Neurological Surgery RRC Update and Preparation For The NAS

Hunt Batjer, MD, RRC Chair
Kim Burchiel, MD, RRC Vice-Chair

RRC Team Members

Pamela Derstine, PhD, MHPE, Executive Director
Susan Mansker, Associate Executive Director
RRC Membership

- 7 voting members
  - ABNS – 2 members
  - ACS – 2 members
  - AMA (CME) – 2 members
  - SNS-1 resident member

- Leadership
  - Hunt Batjer, MD, Chair (ABNS)
  - Kim Burchiel, MD, Vice-Chair (AMA)
RRC Membership

- Hunt H. Batjer, MD RRC Chair
- Patrice Blair, MPH ACS Ex-Officio
- Kim Burchiel, MD RRC Vice-Chair
- Ralph G. Dacey, MD
- Alexander A. Khalessi, MD Resident Member
- Fredric Meyer, MD ABNS Ex-Officio
- Nelson M. Oyesiku, MD, PhD
- A. John Popp, MD
- Volker K.H. Sonntag, MD
Incoming RRC Members

- Michael Sean Grady, MD
  replacing Ralph G. Dacey, MD
- Nicholas M. Barbaro, MD
  replacing Volker K.H. Sonntag, MD
- Melanie G. Hayden Gephart, MD
  replacing Alexander A. Khalessi, MD, MS
ACGME RRC Staff

- Pamela L. Derstine, PhD, MHPE
  *Executive Director*
- Susan E. Mansker
  *Associate Executive Director*
- Jennifer M. Luna
  *Accreditation Administrator*
- Deidre M. Williams
  *Accreditation Assistant*

*Also.....*

Andrew Turkington
  *Oplog Representative*

Jenna Walls
  *WebADS Representative*
ACGME Reorganization

- Senior VP for Surgical Accreditation: John R. Potts III, MD
- Senior VP for Hospital-based Accreditation: Louis J. Ling, MD
- Senior VP for Medical Accreditation: Mary Lieh-Lai, MD, FAAP, FCCP
- Senior VP for Institutional Accreditation: Kevin B. Weiss, MD
## Accreditation Statistics AY 10/11

<table>
<thead>
<tr>
<th>Total # Accredited Programs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Core</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td># Sub</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total # Residents/Fellows</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male/Female</td>
<td>957/162</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total # Programs Reviewed</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Core</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td># Sub</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total # New Programs Accredited</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Core</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td># Sub</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
# Accreditation Statistics

Cycle Length Breakdown (Core)

<table>
<thead>
<tr>
<th>Cycle Length</th>
<th># Programs Reviewed AY 10/11</th>
<th># Programs All Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-yr</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2-yr</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>3-yr</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>4-yr</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>5-yr</td>
<td>13</td>
<td>56</td>
</tr>
</tbody>
</table>
### Other RRC Meeting Decisions (Core)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requested/Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complement increases</td>
<td>16/7</td>
</tr>
<tr>
<td>Progress Reports</td>
<td>16/12</td>
</tr>
<tr>
<td>Duty Hour Exception Requests</td>
<td>2/3</td>
</tr>
<tr>
<td>Other (participating site, curriculum change, etc.)</td>
<td>14</td>
</tr>
</tbody>
</table>
% Programs With Duty Hour Exceptions

- 03-04: 36.8%
- 04-05: 50.5%
- 05-06: 49.5%
- 06-07: 44.3%
- 07-08: 39.2%
- 08-09: 39.4%
- 09-10: 31.0%
- 10-11: 23.8%
- 11-12: 15.80%
Duty Hour Exceptions

- No exceptions are allowed for PGY1 residents
- Requests for exceptions must include:
  - clear and well-documented educational rationale for each educational level
  - detailed description of the monitoring system to ensure adherence
  - plan for relief of resident duties in case of resident fatigue
Online Resources for Programs

RRC Website
- FAQs for current program requirements (includes specialty-specific FAQs for new duty hour requirements)
- Common Duty Hour FAQs and Resources
- 2011 RRC Report
- August 2011 RRC Newsletter

ACGME e-Communication (weekly)

ACGME Website
- To be added
CURRENT ISSUES BEFORE the RRC

- Impact of 2011 Standards - Supervision
- ACGME Re- Organization - 3 New VPs for Accreditation
  - Surgical - Dr John Potts
  - Hospital - Based
  - Medical
- Specialty Specific Program Requirements
- Length of Neurosurgical Training
- Case Categories
- CPT Code Mappings
- Milestone Project
- Next Accreditation System
2011 ACGME STANDARDS

Expanded Section - Supervision

- identifiable practitioner responsible for each patient*

- Levels of supervision

  1. **direct (physically present with resident and patient)**

  2a. **indirect with direct supervision immediately available**
      (supervisor physically within site of patient care and available to provide direct)

  2b. **indirect with direct supervision available**
      (supervisor immediately available by phone, etc. and is available to provide direct)

  3. **oversight** (supervisor provides review and feedback after care is delivered)
Approved procedures and patient management competencies that PGY1 residents can perform under INDIRECT supervision with direct supervision available (education provided at the SNS Bootcamp; PD certifies competency)

PATIENT MANAGEMENT:

- Evaluation/Management of patients (hospital admissions and pre-op)
  - H&P; Neurological exam
  - Treatment Plan
  - Orders
- Evaluation/Management of post-operative patients (monitoring and necessary tests) & preparing orders for
  - Medications
  - Fluid therapy
  - Nutrition therapy
- Patient transfers (units or hospitals) and discharge
- Interpreting lab results

PROCEDURAL COMPETENCIES:

- Carry out basic venous access procedures, including establishing intravenous access
- Placement/removal of NG tubes
- Placement/removal of Foley catheters
- Arterial puncture for blood gases
- Performance of lumbar puncture
2011 ACGME STANDARDS

*PGY-1 Supervision – FAQ

- PGY-1 enter training requiring Level 1 or Level 2a supervision
- Education in Boot Camp or equivalent
  - PD ensures demonstrated competence in list of approved procedures and patient management competencies to progress to indirect supervision with direct supervision available. **PGY-1s can advance to Level 2b**
- Education, direct observation and assessment of additional patient management and procedural competencies during early months of PGY-1
During the early months of the PGY-1 year, residents must be educated in, DIRECTLY observed, and assessed in the following:

**Patient Management:**
1. Initial evaluation and management of patients in urgent/emergent situations to include: urgent consultations, trauma, emergency department consultations, and assessment of comatose and neurologically unstable patients.
2. Evaluation and management of post-operative complications (impairment of level of consciousness, development of new neurological deficit, hypotension).
3. Evaluation and management of critically-ill patients (immediately post-op or in ICU).

**Procedural Competencies:**
1. Insertion of an intracranial pressure monitor.
2. Insertion of a lumbar drain.
3. Insertion of a ventriculostomy.
4. Carry-out advanced vascular access procedures, including central venous catheterization, and arterial cannulation.
5. Repair of surgical incisions of the skin and soft tissues.
6. Repair of skin and soft tissue lacerations.
TRANSITION

• CRITERION FOR PGY-1 TO REACH 2b
• PD Must Sign Off On All Listed Competencies
• After Reaching 2b, The PGY-1 Could Theoretically Take Independent Night Call As Long As The 16 Hour Standard Is Not Violated
• RRC Has Received NO Complaints or Problems With Compliance
Logging Cases

What level of involvement in a case will count toward the minimum case number?
Logging Cases

- **Must** scrub in (w/gloves; w/ or w/o gown)
- Must indicate level when logging case
- Only one level/procedure for each resident involved in the procedure
- All procedures under direct supervision
ACGME Milestones Project

- Translate “general” competencies into specific competencies to be met by all residents
- Create “core” resident outcomes in the competencies, not “standardization” of all outcomes.
- MILESTONES ARE OUTCOMES NOT ELEMENTS of a CURRICULUM
- NOT INTENDED to INCLUDE ALL ELEMENTS of TRAINING- SELECTIVE BIOPSY
Choose educational experiences within institution, faculty

- Identify/develop evaluation tools
  - formative
  - summative

“Educate” residents

“Circumstantial Practice”
Future Curricula

The required outcomes in each domain of Clinical Competency (Milestones)

Design educational experiences, rotations, faculty

Produce proficient physicians

New knowledge or skill set

National evaluation tools to measure outcome - formative and summative - clinical outcomes tracking

External accountability for outcome

“Intentional Practice”
Residents should improve in all ACGME general competency domains

- Patient Care
- Systems-based Practice
- Medical Knowledge
- Practice-Based Learning
- Professionalism
- Communication

Ability vs. Time
Milestones should measure progress towards desired endpoint

- Patient Care
- Systems-based Practice
- Medical Knowledge
- Practice-Based Learning
- Professionalism
- Communication

Graph showing progression over time with various milestones.
The Goal of the Continuum of Clinical Professional Development

Master
Expert
Proficient
Competent
Advanced
Beginner
Novice

Undergraduate Medical Education
Graduate Medical Education
Clinical Practice
EPA-INTRA-AXIAL TUMOR

Differential Diagnosis
- Treatment Plan
- Pre-, Post-Op Care
- Assist in Surgery *(EARLY LEARNER)*
- Operate with Guidance *(COMPETENCE)*
- Operate with Independence *(PROFICIENCY)*
- Design, Implement Clinical Trials *(EXPERT)*
### Milestone Description: Critical Care--Medical Knowledge

#### Intracranial Pressure (ICP) Physiology
- **Level 1**: Describe the Monro-Kellie doctrine.
- **Level 2**: List the effects of elevated ICP on vital signs and neurological examination.
- **Level 3**: Describe systemic factors that can impact ICP.
- **Level 4**: Review the implications of cerebrospinal fluid leak for ICP and for potential complications.
- **Level 5**: Explain the literature describing the relationship of elevated ICP to outcome in TBI patients.

#### Monitoring Techniques
- **Level 1**: Compare advantages and disadvantages of ventriculostomies and parenchymal ICP monitors.
- **Level 2**: Describe non invasive techniques of measuring hemodynamic status.
- **Level 3**: Review indications for electroencephalography monitoring in neurosurgical patients.
- **Level 4**: Describe the principles underlying transcranial Doppler sonography of cerebral blood flow and explain its role in cerebral monitoring.
- **Level 5**: Discuss the rationale for and limitations of monitoring brain tissue oxygenation, jugular venous oxygen saturation and cerebral microdialysis data.

#### Treatment of Elevated ICP
- **Level 1**: List indications for ICP monitoring.
- **Level 2**: Explain the indications and risks of CT scanning in investigating elevated ICP.
- **Level 3**: Describe the effects on ICP and potential complications of analgesia, sedation, positioning, and pharmacological paralysis.
- **Level 4**: Discuss the role and risks of CSF drainage, hyperosmolar therapy, and hyperventilation.
- **Level 5**: Review the decision-making process for removal of ICP monitor.

Describe controversies in choosing an appropriate cerebral perfusion pressure target when ICP is elevated.
<table>
<thead>
<tr>
<th>Pulmonary pathophysiology</th>
<th>Discuss the differential diagnosis and work-up of a patient presenting with hypoxic or hypercapnic acute respiratory failure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Explain the concepts of intrapulmonary shunting and dead space</td>
</tr>
<tr>
<td></td>
<td>Discuss pharmacological therapy and its toxicity for treating airway constriction and secretions</td>
</tr>
<tr>
<td></td>
<td>Describe indications for and methods of delivering oxygen and supporting respiration other than intubation and mechanical ventilation</td>
</tr>
<tr>
<td></td>
<td>Describe indications and drawbacks of ECMO</td>
</tr>
<tr>
<td>Mechanical ventilation</td>
<td>Discuss the distinction between oxygenation and ventilation in the context of mechanical ventilation</td>
</tr>
<tr>
<td></td>
<td>Explain the advantages and disadvantages of different modes of mechanical ventilation</td>
</tr>
<tr>
<td></td>
<td>List the potential adverse effects of endotracheal intubation and mechanical ventilation</td>
</tr>
<tr>
<td></td>
<td>Describe systems-based measures designed to prevent ventilator-associated pneumonia</td>
</tr>
<tr>
<td></td>
<td>Describe the development of an ICU-wide program to reduce mean ventilator days</td>
</tr>
<tr>
<td>Cardiac</td>
<td>Describe the diagnosis and treatment of acute myocardial infarction and congestive heart failure in an ICU patient</td>
</tr>
<tr>
<td></td>
<td>List the different types of shock, list ways of differentiating among them, and describe appropriate treatment</td>
</tr>
<tr>
<td></td>
<td>Explain potential causes of elevated blood pressure in a neurosurgical ICU patient and describe appropriate pharmacological intervention</td>
</tr>
<tr>
<td></td>
<td>Describe methods to assess adequacy of intravascular volume and tissue perfusion</td>
</tr>
<tr>
<td></td>
<td>Describe oxygen carrying capacity, oxygen delivery, minute flow, and the uncertainty surrounding the transfusion threshold in patients with acute intracranial disease</td>
</tr>
<tr>
<td>Category</td>
<td>Tasks</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Coagulation</td>
<td>Describe current understanding of mechanisms of coagulation and hemostasis</td>
</tr>
<tr>
<td></td>
<td>Explain appropriate prophylaxis of deep venous thrombosis</td>
</tr>
<tr>
<td></td>
<td>Explain the work-up and treatment of impaired hemostasis</td>
</tr>
<tr>
<td></td>
<td>List the indications for dialysis and explain the advantages and disadvantages of different methods of dialysis</td>
</tr>
<tr>
<td></td>
<td>Explain the interpretation of thromboelastography studies and their application in clinical settings</td>
</tr>
<tr>
<td>Renal/Fluids/Electrolytes</td>
<td>Explain homeostatic maintenance of normal acid-base balance</td>
</tr>
<tr>
<td></td>
<td>Describe a differential diagnosis for various acid-base imbalances</td>
</tr>
<tr>
<td></td>
<td>List a differential diagnosis and describe an appropriate work-up and treatment for electrolyte disturbances</td>
</tr>
<tr>
<td></td>
<td>Discuss universal precautions and interventions after exposure to potential infection</td>
</tr>
<tr>
<td></td>
<td>Describe systems-based practices to prevent infection in hospitalized patients</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>Review the work-up of fever in ICU patients</td>
</tr>
<tr>
<td></td>
<td>Explain appropriate use of prophylactic antibiotics</td>
</tr>
<tr>
<td></td>
<td>Describe symptoms, diagnosis and treatment of CNS and wound infections</td>
</tr>
<tr>
<td></td>
<td>Review the pathophysiology, work-up, and treatment of endocrine disturbances in ICU patients</td>
</tr>
<tr>
<td></td>
<td>Review causes, diagnosis and treatment of non-traumatic encephalopathy</td>
</tr>
<tr>
<td></td>
<td>Calculate interesting energy expenditure in comatose patients</td>
</tr>
<tr>
<td></td>
<td>Discuss the presentation, potential severity, and management of Guillain-Barre syndrome</td>
</tr>
<tr>
<td>Metabolism and Nutrition</td>
<td>Explain optimal timing, route, type, and volume of nutritional supplementation in neurosurgical ICU patients</td>
</tr>
<tr>
<td></td>
<td>Describe the presentation, work-up, and treatment of endocrine disturbances in ICU patients</td>
</tr>
<tr>
<td></td>
<td>Review the pathophysiology and treatment of alcohol withdrawal syndrome</td>
</tr>
<tr>
<td></td>
<td>Review causes, diagnosis and treatment of non-traumatic encephalopathy</td>
</tr>
<tr>
<td>Milestone Description: Critical Care -- Patient Care</td>
<td>Level 1</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>ICP Monitoring Devices</td>
<td>Insert parenchymal ICP monitors and external ventricular drains (EVDs)</td>
</tr>
<tr>
<td>Treatment of Elevated ICP</td>
<td>Order appropriate positioning, analgesics, sedation, and neuromuscular blocking agents</td>
</tr>
<tr>
<td>Systemic parameters and their effect on cerebral metabolism</td>
<td>Write appropriate orders for intravenous fluids and nutrition in critically ill neurosurgical patients</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Diagnose and formulate treatment plans for common pulmonary diseases</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cardiac</td>
<td>Use EKG tracings to diagnose common cardiac rhythm disturbances and obtain ACLS certification</td>
</tr>
<tr>
<td>Coma</td>
<td>Derive a differential diagnosis for a patient in coma</td>
</tr>
<tr>
<td>BrainDeath</td>
<td>Perform a brain death examination</td>
</tr>
</tbody>
</table>
NS MILESTONES-ADVISORY GROUP

• Allan Friedman- CHAIR
• Fred Meyer- ABNS Secretary
• Ralph Dacey- SNS Pres- Elect, RRC
• Hunt Batjer- RRC Chair
• Kim Burchiel- SNS, RRC Vice- Chair
• Dan Barrow- ABNS Chair
• Arthur Day- SNS President
NS MILESTONES-WORKING GROUP

- Nick Barbaro
- Tim Mapstone
- Nate Selden
- Warren Selman
- Charles Prestigiacomo
- Bob Harbaugh
- Alex Khalessi
- Hunt Batjer
- Vince Traynelis
- Griff Harsh
- Aviva Bosch
- Alex Valadka
- Karin Muraszko
- Fred Lang
- Cargill Alleyne
Why Milestones?

The Next Accreditation System

Goals of the Next Accreditation System

• Begin the realization of the promise of Outcomes
• Free good programs to innovate
• Assist poor programs to improve
• Reduce the burden of accreditation
• Provide accountability for outcomes (in tandem with ABMS) to the Public
The Next Accreditation System in a Nutshell

- Continuous Accreditation Model
  - Based on annual data submitted, other data requested, and program trends
- Scheduled Site Visits replaced by 10 year Self-Study Visit
- Standards revised every 10 years
  - Standards organized by
    - Structure
    - Resources
    - Core Processes
    - Detailed Processes
    - Outcomes
NAS- ANNUAL REVIEW by RRCs(POSSIBLE ELEMENTS)

• Milestones
• Resident/ Faculty Surveys
• Case Categories for Recent Graduates
• PD Changes and Tenure
• Resident Attrition
• Hours Spent Teaching per Week
• Changes in Participating Sites
• Block Diagrams
• Faculty/ Resident Scholarship
Theoretical Competency Report Card Summary, Program X, All Residents, All Levels

Systems Based Practice

Practice Based Learning And Improvement

Medical Knowledge

Communications

Professionalism

Patient Care

Medical Knowledge

Communications

National % at or above milestone

2 SD or more below National Mean %
Theoretical Competency Report Card Summary, Program X, All Residents, All Levels

Professionalism

Systems Based Practice

Patient Care

Practice Based Learning And Improvement

Medical Knowledge

Communications

Program % at or above milestone

National % at or above milestone

2 SD or more below National Mean %
Professionalism:

Resident frequently fails to recognize or actively avoids opportunities for compassion or empathy. On occasion demonstrates lack of respect, or overt disrespect for patients, family members, or other members of the health care team.

Resident seeks out opportunities to demonstrate compassion and empathy in the care of all patients; and demonstrates respect and is sensitive to the needs and concerns of all patients, family members, and members of the health care team.

Resident demonstrates compassion and empathy in care of some patients, but lacks the skills to apply them in more complex clinical situations or settings. Occasionally requires guidance in how to show respect for patients, family members, or other members of the health care team.

<table>
<thead>
<tr>
<th>Professionalism</th>
<th>Unprofessional</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Honesty, integrity, and ethical behavior</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
<tr>
<td>b) Humanistic behaviors of respect, compassion, and empathy</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
<tr>
<td>c) Responsibility and follow through on tasks</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
<tr>
<td>d) Receiving and giving feedback</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
<tr>
<td>e) Responsiveness to each patient's unique characteristics and needs</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
<tr>
<td>f) Overall evaluation of Professionalism</td>
<td>Unprofessional</td>
<td>Advanced</td>
</tr>
</tbody>
</table>
Resident Survey
3 Year Trends in Three Programs
The Conceptual Change From...

The Current Accreditation System

Rules
↓
Corresponding Questions
↓
“Correct or Incorrect”
Answer
↓
Citations and Accreditation Decision

Rules
↓
Corresponding Questions
↓
“Correct or Incorrect”
Answer
↓
Citation and Accreditation Decision
The Conceptual Change
To…

The “Next Accreditation System”

“Continuous”
Observations

Assure that the Program Number of Potential Fixed the Problem Related “Rules” Problems

Promote Innovation

Diagnose the Problem If there is one!
Conceptual Model of Standards Implementation Across the Continuum of Programs in a Specialty

STANDARDS
- Structure
- Resources
- Core Process
- Detailed Process
- Outcomes

Initial Accreditation
- New Programs
- 2-4%

Accreditation with Warning
- New Programs, Accredited Programs with Major Concerns
- 15%

Probationary Accreditation
- Maintenance of Accreditation
- Accredited Programs without Major Concerns
- 75%

Maintenance of Accreditation with Commendation

Withhold Accreditation
- Withdrawal of Accreditation
- 6-8%
Challenges/Opportunities

- Culture Change and Faculty Development
  - Program Directors, Designated Institutional Officials
  - Faculty
  - Review Committee Members
- “Retooling” of ACGME Infrastructure and Personnel
- The “Community of Educators” in each specialty must come together and agree on:
  - core elements of the competencies
  - levels of performance
Next Accreditation System Timeline

Seven specialties/RRC’s begin training 7/2012

- Neurological Surgery
- Orthopaedic Surgery
- Urological Surgery

- Internal Medicine
- Pediatrics
- Diagnostic Radiology
- Emergency Medicine

- Next Accreditation System begins 7/2013
- Remaining specialties begin training 7/2013
- All Specialties/RRCs using Next Accreditation System 7/2014