits
- Recognized by Joint Commission as TOP PERFORMER for three consecutive years
- Nationally ranked among the TOP TEN HOSPITALS FOR QUALITY CARE (UHC)
VA Nebraska-Western Iowa Health Care System

- One CA-2 each month
  - Airway management
VA Nebraska-Western Iowa Health Care System

- 226 bed hospital
- 7 ORs
- 5 Out of OR areas
- 4 Anesthesiologists
- 14 CRNAs

- 4800 anesthetics per year
- Airway techniques, additional OR cases
Nebraska Orthopaedic Hospital (NOH)

Two CA-2 residents per month for two month rotation

- 144th and Center
Nebraska Orthopaedic Hospital (NOH)

- 12 ORs
- 5 MDs, 9 CRNAs
- 35 surgeons, 9000 procedures/year

- 2 CA-2 residents/month for 2 month rotation
- 80-100 blocks per resident per month

Hip Replacement | Orthopedics | Knee Replacement
Children’s Hospital and Medical Center

- 84th and Dodge
- 144 bed hospital
- 12 ORs daily
- 25 pediatric anesthesiologists
- >13,000 anesthetics per year
- Congenital heart operations
- Heart transplants
Children’s Hospital and Medical Center

- 3 residents per month
- At least three months of pediatric anesthesia during residency
- Typically CA-2s and CA-3s

Cardiology and Heart Surgery
Gastroenterology and GI Surgery
Orthopedics
Elective – Bryan West Medical Center

- Lincoln, NE
- CA-3 resident
- Associated Anesthesiologists, PC
- Cardiac anesthesia with advanced TEE in addition to anesthesia for all other types of surgery in private practice.
International Elective – University of Gitwe

- Located in Rwanda
- Accredited by ACGME, ABA
- 1-2 week global health elective
- Anesthetic delivery supervised by UNMC faculty
- 1-2 trips per year
- Competitive application process
Available anesthetics

Nebraska Medicine: 27,000
VA: 4,800
NOH: 9,000
Childrens: 13,000

Anesthetics available for residents and fellows:

➢ 50,000

➢ Available pain procedures: > 7500
## Case logs

<table>
<thead>
<tr>
<th>ACGME Category</th>
<th>RRC Minimum</th>
<th>UNMC Program Average (2016 graduates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pts. &lt; 3 months</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Pts. &lt; 3 years</td>
<td>20</td>
<td>133</td>
</tr>
<tr>
<td>Pts. &lt; 12 years</td>
<td>100</td>
<td>156</td>
</tr>
<tr>
<td>Spinal</td>
<td>40</td>
<td>63</td>
</tr>
<tr>
<td>Epidural</td>
<td>40</td>
<td>138</td>
</tr>
<tr>
<td>Periph Nerve Block</td>
<td>40</td>
<td>363</td>
</tr>
<tr>
<td>Life-Threatening Pathology</td>
<td>N/A</td>
<td>249</td>
</tr>
</tbody>
</table>
## Case logs

<table>
<thead>
<tr>
<th>ACGME Category</th>
<th>RRC Minimum</th>
<th>UNMC Program Average (2016 graduates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac – with CPB</td>
<td>11</td>
<td>57</td>
</tr>
<tr>
<td>Cardiac total</td>
<td>20</td>
<td>78</td>
</tr>
<tr>
<td>Echocardiography</td>
<td>N/A</td>
<td>83</td>
</tr>
<tr>
<td>Intrathoracic, non-cardiac</td>
<td>20</td>
<td>41</td>
</tr>
<tr>
<td>Vascular, major vascular</td>
<td>20</td>
<td>109</td>
</tr>
<tr>
<td>Vaginal delivery</td>
<td>40</td>
<td>73</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>20</td>
<td>38</td>
</tr>
</tbody>
</table>
## Case logs

<table>
<thead>
<tr>
<th>ACGME Category</th>
<th>RRC Minimum</th>
<th>UNMC Program Average (2016 graduates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total intracerebral</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>Total intracerebral – OPEN</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td>TOTAL CASES</td>
<td>N/A</td>
<td>1683 (range: 1582-1959)</td>
</tr>
</tbody>
</table>
Didactics

Monday 30 minute “lecture”
separate lectures for CA-1s, CA-2s & CA-3s
combined Echo conference 2 Mondays/month

Tuesday 30 minute “lecture”
separate lectures for CA-1s, CA-2s & CA-3s

Wednesday 90 minutes
faculty meeting, department meeting
Grand Rounds
    faculty or resident/fellow once per month
    visiting professor once per month
QI/QA conference once per month
quarterly with Dept. of Surgery
Didactics

**Thursday**
30 minute “lecture”
separate lectures for CA-1s, CA-2s & CA-3s

**Friday**
1st Friday: Chief Resident meeting
3rd Friday: Program Director meeting

Online anesthesia learning subscription for all CA residents

Lecture schedule posted ahead of time with suggested readings

Rotation specific didactics

Joint lectures recorded for Blackboard

Electronic textbooks through McGoogan Library of Medicine
Didactics

- Two month annual “Boot Camp” review
- ABA Booklet of Information for subject matter
- Daily “keyword” from ABA In-Training Exam
- Journal Club
  - 10 times per year
  - At home of faculty member or local restaurant
  - 3-4 journal articles distributed in advance
  - Residents present
  - “Visiting professors” will participate
Didactics

• All residents will complete the following:
  • an academic project
  • class QIPS project
  • individual QIPS project/presentation
  • CRM or TeamSTEPPS training
  • GME on-line coursework
  • CITI training (Collaborative Institutional Training Initiative)
Didactics

Simulation

• Simulation Center (7750 sq. ft.) with an OR
• Our own high-definition simulator; task trainers
• Our own Echo simulator in Echo Center
• All residents receive small group simulations specific to learning level
• OSCE practice
• Dr. Jennifer Adams is Asst. Dir. of Sim Center
• Campus initiatives:
  • Associate Vice Chancellor for Advanced Clinical Simulation
  • iEXCEL: interprofessional Experiential Center for Enduring Learning
    • Approved for establishment at the Global Center for Advanced Interprofessional Learning
Sim Center OR
Evaluations

- UNMC GME utilizes New Innovations for duty hour monitoring and evaluations
- Residents will evaluate:
  - each rotation
  - the program annually (department and ACGME)
  - faculty semi-annually; results processed annually
- Residents will be evaluated:
  - by faculty monthly or more frequently (you can review your evaluations at any time)
- Residents meet at least semi-annually with their advisors to review their evaluations and develop learning plans
- CCC provides semi-annual Milestone feedback
- PD and APD are ALWAYS available
Department Research

- Director of Translational Research
- Department research nurses and coordinator
- Institutional support: Clinical Trials Office, College of Public Health (statisticians)
- Monthly research meeting, luncheon
- RROC: Resident Research Oversight Committee
- Research as a resident requires:
  - Approval – PD
  - >30th percentile on ITE
  - All residents complete CITI
  - Faculty mentor
  - IRB approved study
  - Expected publication, presentation
Department Research

• > $1.7 million in NIH funding through two NIH grants
  • Dr. Hanjun Wang: Cardiovascular responses during exercise and CHF
  • Dr. Sasha Shillcutt: Aging and Intraoperative Hemodynamic Monitoring
• > 16 active clinical research IRBs
• Multiple educational and quality projects that are IRB exempt
• Underway projects:
  • TEE, Hemodynamics, Transplant, Simulation, Regional anesthesia, Chronic pain, Critical Care, Ebola, Trauma, Education
Department Scholarly Activity

- 16 resident posters presented at Anesthesiology 2015
- 17 resident posters for Anesthesiology 2016
- Additional presentations at
  - MARC, SCCA, SCCM, SPA
Resident ABA Board Exam Results

ABA National Graduation Summary 2010-2014
• Certification rate: 89%

UNMC Department of Anesthesiology
• Graduation Classes 2010-2015
  • 92% Board Certification
• Graduation Class of 2016
  • Advanced/Written Exam Pass: 10/11 (92%)
ABA “Basic” Exam Results

• 2014-2016

• First attempt pass rate = 92%

• Second attempt pass rate = 100%

***All residents must take the exam when first eligible and must pass the exam within two successive attempts to remain a resident in the UNMC program.
Prep for “Boards”

• Rigorous didactic schedule
  • “Lectures,” suggested readings, practice questions, keywords, online learning
  • Daily case presentations
• ABA In-Training Exam – all residents
• Structured “oral” practice sessions
  • During simulation sessions
  • Training level specific – 2 times per year
  • Five ABA Oral Board examiners on faculty
• Simulations and structured OSCE practice
### Work Hours

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Average Hours/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBY</td>
<td>40-80</td>
</tr>
<tr>
<td>General ORs</td>
<td>55-60</td>
</tr>
<tr>
<td>Cardiac</td>
<td>65</td>
</tr>
<tr>
<td>ICUs</td>
<td>75</td>
</tr>
<tr>
<td>VA</td>
<td>40-45</td>
</tr>
<tr>
<td>Children’s</td>
<td>60</td>
</tr>
<tr>
<td>NOH</td>
<td>60</td>
</tr>
<tr>
<td>Chronic Pain</td>
<td>55</td>
</tr>
</tbody>
</table>

**Average work hours for our residents: 64 hours/week**
Call Team - TNMC

CBYs: rotation specific; very little call due to intern status

Clinical Anesthesia:

In-house team, \textit{minimum}:
- Resident, junior
- Resident, senior
- OB Anesthesia resident
- CRNA
- Faculty

Additional team members:
- Late call resident
- 2\textsuperscript{nd} call CRNA
- Faculty, 2\textsuperscript{nd} and 3\textsuperscript{rd} call
- Faculty, Cardiac 1\textsuperscript{st}, 2\textsuperscript{nd}, 3\textsuperscript{rd} call
- Faculty, Liver
- Faculty, APS
- Faculty, Pediatric
# Call Schedules

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Call Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBY</td>
<td>Intern duty hours&lt;br&gt;Rotation specific with some “late” calls; Surgery study</td>
</tr>
<tr>
<td>ICU</td>
<td>Every 4-6 nights; No OR call</td>
</tr>
<tr>
<td>Children’s</td>
<td>One – two weekend calls per month at Children’s</td>
</tr>
<tr>
<td>VA Airway</td>
<td>No VA Calls; One in-house shift per month at UNMC</td>
</tr>
<tr>
<td>NOH</td>
<td>No NOH Calls; One – two weekend in-house shifts per month at UNMC</td>
</tr>
<tr>
<td>UNMC CA-1</td>
<td>3-4 in-house calls per month</td>
</tr>
<tr>
<td>UNMC CA-1</td>
<td>2-3 late calls or home calls per month</td>
</tr>
<tr>
<td>UNMC CA-2, CA-3</td>
<td>3-4 in-house calls per month</td>
</tr>
<tr>
<td>UNMC CA-2, CA-3</td>
<td>2-3 late calls or home calls per month</td>
</tr>
</tbody>
</table>
Vacation/Meeting time:

- The ABA allows 60 days off during Clinical Anesthesia training (CA-1, CA-2, CA-3)
- The ABA allows 5 educational meeting days per year
- UNMC allows 20 days off during CBY
- Days off = vacation, sick leave, funeral leave, maternity/paternity leaves, etc.
- If more time is taken, the residency is extended
Department Support

Private resident lounge and call rooms.
Department Support

• State of NE Temporary Education Permit
• BLS and ACLS
• Parking permit
• Professional dues: ASA, NSA, IARS
• ABA In-Training Exam, CBY, CA-1, CA-2, CA-3
• ABA Basic Examination
• Online anesthesia learning subscription for CA-1, CA-2, CA-3
• Educational Development: $2500 total
  - CBY $500 ($300 GME + $200 Department)
  - CA-1 $500 ($300 GME + $200 Department)
  - CA-2 $500 ($300 GME + $200 Department)
  - CA-3 $1000 ($300 GME + $700 Department)
Department Support

- Travel Expenses
  - CBY: no department travel allowance
  - CA-1: no department travel allowance; travel allowed at discretion of the RROC, PD, Chair
  - CA-2: $1000 (no carryover)
  - CA-3: $1500 (no carryover)
- Use of University iPad or other tablet
- Subscriptions to electronic textbooks
- Call meal allowance
- Meal card (GME)
Accreditation

- At last ACGME review in 2009, the UNMC Department of Anesthesiology Residency Program received the maximum full FIVE YEAR accreditation from the ACGME.

- The program has no citations.

- With the ACGME’s Next Accreditation System, the residency program received the maximum 10 year cycle with a site visit planned for 2021.
What about....

Do you allow moonlighting?
• Yes. It is not encouraged; individually assessed.

What do our residents do after residency?

2013 grads: 5 fellowships, 5 private practice
2014 grads: 7 fellowships, 6 private practice
2015 grads: 5 fellowships, 3 faculty, 4 private practice
2016 grads: 6 fellowships, 1 faculty, 5 private practice
Acknowledgements

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