

Pediatric Critical Care Medicine Fellowship Training Program



Department of Pediatrics
Emory University School of Medicine

Children's Healthcare of
Atlanta at Egleston

Critical Care Medicine Fellows

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I. Philosophy of the Emory/Egleston Critical Care Division

A. *Mission of the Fellowship*

The mission of the Critical Care Division is to provide excellent high quality state of the art patient care. High quality patient care prompts clinicians to ask important questions at the bedside, which in turn fosters clinical and basic science research. In order to maintain the highest standards of patient care we are compelled and truly enjoy teaching residents, fellows, physician peers, nurses, and other medical personnel.

B. *Purpose of the Fellowship*

The purpose and goal of the fellowship in Critical Care is to train board certified pediatricians to become excellent clinical and academic pediatric intensivists. Fellows should be driven by a desire to provide excellent patient care as a first priority, to develop a knowledge base to continue to perform relevant clinical and/or basic science research and to become excellent teachers of medical students, residents, ancillary personnel, and future fellows. The Emory/Egleston fellowship is designed to provide opportunities to attain all these goals as well as the specific purpose of obtaining board certification in the subspecialty of Critical Care. This manual is devoted to introducing the new fellow to basic operating procedures and policies of the fellowship, the intensive care unit, and the Critical Care Division.

C. *General goals, Objectives, and Expectations for Fellows*

- a. **Patient Care:** Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health. This includes the following:
 - i. Gather essential and accurate information using the following clinical skills:
 - medical interviewing
 - physical examination
 - diagnostic studies
 - ii. Make informed diagnostic and therapeutic decisions based on patient information, current scientific evidence, and clinical judgment, using clinical problem-solving skills, recognizing the limits of one's knowledge and expertise, gathering appropriate information and using colleagues and consultants appropriately
 - iii. Develop and carry out patient care plans using principles of evidence-based decision-making and appropriate prioritization
 - iv. Perform competently all medical procedures considered essential for the scope of pediatric critical care practice and be familiar with those procedures commonly used by subspecialists and other professionals who care for children

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
X	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

- b. **Medical Knowledge:** Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge necessary for the pediatrician and pediatric intensivist; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.
- i. Demonstrate that you know or can efficiently access the knowledge base needed for effective patient care
 - ii. Critically evaluate current medical information and scientific evidence and modify your knowledge base accordingly
 - iii. Recognize the limits of one's knowledge and expertise by seeking information needed to answer clinical questions and using consultants and referrals appropriately. Use this process to guide life-long learning plans
 - iv. Apply current medical information and scientific evidence effectively to patient care (e.g., use an open-minded, analytical approach, sound clinical judgment, and appropriate attention to priorities)

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

- c. **Communication Skills:** Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
- i. Communicate effectively in a developmentally appropriate manner with patients and families to create and sustain a therapeutic relationship across the broad range of socioeconomic and cultural backgrounds.
 - ii. Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and transfer of care for patient care.
 - iii. Develop effective approaches for teaching students, colleagues, other professionals and lay groups.
 - iv. Work effectively as a member or leader of a health care team, and collaborate productively with professional organizations.
 - v. Maintain comprehensive, timely and legible medical records.

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

- d. **Practice-based Learning and Improvement:** Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.
- i. Use scientific methods and evidence to investigate, evaluate and improve one's own patient care practice; continually strive to integrate best evidence into one's daily practice of medicine.

- ii. Demonstrate willingness and capability to be a life-long learner by pursuing answers to clinical questions, using journal articles, texts, information resources, patients, colleagues and formal teaching conferences.
- iii. Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement (e.g., use evaluations provided by patients, peers, superiors and subordinates to improve patient care).

Learning activities: (check all that apply)					
X	Attending Rounds		Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
	Simulation		Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
X	ILP	X	SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

- e. **Professionalism:** Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
 - i. Demonstrate commitment, responsibility, and accountability for patient care, including continuity of care.
 - ii. Be honest and use integrity in your professional duties.
 - iii. Consistently use compassion and empathy in one's role as a physician.
 - iv. Maintain professional boundaries in one's dealings with patients, family, staff, and professional colleagues.
 - v. Demonstrate sensitivity and responsiveness to patients' and colleagues' gender, age, culture, disabilities, ethnicity, and sexual orientation

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf	X	Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

- f. **Systems-Based Practice:** Understand how to practice quality health care and advocate for patients within the context of the health care system
- i. Practice cost-effective health care and resource allocation that does not compromise quality of care.
 - ii. Advocate for patients in one's practice by helping them with system complexities and identifying resources to meet their needs.
 - iii. Work with health care managers and providers to assess, coordinate, and improve patient care, consistently advocating for high quality.
 - iv. Acknowledge medical errors and develop practice systems to prevent them.

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

[Adapted from Kittredge, D., Baldwin, C. D., Bar-on, M. E., Beach, P. S., Trimm, R. F. (Eds.). (2004). APA Educational Guidelines for Pediatric Residency. Ambulatory Pediatric Association Website]

Year 1: PGY-4 Fellows will:

1. Provide compassionate and effective patient care.
2. Build on their general pediatric knowledge and begin to develop their critical care fund of knowledge. Yearly exams will be given to document your progress as well as your routine evaluations.
3. Build on their communication skills. As intensivists they will be required to have very difficult and complex conversations with families. They will begin to actively participate in these discussions and as their level of training increases they will take more responsibility for leading these meetings.

4. Participate in active teaching of the residents and nursing staff. The primary focus of this will be bedside teaching of general pediatrics as it applies to critical care. In order to build on these skills the fellows will participate in the fellows teaching course.
5. Demonstrate the ability to use technology to access scientific evidence, interpret the evidence they uncover and then apply it to the care of their patients.
6. Acquire skills which will help them evaluate quality of care and cost effective care. They will participate in the PICU QI process which includes daily documentation in the QI database and review of critical articles in journal club to assess needs for change in practice.
7. Complete a computerized based learning program on cultural competency which has been specifically designed for healthcare professionals. This will facilitate recognition in cultural barriers to care, and facilitate teaching more effective communicator both with the patient as well as the healthcare team.
8. Participate in the Department of Pediatrics fellowship course for first year fellows that focus on the basics of research, teaching and ethics.
9. Development of dexterity in all major procedures: endotracheal intubations, percutaneous central access: femoral, internal jugular (ultrasound-guided) and potentially subclavian veins; peripheral and central arterial access; thoracentesis, chest tube placement, pericardiocentesis, intra-osseous needle placement, and peripheral venous catheters.
10. Provide accurate record keeping of procedures. Document in New Innovations (and personal logs) all these procedures, dates, and any complications. Responsible to complete procedure evaluation with the attending on record for all procedures until cleared by the Program Director.
11. Develop at least 1 presentations, complete with slides to be utilized for staff conferences; 1-2 research conferences/updates; At least 1 journal club presentations which involve critical analysis of an article and a case conference.
12. Define an area of research in consultation with a designated mentor by the end of the third month, develop and present at divisional and departmental research meetings the following: a) an outline of plans for research time; b) presentation of at least one written protocol or general experimental plan in which you will be participating; c) obtain IRB approval.
13. Complete a 360 evaluation series, which covers all of the core competencies, at 6 months and then develop and individual learning plan (ILP) from this data as well as the evaluations. Complete all evaluations for all rotation and again the second set of 360 at the end of the year.
14. Develop computer skills in word processing, PowerPoint presentations, and spreadsheet and database design.
15. Successful completion of the Board Certification process for General Pediatrics by the American Board of Pediatrics. The mission of the Pediatric Critical Care Fellowship Program is to train board certified pediatric intensivists. Board Certification in General Pediatrics is a requirement for board eligibility in Pediatric Critical Care. As such, Board Certification in General Pediatrics is a requirement for advancement in the Program. This should be done in year one except under extenuating circumstances.

Year 2: PGY-5: Fellows will continue to build on the skills from year one and additionally:

1. Develop and implement effective patient care plans.
2. Continue to expand critical care fund of knowledge. Yearly exams will be given to document your progress
3. Participate in active teaching of the residents and nursing staff. The primary focus will be bedside teaching of general pediatrics principles as well as critical care core principles.

4. Complete a 360 evaluation series at the beginning of the 2nd year and then develop and individual learning plan (ILP) from this data as well as their evaluations.
5. Continue to build on their communication skills. As intensivists they will be required to have very difficult and complex conversations with families. They will actively participate in these discussions and take more responsibility for leading these meetings.
6. Continue accurate documentation of procedures and presentations; become proficient in all forms of central venous access if unable to accomplish in the first year (IJ without Ultra sound guided and/or subclavian).
7. Demonstrate expertise in interpretation and use of data from pulmonary arterial catheters, transvenous pacemakers, and other invasive procedures.
8. Complete at least two additional 1-hour lectures for use with residents, staff education, and for division meetings and 1-2 research conferences and updates.
9. Demonstrate adequate progress in research plan as evidenced by presentation at divisional research meetings, and consider preparing at least a local grant application.
10. Submit at least one abstract for presentation in your area of research; utilize poster graphic techniques or slide making programs to provide audiovisual support. (this must be performed in year 3 if unable to complete in year 2 secondary to project difficulties).
11. Prepare a written outline of both research and clinical education plans for the following year.
12. Read "Teaching and Assessing *Professionalism*: A Program Director's Guide (The American Board of Pediatrics [www.abp.org] and The Association of Pediatric Program Directors [www.appd.org], 2008) and thereafter to meet with the Program Director to discuss their impressions of this monograph.

Year 3: PGY-6: Fellows will continue to build on the skills from year one and additionally

1. Develop and refine clinical judgment and learn to function independently as an Intensivist.
2. Build on their general pediatric knowledge expand their critical care fund of knowledge. Yearly exams will be given to document your progress.
3. Participate in active teaching of the junior fellows, residents, and nursing staff. The primary focus of this will be bedside teaching of critical care core principles.
4. Complete a 360 evaluation series at the beginning of the 3rd year and then develop and individual learning plan (ILP) from this data as well as their evaluations
5. Continue to build on their communication skills. As intensivists they will be required to have very difficult and complex conversations with families. They will actively participate in these discussions and in most cases be the primary leader these meetings.
6. Continue research endeavors. The third year is traditionally designed to allow more intensive research time. However, when appropriate, a significant amount of dedicated research time may be scheduled during the second year to allow for adequate project development. It will provide an opportunity to perform vigorous experimentation and prepare manuscripts for publication. A written plan must be presented and reviewed by the faculty.
7. Participate in more administrative aspects of medicine. They will be asked to participate in the QI process for transport by reviewing charts for medical decision making as well as charting accuracy. They will learn appropriate billing and coding; and they will be given opportunity to serve on a system committee.
8. Schedule and prepare a lecture on an area of special clinical research interest to present at Egleston Pediatric Grand Rounds (this may be performed in year 2 or 3).
9. Prepare at least one research manuscripts for submission by the end of the third fellowship year.

D. Fellowship Schedule

The curriculum of this Critical Care Medicine Fellowship Program is individually tailored to meet the academic and professional goals of each trainee. Below are the *general* fellowship schedule and total numbers of clinical and research rotations expected each year. These rotations are to be two weeks to one month in duration. These schedules provide a *general* guideline of the type of experiences to be encountered each year. Specific rotations schedules will be prepared prior to the beginning of each fellowship year in order to allow maximum planning time for each fellow.

	Rotation/Location	Number of months
PGY-4	Pediatric Intensive Care Unit	4-6
	Cardiac Intensive Care Unit	1
	Anesthesia	1
	Research	3 – 5
	ECMO Orientation	0.5
	Pediatric Transport	0.5
PGY-5	Pediatric Intensive Care Unit	4
	Cardiac Intensive Care Unit	1
	Research	6.5
	Pediatric sedation	0.5
PGY-6	Pediatric Intensive Care Unit	4
	Cardiac Intensive Care Unit	1
	Elective	1
	Research	5.5
	Management and Finance in Pediatric Critical Care	0.5
Total	Pediatric Intensive Care Unit	12 – 14
	Cardiac Intensive Care Unit	3
	Anesthesia	1
	Elective	1
	Research	15.5 – 17.5
	Management and Finance in Pediatric Critical Care	0.5
	Pediatric Transport	0.5
	Pediatric sedation	0.5

II. General Information

A. *Emory University Housestaff Information*

All Critical Care Medicine Fellows are Emory Housestaff and must follow the policies as listed in the Emory Housestaff Policies and Orientation Manual at http://www.med.emory.edu/gme/institutional_policies/index.html. The direct link to the manual can be found at http://www.med.emory.edu/gme/housestaff/housestaff_policies/index.html. The contents of the manual include:

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(Including Residents)

[Appendix D : Moonlighting Forms](#)

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B. CCM Staff

	Title	Office	Cell phone
Raj Basu, MD, MI, FCCM	Associate Professor		773.972.6707
Lihinie deAlmeida, MD, FAAP	CCM fellowship Director, TDICU Director (CHOA)	404-785-2310	678-428-8307
Jim Fortenberry, MD, MCCM	Pediatrician-in-Chief (CHOA)	404-785-1600	770-826-6559
Jocelyn Grunwell, MD, PhD	Assistant Professor		404-307-4697
Kiran Hebbar, MD, FCCM	Associate Director, CCM fellowship Director, Children's Simulation Center (CHOA)	404-785-6135	404-934-0013
Pradip Kamat, MD, FCCM, MBA	Director, Children's Sedation Services (CHOA)	404-785-6132	404-277-8010
Matthew Paden, MD	Fellowship Research Director Director, Pediatric ECMO/Advance Technology (CHOA) Director, Apheresis (CHOA) Director, Dept of Medicine (CHOA)	404-785-1750	404-610-1075
Toni Petrillo, MD, FCCM	Associate Director, CCM Fellowship Program Medical Director, PICU Co-Director, Transport (CHOA) Vice Chief Division Critical Care	404-785-1753	404-307-7055
Nga Pham, MD	PICU Residency Liaison Advanced Pediatric Practitioner oversight	404-785-1606	678-516-3651
Jana Stockwell, MD, FCCM	Chief, Critical Care Medicine Chair, Credentials Committee (CHOA)	404-785-1868	404-229-6840
Keiko Tarquinio, MD, FAAP	Assistant Professor	404-785-1600	352-219-7457
Atul Vats, MD, FCCM	Medical Staff President-elect (CHOA)	404-785-1460	404-229-5395
Heather Viamonte, MD	PICU & CICU Attending	404-256-2593	832-259-8326
Julie Williamson, DO	Residency Director Anesthesiology	404-785-2311	410-215-4614
Michael, Wolf, MD	PICU & CICU Attending	404-256-2593	404-694-8176

	Associate Fellowship Director, Cardiology		
Jacque Johnson	Fellowship Program Coordinator	404-785-4751	
Cheryl Stone, RN	CCM Research Coordinator	404-785-1403	
Carly Langdon	CCM Practice Manager	404-785-2754	

C. Important Hospital Telephone Numbers

Critical Care Offices	404-785-6397 or 404-785-1600
Pediatric ICU	404-785-6006
Cardiac ICU	404-785-6565
Emergency Center	404-785-6400 or 404-785-6405
Call Room	404-785-6681
Page Operator	404-785-2100
PIC Page Number	404-686-5500
Team A Resident Ascom	404-943-8987
Team B Resident Ascom	404-943-8988
Fellow A Ascom	404-943-8989
Fellow B Ascom	404-943-8560
Flex Fellow Ascom	404-943-8294
OSF Ascom	404-943-8293
NP Ascom	404-934-8959
Charge Nurse Ascom	404-943-8980
Transfer Center	404-785-7778
Center	404-785-6540
ECMO phone	404-372-3857
Rapid response	404-885-0981

D. Payroll, Insurance and Income Tax Forms

Please refer to the Emory Housestaff Policies and Orientation Manual at http://www.med.emory.edu/gme/institutional_policies/index

E. Identification Badges

Identification badges are issued at the beginning of the year. They should be worn at all times while in the hospital. The Children's Healthcare of Atlanta issued identification badge will allow you access to the PICU, to the CCM offices, to the parking deck, and throughout the hospital.

F. Parking Facilities

Children's Healthcare of Atlanta at Egleston continues to provide parking for all Fellows in the Egleston parking deck. This decision, however, is per Children's, and cannot be assured through the Program or the Critical Care Division. Your Children's identification

badge is required for entrance to the parking deck. This will be provided during orientation or can be obtained through Security.

G. Mailboxes

Mailboxes are located in the Critical Care office area. Mail should be addressed to:
Critical Care Division
Children's Healthcare of Atlanta at Egleston
1405 Clifton Rd, NE
Atlanta, GA 30322

H. Facilities Access

Your badge will provide access to the PICU, Critical Care Offices, all pertinent clinical area, as well as PICU Omnicells. A key will be provided for securing your overhead storage and filing cabinet in the Critical Care Fellows Office, which has restricted badge access.

I. Pager

Fellows will receive their own pagers through the Emory GME office and keep them for the duration of the fellowship. Fellows are responsible for their pagers, and there is a fee to replace lost pagers. Replacement batteries can be obtained through Jacquie Johnson or at the PICU Nursing Station. **Many fellows opt to use their cell phones in lieu of pagers; however there is currently no reimbursement offered for cell phone usage.**

J. Fellows' Office

The Fellows' Office is located within the Critical Care office suite. There are desks, phones, and dedicated computers for use by the fellows along with printers and fax.

K. Medical License

Each fellow is required to have a Georgia Medical license or Institutional Permit to practice as an Emory postdoctoral fellow. Therefore, it is essential to begin the application process for a Georgia license/permit as soon as possible upon notification of acceptance into the program. Licensure application is through the Georgia Composite Board of Medical Examiners website, <http://medicalboard.georgia.gov/portal/site/GCMB/>. If you have any questions contact Drs. Petrillo or Hebbar or Jacquie Johnson. Currently, Emory University's GME office will reimburse you up to the cost for an institutional permit. The fellow is responsible for submitting the proper paperwork to the GME office for reimbursement.

L. Malpractice Insurance

Coverage is provided for activities that are officially part of your fellowship training. This includes all Children's at Egleston on-site activities, night's on-call, and during Children's Response transports. Coverage does not automatically extend to any moonlighting activities. It is the fellow's responsibility to confirm or arrange malpractice insurance coverage for any moonlighting opportunities outside the fellowship program.

M. Moonlighting

Because of the rigorous demands on your time academically, clinically, and emotionally, the Division discourages moonlighting except on a limited basis and except under extenuating circumstances will not be allowed until 2nd year. In addition, the ACGME has mandated strict duty hour limitations. Moonlighting hours are included in this. Additionally, Emory GME restricts moonlighting to opportunities only within the Emory system or its affiliates. **Thus, ALL moonlighting opportunities must be approved by the one of the Fellowship Directors. A moonlighting request form MUST be completed prior to scheduling any moonlighting activities.** A copy of this form can be obtained from the Emory University Housestaff Policies and Procedures Manual. Under no circumstances should you perform any moonlighting activities as a faculty physician as this will jeopardize your standing as a fellow in training.

N. Employment Physical Exam

Every new employee is required to present documentation of an entry physical exam. A yearly PPD is also performed through Employee Health on the Egleston campus. Hepatitis B vaccine status must also be documented, and a primary series of Hepatitis vaccines given, if lacking. Annual influenza vaccination is required by both Emory and Children's Healthcare of Atlanta unless precluded by a medical condition.

O. Copying Facilities

There is a copy machine available in the Critical Care Medicine office suite which is available for use for fellowship related duties. Please avoid use of the machine for very large copying jobs.

P. Library Facilities

The Emory University School of Medicine library is located in the Dental School Building. All fellows should have an Emory ID badge which will grant access to the facilities. The library is located across the street on Clifton Road, near the Rollins Research Building. Children's at Egleston contains a small, but relatively complete, pediatric library on the ground floor, Tower 2. Most of your literature review needs can be handled online via the Woodruff Health Sciences Library Center website, **health.library.emory.edu**. Login using your **Emory** ID and password. For articles you cannot obtain online, contact the Egleston Librarian via online request. Most requests will be processed within 24hrs. Articles will be obtained via interlibrary loan free of charge. A collection of critical care articles is maintained in the "P:critical care/CCM Filecabinet"

Q. Independent Time (Vacation Days)

Postdoctoral fellows are allotted three weeks vacation per year (equal to 15 working days). General vacation time will not be taken during PICU, Anesthesia, or CICU months. Vacation days must be requested by completing a vacation request form. **Both the Fellowship Director and Section Chief must approve all vacation requests.** There will be no exceptions to this process. Request forms can be obtained from Jacquie Johnson. If

is recognized that during the third year of fellowship, a significant amount of time will be needed for interviewing. Days of interviewing will not be considered vacation days unless exceeds 8 days. However, an interview itinerary must be provided for each day of interviewing. Extra days will not be allotted for travel. For example, if the interview is on Wednesday and Thursday, it is expected that the fellow will report to work on Tuesday and travel that evening. He/she will then return in time to report for work on Friday morning. A vacation request form must be submitted for all days that he/she will be gone; however vacation days will then be credited for any days for which an interview itinerary is provided.

(Eight days are allotted time for job interview during the third year. If the fellows need more time, it will be counted against their vacation time).

R. Call Schedule

The standard schedule places each fellow on call 2 calls for every two weeks service block, 3 calls for each C week and call free during research week. This format averages approximately every fifth night call and is subject to change. Call schedules will be generated by the Program Director. Specific requests for evenings and weekends off call should be sent to Dr. Petrillo, in writing (an email is fine). Changes in the schedule will be done only by Dr. Petrillo. **If Dr. Petrillo is out of town please contact Dr. deAlmeida, or Dr. Hebbar. Coverage of the PICU will be maintained during vacation. If you are taking vacation time, or attending a meeting, remember to fill out the request form and arrange for the appropriate coverage of any clinical or laboratory responsibilities with your peers.** If you are sick and unable to perform clinical duties, you must inform the attending physician on service, and arrange coverage with one of your peers.

S. Meetings

Fellows are allotted up to 5 days of CME annually to attend meetings or present at appropriate conferences. In order to utilize Travel Funds (or other research related funds), the fellows must have a study accepted for presentation at the meeting; unless otherwise approved by the program director. Appropriate travel paperwork must be completed prior to making any arrangements; Jacquie can help you with this process. The division recognizes the importance of "networking" during the second or third year when the fellow may be seeking employment. Thus, in the absence of an accepted presentation during the second or third year, the fellow will receive funding to attend one appropriate scientific or clinical critical care oriented meeting during the second or third year of fellowship **if the budget allows** (see the Travel Expenses section). Suggested meetings include the Society of Critical Care Medicine Annual Meeting, Society for Pediatric Research, and Pediatric Critical Care Colloquium, or specific scientific meetings germane to your area of research or clinical expertise. The fellow may attend other meetings at which they do not make presentations (with division approval and in the absence of scheduling conflicts) at their own expense within the designated vacation or CME time allotted. In order to attend any meeting, the following must occur:

1. Obtain printed meeting information including dates and cost.
2. Discuss selected meeting with your designated attending mentor to assure appropriateness and benefit of the meeting for either your research or clinical needs.

3. Submit a CME request form for approval from the Fellowship Director and Section Chief. Copies of this form can be obtained from Jacquie Johnson.
4. Flights must be booked through the Emory specified Travel Agency so that the expenses are billed directly to the division. See Jacquie Johnson for the details on this process.
5. Hotel reservations are to be made by the fellow.
6. For meetings where the fellow is presenting research data, and he/she is utilizing Travel Funds (or other research funds), a **preliminary manuscript of the presentation must be complete prior to beginning travel.**
- 7.

T. Travel Expenses

Expenses which will be reimbursed include hotel, travel fare, registration fee, and meal expenses up to \$40.00 per day. Receipts must be kept in order to receive reimbursement; and must be submitted within 30 days. The fellow will only be reimbursed for advance purchase coach fares arranged through the specified Travel Agency, or standard mileage equivalents if driving. The additional difference in fares is required to be covered by the fellow. Please make every effort to make advance registration and reservations to help minimize costs. Travel expenses may not exceed \$ 1000 per year (subject to change based on budgetary constraints with advanced notice). However, if funds remain in the fellow's book allowance, they may be used for travel expenses.

U. Book Money

An annual book money stipend of \$500 (expires by June 30th of each academic year) is provided for each trainee for the purchase of appropriate critical care or research related textbooks or reference material (subject to change based on budgetary constraints with advanced notice). Approval for book purchase must be made with the fellowship director prior to purchase. Receipts must be obtained and provided to Jacquie Johnson.

V. Computers and Printers

Computers and a printer are available in the Fellows' Office and within the Critical Care Division office suite for use to work on slides, papers, grants, and presentations. Learning the appropriate software remains the responsibility of the fellow. Administrative support is intended for PICU attendings and may be needed by them on short notice. Therefore, fellows are not to utilize secretarial support without the express permission of the specific attending(s) that they support. Please do not take advantage of the Administrative Assistants' willingness to help.

Utilization of computer displays and projectors for slide presentations are considered to be necessary learned skills during fellowship. Currently, PowerPoint software is available. Although the attendings and administrative assistants can be very helpful, you are expected to learn this software. Learning the software, preparing presentations, and making slides early, rather than close to the deadline dates (which only the attendings are allowed to do!), is an expectation. A projector is available within the Division, and many of the conference rooms the Division uses are already equipped with projectors. In addition, CD-ROM rewritable drives are available on most computers for large PowerPoint presentations.

III. Evaluation

The American Board of Pediatrics considers a formal method of evaluation a key element of certification. Events, which must be documented include:

A. *Technical Skills*

It is your responsibility to document in the patient record all procedures (the name, medical record number, date of procedure, complications), and to separately maintain a comprehensive list of the above procedures for your file. This documentation is an integral part of completing the files required for your certification. It is recommended that you maintain a log of patient names, procedures, etc. from which you can build your database to ensure documentation. Patient stickers can be a helpful method to achieve this, but we strongly encourage maintaining an excel file with the information. Currently, all procedures are to be documented in the procedure database.

First year fellows are responsible for procedural evaluations until cleared by the attendings to perform procedures independently. Evaluation forms needed to be filled out by the attending on record and turned in to the Program Coordinator.

B. *Monthly/Weekly Evaluation*

Each rotation you will be assigned a primary attending whose responsibility it is to guide you through that rotation and give you feedback as necessary. A critique will be made of patient care, teaching abilities, technical skills, consultations, note writing, and personal interaction with others. In addition, the attending will be responsible for filling out a formal evaluation at the end of the rotation. During clinical rotations, the primary attending will usually be the attending on service. During research months, the evaluation will come from your research mentor(s). These forms will remain on file and will be reviewed during your evaluation conferences. You will also have the opportunity to fill out a written evaluation on your attending; these evaluations are anonymous and batched when provided to the attendings. (These forms are only reviewed by the Directors). We encourage you to be open and constructively critical when necessary. Currently, we complete clinical evaluations weekly (as the attendings are scheduled in one-week rotations in the PICU), and research evaluation on a quarterly basis.

C. *Semi Annual Evaluation*

In addition to monthly evaluations, a formal meeting with the Program Directors and/or Division Director will take place at least every six months. When appropriate, these meetings will be used to discuss the overall progress of the fellow as well as specific goals. The fellow should be prepared with a written list of goals for the next six months to be discussed at these meetings. Opportunity will also be provided for discussion of problems or concerns.

D. Clinical Competency Committee

The Competency committee will meet biannually and evaluate the fellows on the Milestones. These will be shared with the fellows during their annual and semiannual reviews.

E. Scholastic Oversight Committee

GUIDELINES

1- Overview

- a- Monitor scholarly activities (i.e. those that require substantive scholarly exploration, analysis, those that require critical thinking)
- b- Monitor progress in areas aside from clinical competencies: research, teaching and administration.
- c- Areas can be: basic, clinical or translational biomedicine; health services; quality improvement; bioethics; education; and public policy

2- Purposes

- a- Determine whether specific activities are appropriate to meet the ABP guidelines for scholarly activities
- b- Follow the fellow's performance on this projects
- c- Determine and help ensure successful completion of the projects

3- Composition: three or more individuals, at least one of whom is based outside the subspecialty discipline

- a- Trainee
- b- The mentor(s)
- c- Assistant Program Director
- d- Program Director (as a non-voting member)

4- Responsibilities

- a- Trainee:
 - i. Identify the project(s)
 - ii. Develop hypothesis and analysis required critical thinking
 - iii. Gather and analyze data, derive and defend conclusions
 - iv. Present/defend the project related to his/her scholarly activity
 - v. Keeping record on the progress/activity
 - vi. Providing minutes for each meeting and update regularly
 - vii. Schedule the SOC meeting
- b- Mentor(s) & Director:
 - i. Determine if the project is adequately and appropriately meeting the ABP requirement
 - ii. Meet with the fellow early in the training and regularly thereafter to provide mentorship and feedback
 - iii. Evaluate the fellow project and the time line in completion of the project outside the core curriculum activity/requirement
 - iv. Provide support and supervision in order to ensure completion
 - v. Provide feedback to the Director regarding the fellow's progress regularly

5- Activities

- a- Review scholarly activity and the written work product regularly
- b- Meet with the trainee regularly: a minimum of 2 times/year with a quorum of members present, in October and April (fellowship director will also meet with trainee in July and January)

- c- Updated on the progress by the trainee
- d- Provide feedback, guidance and support to ensure timely completion of the project
- e- Sign off the eligibility of the trainee for the certifying examination at the end of the training

F. Fellow Meetings

Generally, at least once every two months the fellows will meet with the Fellowship Directors as a group to discuss administrative issues such as scheduling and research issues. This meeting will typically take place after the academic conferences on Tuesday afternoons (typically the 2nd and/or 4th Tuesdays). These meetings will be your ongoing opportunity to voice your concerns about the program in general, specific rotations, or any other issues deemed appropriate.

IV. Conferences

The Critical Care Subspecialty Board of Pediatrics requires adherence to strict guidelines regarding conferences in the fellowship program curriculum. Attendance at these conferences by the fellow is not only vital to the educational experience, but also mandatory to fulfillment of fellowship requirements.

A. Critical Care Fellowship Didactic Teaching Conference, Journal Club, Fellows' Case Presentation

The following conferences require **mandatory** attendance:

The Didactic Teaching Conference currently meets Tuesday afternoons at 12:00pm. The conference is designed to provide continued teaching and updates on topics of specific ICU interest. As part of this meeting, we will review book chapters and important critical care texts in order to cover all organ systems management over a three-year period. Additionally, we have journal club and case conference dispersed throughout the schedule.

Generally, topics are arranged to encompass specific organ systems over a specific time period. Guest speakers are also involved in this teaching. The fellows will be expected to participate and coordinate the weekly conferences with the guidance of the Dr Williamson (Review of the chapters, selected topics, and review of Journal Club articles. Dr. Williamson and the senior Critical Care fellow(s) supervise this conference.)

B. Egleston Grand Rounds

Egleston Grand Rounds are currently held every Wednesday morning at 7:30 a.m. in the first floor Conference Rooms. Attendance to Grand Rounds is strongly encouraged.

C. Surgery Conference

Surgery Conference currently meets in first floor Conference Rooms on Friday mornings at 7:30 a.m. Conference attendance is encouraged.

D. PICU Committee

Occurs every 6 weeks on Thursday from 12-2 in the PICU conference room and should be attended unless post call or on vacation.

E. ECMO M&M

Occurs monthly on the 4th Tuesday from 7:45-830 and should be attended unless on vacation.

F. ECMO quarterly in service

Occurs every 3 months. Dates are generally distributed at the beginning of the year and should be attended unless on vacation.

G. Fellow Ancillary Education

Ancillary education sessions will be held on Thursday afternoons. They are 2 hour long sessions between 1pm and 3pm. Attendance is strongly encouraged and mandatory if not on service or post-call. Service fellows are required to discuss attendance with their attending, and use their discretion to remain on the unit if patient care requires. Educational sessions will include:

a) Professor Rounds

Chalk-talk presented by PCCM Faculty member. Topic of their choice or suggested by fellows.

b) Ventilator Rounds

Respiratory physiology, ventilators, airway adjuncts, and respiratory support devices are discussed by senior respiratory therapy staff. Contact David Heitz or Stephanie Sparacino to confirm topics and time

c) Radiology Rounds

Pediatric radiologist will come to unit to discuss radiographic findings and modalities of imaging. Dr. Adina Alzaraki and Dr. Sarah Milla will be the primary contacts.

d) Simulation Training

Led by Dr. Hebbar in the PCCM Sim Lab (room 4136)

e) ECMO Water Drills

Troubleshoot ECMO related scenarios. Dr. Kiran Hebbar, Micheal Heard, and Justin Young will be primary contacts.

f) Board Review

Led by Dr. Raj Basu. Fellows only attendance. Informal discussions and review of board questions and topics.

g) Bedside Ultrasound

Led by Dr. Pete Gutierrez (ER). Education on basic bedside ultrasound techniques.

V. Pediatric Intensive Care Unit Responsibilities

The fellow's role in the ICU is to serve as a junior faculty member. Our division's service and your responsibility are to ensure that all children within the intensive care unit receive adequate and appropriate 24-hour care. Fellows are expected to be knowledgeable regarding all patients in the unit regardless of whether the patient is officially on the Critical Care service or a consult patient. An important part of learning clinical critical care is to develop the ability to work in cooperation with many services and assure the best whole-person care even if you are not the primary attending physician.

The fellow will have the following specific responsibilities for attendance and patient care.

A. Rounds

Morning Work Rounds (Pre Round):

It is the responsibility of the fellows assigned to the Pediatric Intensive Care Unit to arrive prior to 8:00 rounds and discuss any acute problems with the resident on call. Any acutely ill patients and morning X-rays should be seen prior to the 8:00 rounds. If a fellow has been on call the previous night, he or she should report changes that have occurred through the night and discuss any new admissions with the oncoming fellow.

Daily Rounds:

Daily rounds begin at 8:00 a.m. 7 days a week. The fellows, APPs and residents will participate with the attending physician(s). Fellows will initially serve in a learning role with the attending. As the fellowship progresses, fellows will be required to take a more active role in running the work portion of rounds and providing teaching to the residents at bedside rounds. The post-call fellow is relieved of all clinical responsibility after exchange of patient information on daily rounds. After a 24-hour period on call, the fellow can stay no longer than a 4 hour period to provide that exchange of information and continuity of patient care. Under times of high stress or high acuity in the PICU when rounds cannot be completed in a timely manner, the post-call fellow and/or resident should complete an expedited verbal sign out to the attending physician. Daily rounds are family-centered.

Checkout Rounds: 4:00 p.m. Monday through Friday.

These rounds are attended by the on-service and on-call fellows and APPs, the on-service and on-call attendings, and all residents in the PICU.

Evening Rounds: Late evening, seven days a week.

The fellow, APP, and attending on call should round between 10:00 p.m. and midnight with the resident on call to check on patients to ensure that all pending labs have been checked, appropriate plans and orders have been made, issues addressed, and that there are no questions from the nursing staff regarding overnight care. Any pending admissions or other administrative problems should be discussed with the charge nurse prior to sleep.

B. "Roundsmanship"

We realize that the example and tone set by both attending and fellows during rounds will send a strong message to the rotating residents. Such examples include

expectations for dignity regarding patients and families, the manner of care for patients, how to utilize chart documentation, how to maintain good sterile and isolation techniques and how to relate to other members of the team. Good responses to all these lessons will make your residents' effort in the PICU more effective and efficient. Please remember the following:

1. Before and after all exams wash your hands and remind others to do so. Adhere to the isolation techniques that have been ordered. This simple request has been demonstrated to positively impact patient's families' perception of their physician and will do the same for your residents and the nursing staff.
2. Setting an example of examining the patient, as opposed to examining only the chart, will encourage residents not to rely solely on digital readouts and flow sheets when faced with a problem. Review all the information at the bedside, including the vital sign flow sheets, nursing notes, and the respiratory flow sheets. These will provide information for you as well as teach the residents the value of all this information.
3. Make effort to include the bedside nurse and respiratory therapy staff when discussing the status of the patient or making therapeutic plans or changes. This should be emphasized not only on rounds but during informal discussions, as well. Their input is vital and up-to-date and may provide you with valuable clues for your assessment of the situation at hand.
4. Learn the names of the patients and avoid referring to them as "the liver transplant" or "the ECMO in Room 30".
5. Demonstrate the importance of daily conversations with the families. The fellow should take the primary responsibility of speaking with families, particularly the families of patients who are more acutely ill and undergoing more significant daily changes. As a learning experience, the primary resident should be included in these conversations when possible.

C. Call

Weeknights: The on-call fellow will start with check out rounds at 4:00 p.m. This time may be adjusted due to patient care issues. The fellow will remain on call until 7:00 or 7:30 a.m. the following morning, until the on-service fellows arrive to receive report. If on-service, the post-call fellow is expected to remain for daily rounds to provide exchange of patient information. Adjustments will be made to this as needed to protect duty hour requirements

Weekends: The on-call fellow will arrive prior to 8:00 a.m. to check on all patients and will remain on call until morning rounds are completed the following morning to provide exchange of information to the oncoming team. As stated before, morning rounds and exchange of information cannot take longer than 4 hours after a 24-hour period on call. During times of high stress, when rounds cannot be completed in a timely manner, an expedited verbal sign-out to the attending physician may be required.

D. Management of New Patients

1. All patients admitted to the ICU require evaluation by a PICU resident and/or APP and discussion with an ICU attending. The fellow's responsibility to each patient involves supervision of the resident, and the evaluation and preparation of a diagnostic and therapeutic plan. The majority of patients admitted to Children's at Egleston PICU is admitted onto the Critical Care service and become the primary responsibility of the Critical Care team, including the fellows. A smaller number of patients are seen on a consultant basis. All patients admitted to the Critical Care Service or seen in consultation are to be seen by both the fellow and resident, and discussed with the attendings on service or on call.
2. The resident or APP should write the admission orders under the fellow's supervision. The fellow is not to routinely write orders on the patients. They should first involve the resident in discussion and order writing. An exception is in the case of emergency admissions, emergencies, or the absence of the residents due to their residency training obligations.
3. New patients admitted to the ICU should be examined by the fellow. The fellow or APP is to complete a CCM Attending/Fellow Admission note on all new admissions or transfers to the PICU. Following the initial evaluation, the fellow is to discuss ALL CASES with the attending physician to review recommendations. These recommendations should be implemented in a timely manner. It is also important to communicate these recommendations and plans to other service physicians involved in the care of these patients.
4. The fellow will participate in, or supervise, procedures done on each patient in the Intensive Care Unit. Initially, all procedures performed by the fellow (or the resident and fellow) must be supervised by the attending physician on service. As the fellow gains skill and confidence, the opportunity will arise to perform or supervise procedures without direct attending supervision. This time frame will be determined by the attendings and the fellowship directors.
5. Patients requiring a consult, should also be evaluated by the fellow and recommendations noted in the chart. In general, the patients who are receiving consults only are not to have orders written unless specifically designated by the service requesting consultation. General surgery patients, CCM traditionally provides supports with ventilator and sedation, but can be varied depending on individual patients. All other diagnostic or therapeutic orders should be written by the Surgery Service. Questions regarding these plans should be directed to the senior Surgery resident on call to avoid confusion with services. Recommendations regarding patient care should also be discussed with the senior Surgery resident on a daily basis.
6. In addition to all new patients, the attending on service or on call should be notified when any significant change occurs requiring significant therapeutic intervention. Any significant deterioration or any event requiring cardiopulmonary resuscitation should be reported immediately to the attending on call at the earliest possible convenience. Decision making regarding bed capacity, transfers out of the unit, acceptance or denial of transfer, should all be discussed and referred to the attending physician on call before decisions are made.

E. Daily Notes/ Event Notes

The fellow is not required to write a daily progress note on each patient. For severely ill patients, and for patients in whom acute intervention is required, a brief note, or event note, summarizing impressions, interventions, and plan must be written in a timely manner by the fellows assessing the patient. A "PICU Additional Care Note" may be used for this. The fellows are responsible for writing a daily note on ECMO patients.

F. Procedure Notes

A complete procedure note is needed in EPIC for all procedure by either the resident or fellow. The fellow is responsible to enter the data utilizing New Innovations for all invasive procedures. Please note which attending physician supervised the procedure. The fellow should keep a record of all procedures, as described previously, whether the procedure was done personally or as a supervisor for the resident.

G. Transfers Out of the PICU

If the patient is stable for transport to the floor or home, the fellow should check with the patient's resident to ensure the proper transfer orders and notes are written and to ensure that the floor resident has been called. Generally, the attending or fellow on service will call the floor attending who will assume care of the patient. If a patient leaves the unit after 7pm a reassessment of the child must be performed and documented in the chart. The smart phrase "picusticker" is used for this purpose.

H. Other Fellow Clinical Responsibilities

The fellow (Pod 1 or PICU A) on service in the PICU will be responsible for responding to in house cardiac or respiratory arrests designated as Code Blue. PICU is responsible for all code blues in Tower One. Fellows are encouraged to go to all resuscitations, if available.

On arrival to a Code Blue, the fellow should rapidly determine who is in charge of running the code. If the fellow arrives as the most senior person, he should immediately assume responsibility for guiding or delegating code management and performing or delegating airway management and vascular access. If an attending physician is present with adequate cardiopulmonary resuscitation skills (generally an ER, PICU, or CICU attending physician), then the fellow should defer to that physician's instructions and offer to provide airway or vascular access or otherwise participate in CPR. The PICU should be contacted as soon as it is appropriate to inform them of a transfer so that they may be prepared. A Code Blue may be initiated at the discretion of the nursing staff, even if a fellow or attending are present, if in the mind of the staff additional support is required for initial patient management. After participation in the code, a note must be written in the chart and notation made of the patient's name and medical record number.

Remember, the code situation may also be an excellent learning experience for the house staff, but never to the detriment of the patient. If possible, encourage participation of house staff in such procedures such as intra-osseous lines, intubation, chest compressions, bag-valve-mask ventilation, and defibrillation. Again, patient care should never be compromised in this process.

I. Floor Consults

Occasionally, you will be asked to evaluate floor/ER patients for assistance in their stabilization, recommendations for care, appropriateness of ICU transfer, admission, etc. If the unit allows you may go to the floor to assess the patient. If leaving the unit is not possible you may send the Rapid Response Team or PICU APP. If you go to evaluate the patient you act as a consultant and document in the chart your exam, impressions, and recommendations regarding the patient. Usually a brief note will suffice; include the name of the physician who consulted you. Before any final decision is made regarding transfer or plan, the patient should also be discussed with the PICU attending on call and noted in the chart.

J. Transport Responsibilities

Pediatric transport offers the opportunity to manage acutely ill children in a setting of increased challenge and independence. Early intervention prior to a child's arrival at Egleston may potentially improve outcome. Physician involvement in transport is an evolving area of responsibility and is subject to change. Currently, fellows attend transports on an as-needed basis. Generally, fellows accompany transports of potential ECMO patients or at the request of the referring physician. They do not routinely accompany all transports.

During their first year, fellows will receive a two-week orientation to the Children's Response system. The fellows will be cleared by the Transport Service Director for Medical Control typically within the first 6 months of the fellowship.

K. Deaths/Autopsies

It is inevitable that patients will gradually deteriorate, necessitating your involvement in the death and dying process. Fellows on service or on-call should be closely involved in the management of patients near death, whether acute and unexpected, or unexpected and associated with do-not-resuscitate or withdrawal status. Development of techniques of "orchestrating death" is crucial to attaining complete intensivist skills in dealing with families of the dying child. In order to make this process as stress free as possible, several details require your attention. These skills are some of the most difficult to master. It is wise for you to participate in any such discussions, along with the attending.

1. Notifying the Attending(s)

In the critically ill pediatric patient, the cardiopulmonary resuscitation status should be part of both morning report and evening sign out rounds. The attending must be informed of any death or any event requiring cardiopulmonary resuscitation. The primary care attending and all consulting physicians should also be notified. Additionally, the primary care physician should be contact.

2. Notifying the Medical Examiner/Coroner

The medical examiner's (ME) or coroner's office is to be notified of all deaths that occur in the PICU. The county of residence is contacted under circumstances of natural death. In cases involving injury (e.g., murder, suicide, motor vehicle collision, etc.) the county where the injury took place should be contacted. A fairly reliable directory of Georgia Coroners is available at: <http://georgiacoronersassoc.org/coroner-directory>. Under certain circumstances, a death will be designated a ME case and an autopsy will be done by their office.

Typically, this occurs in cases where: 1) the death was the result of violence or suicide, 2) the deceased was in apparent good health and died suddenly, 3) the deceased was unattended by a physician, or, 4) the death was suspicious or occurred in an unusual manner. However, the ultimate decision lies with the ME of the county in which the deceased patient resided. The final disposition of the body is dependent on the decision of the medical examiner/coroner. Plans for autopsy and/or plans for transfer to a funeral home should wait until discussion with the county medical examiner/coroner.

3. Autopsy Information

When a patient dies, a request for autopsy must be made. In the vast majority of instances, the attending physician, attending intensivist, or ICU fellow, will be responsible for obtaining an autopsy request. The fellow must explicitly, though diplomatically and sensitively, explain the process of autopsy and determine with the family if any limitations (e.g. restriction to the trunk) are requested for the autopsy. The family's desires should be confirmed by both verbal agreement and signing of a completed autopsy form. The consent form for autopsy is in a packet that you can obtain from the unit secretary. The scope of the autopsy must be discussed in detail. This should include: 1) the reason for the autopsy, 2) the conditions under which the autopsy will be performed, (i.e., that it is a surgical procedure and that little if any evidence of the autopsy will remain after completion), 3) the conditions of the autopsy (i.e., is it limited to the trunk, to the head, or if there are no limitations?) under the section that says "Conditions", the word "NONE" should be written). The date must be present, as well as the signature of the family member who has legal guardianship. Their relationship to the deceased must also be present on the form. The physician obtaining the autopsy must sign the consent form, along with a witness other than the physician obtaining the autopsy, such as the primary nurse (his/her position or title must be written on the appropriate line). The resident physician should never take phone consent for autopsy. It is the attending or fellow's responsibility for obtaining the request in this situation.

After consent has been obtained, the fellow should contact the Pathology Department or, if after hours, the pathologist on call. Be prepared to provide a clinical summary and state the questions or concerns surrounding the case. **Please remind staff that the autopsy consent form AND the patient chart MUST accompany the body to the morgue.**

4. The Death Certificate

A death certificate must be completed on all deceased patients. The death certificate that is filled out by the resident/ICU fellow/attending physician is the official copy to be filed with the State of Georgia. The resident/ICU fellow/attending physician must complete sections number 23 (immediate causes) through section 31b. The resident/ICU fellow/attending physician must sign the certificate on line 29a and the name and title of the person who pronounced the patient dead must be filled in section 31a. Additionally, the address (Children's Healthcare of Atlanta at Egleston, 1405 Clifton Road, NE, Atlanta, Georgia 30322) must be filled in section 31b. The death certificate cannot be altered in any way. The nursing personnel or unit secretary must make a photocopy, which will be included on the patient's chart. Once again, if there are any questions, CALL YOUR ATTENDING. You can find CHOA

policy at: http://careforce.choa.org/cms/menus/documents/policies/Patient_Care/8-00.pdf

Providing the cause of death in the correct verbiage is key to expedient processing of the death certificate. Any error will cause the certificate to be returned and slow any processes that require a finalized death certificate, thus causing unneeded stress for families. Assistance in filling out the death certificate properly can be found at: <http://www.fultoncountygga.gov/cause-of-death-tutorial>

5. LifeLink

LifeLink is to be called in the event of any death in the hospital. If brain death is suspected, LifeLink should be contacted prior to making the diagnosis so a representative can assess the patient for the possibility of organ donation.

VI. Teaching Responsibilities

Developing teaching skills and transmitting knowledge are vital experiences for the Critical Care fellow. Opportunities to develop these skills will be available in several areas. These include educating medical students, interns, residents, other specialty's fellows, and your ICU colleagues.

A. *ICU Teaching Rounds*

The ICU fellow on service is expected to participate in daily teaching on rounds by providing succinct, salient teaching points on important issues applicable to the bedside management of specific patients. The Socratic method of teaching is encouraged, i.e., asking residents or nurses questions designed to make them enter the thought process of a particular academic or patient care issue. In theory, you should know the answer to the question you are asking, although rhetorical questions can also be very important. The fellow bears responsibility for both his own teaching, as well as that of the residents, by going to the literature to obtain current articles addressing pathophysiology, or treatment question. This is considered a routine part of the fellow's day-to-day service in the ICU. Whereas the residents are responsible for unit management for each patient, the fellow is responsible for knowledge management in concert with the attending physician. The expectations for you to provide a teaching role on rounds will increase as you advance through the program.

B. *Evening Rounds*

On call rounds and new patient admissions offer excellent opportunities for the fellow to teach the resident on call. The on call time should be thought of as a one-on-one teaching time for the fellow and resident as opposed to merely running through the "boxes" and not providing the resident with a reason why certain plans are made. In general, an emphasis should be made on evidence based medicine; that is, rational indications for diagnostic and therapeutic techniques as much as the literature will support.

After the fellow masters procedures, it will be her/his responsibility to develop a method of teaching each procedure to house staff. This often takes great patience, but is an

important skill to learn to allow the house officer to attempt the procedure without compromising patient care. Being able to teach a procedure requires a mastery of its nuances by the fellow, as well as providing the fellow with increased challenges such as passing lines through hematomas.

C. House Staff PICU Lectures

Residents receive a standard series of conferences on line via open pediatrics. However, the fellow along with the attendings are expected to participate in teaching core topics during rounds (day and evening) as well as other times when opportunity permits. Additionally, fellows should encourage house staff to participate in fellow didactic conferences (Tuesday lectures/Rad rounds/Vent rounds/ Professor rounds etc.).

D. Tuesday Fellow Didactic Conference

The fellows will take part on these lectures as presenters and participants on relevant ICU topics. The fellows are also assigned to present articles in Journal Club. Although the meetings are informal, handouts or slides/overheads are always welcome.

Additionally, there will be Radiology conference, Ventilator Rounds, Professor Rounds and Simulation sessions on a regular basis.

E. Tuesday PICU Research Conference

The fellow will present material relevant to his/her research at these conferences on a regular basis. Each fellow will be assigned 1-2 updates per year. Updates are to follow template provided by Dr. Paden. The presentations include a complete presentation on the research project at the beginning of the year, a quarterly update on the data collection and the progress of the project.

F. Grand Rounds

In the fellow's second or third year, he/she will be expected to present a topic at Egleston Grand Rounds. This should be discussed with his/her mentor or fellowship director prior to a final commitment.

G. Other Conferences

The fellows will be asked to participate in various presentations for respiratory therapists, nursing services, or other meetings. Currently, these lectures are given quarterly in the early morning and early evening to allow staff members from both the night shift and day shift to attend. The schedule for these lectures is subject to change.

H. Audio Visual Materials

Fellows are encouraged and expected to learn slide-making techniques as has been described previously. In addition, fellows should learn to prepare PowerPoint presentations using a computer and projector. That being said, 'chalk talks' are also highly encouraged.

I. Pediatric Advanced Life Support

You should be certified in PALS prior to entering fellowship. However, if this is not the case, certification should be obtained shortly after beginning by contacting the Egleston

Education Coordinator to register for the next available course. The fellow should also obtain instructor status and is encouraged to participate as an instructor for subsequent courses.

J. Pediatric Fundamentals of Critical Care (PFCCS)

PFCCS is a national certification course developed through the Society of Critical Care Medicine. Its purpose is to disseminate fundamental pediatric critical care concepts to professional providers who may be involved in the initial management and transfer of critically ill or injured infants and children. Fellows will be expected to complete this course very early in their fellowship and then will be strongly encouraged to become instructors.

VII. Research Responsibilities

The Division of Critical Care Medicine (CCM) Fellowship Program is dedicated to the development of the next generation of academic leaders in the field of pediatric critical care. This mission encompasses clinical, educational, and research excellence.

Through the academic journey of fellowship, our division will teach trainees how to apply critical thinking skills and the scientific method to complex problems across the range of research. We will leverage the resources at our disposal to educate and enrich fellows with the skills needed to engage in a life-long pursuit of asking and answering questions. These questions are, by intention, intended to impact patients. Research during fellowship is not an end unto itself but rather a multi-year mentored educational experience with applicability to all facets of a career.

During your PCCM fellowship, we strive to provide you with the methodology, mentorship, and support to, not only, produce a meaningful scholarly work product, but to leave here with the confidence and knowledge to pursue a career of life-long investigation. Additionally, we hope to provide you with opportunities to cultivate a niche within our field of medicine on which to build your career and enhance your marketability after graduation.

A. Project Development

Soon after beginning the fellowship program, each fellow will meet with the Research Director (RD), Dr. Raj Basu, to brainstorm potential areas of research of interest. The Program Director and Research Director will work with you to identify appropriate and well fitted mentorship. Mentors may be from within and/or outside of the division. The project can be chosen from the on-going research within the CCM division or new idea within or outside the CCM group as long as the CCM group feels it is a project which can be mentored and completed within 3 years. This process will be closely monitored and determined of the feasibility by the Fellowship Directors and the Research Director. A CCM attending, divisional mentor, will be assigned/chosen to work closely with you if you chose to have a project outside of the CCM division.

Scholarship Oversight Committee (SOC)

In addition to oversight by your research mentors, PD, and RD, your scholarship activities will be monitored by the Scholarship Oversight Committee. The SOC will be twice

each year, once in the fall and once in the spring to ensure that your research and academic goals are progressing appropriately and to provide an additional source of advocacy, advice, and mentorship. The presence of an invested SOC during your fellowship is a requirement for board eligibility by the American Board of Pediatrics (ABP). The purpose of the SOC is to guide fellows in the foundational development of a career pursuing lifelong learning and geared toward improving the care for critically ill children.

The SOC will be comprised of Dr. Raj Basu (RD), Dr. Atul Vats (PCCM), Dr. Matt Paden (PCCM), and Dr. Hughes Evans (non-divisional faculty member). Dr. Lihinie deAlmeida (PD) and Dr. Toni Petrillo (APD) will be present for meetings but as non-voting members.

SOC meetings for all PCCM fellows will be held on the same day twice each year. Each fellow will meet with the SOC for 25-minutes. Fellows will be expected to complete a Brief Update Form one week prior to the meeting. Following the meeting, SOC members will provide written feedback to the fellows and fellowship directors.

B. Project Supervision

As described above, each fellow will be assigned research mentors whose responsibility it is to guide the development of a research theme and design of a specific research project(s). You may work directly in your mentor's laboratory or project; in some situations the mentor will serve as a divisional liaison as you work with a researcher in another division. Your mentors will be responsible for monthly evaluations and for discussions regarding research progress. Mentors may be primarily for content or methodology.

C. Expectations

The fellow is expected to treat the research experience as a serious commitment of time and effort no different from clinical responsibilities. You should meet with your mentor prior to each research month to establish goals and schedules for the month ahead. Regular attendance in the lab and at lab group meetings is expected (if applicable). You will be asked to update the division at regular intervals in Research Conferences regarding lab progress and to elicit feedback in development of study protocols, etc. You should send a weekly update via email to your mentors as well as the program directors on Sunday or Monday for your research weeks with goals and objectives for your time.

D. Presentations

Expectations for presentations and abstracts are described in previous sections. Fellows will be funded to travel for presentation of first-authored abstracts as described above.

E. Completion of Research Requirements

You should meet with your mentor prior to the third year of fellowship to establish your progress towards completion of subspecialty board research requirements. All efforts will be made to guide you in the completion of a first-authored paper based on your study results. Fellows will be expected to have a least one completed manuscript submitted

for peer review in an approved journal prior to receiving credit for completion of the fellowship and sub-board eligibility.

Off Service Rotation Goals and Responsibilities

F. Cardiac ICU Rotation

1. The pediatric critical care fellow will serve in the cardiac intensive care unit under the direction of the attending cardiologist/intensivist responsible for postoperative cardiac care during that month.
2. Fellows will participate in both surgical and medical rounds. They will participate actively in the management and the procedures required for these patients.
3. The following major areas of management will be addressed during the month by both "hands on" experience and case discussion:
 - a. Management of pre and post-operative congenital heart deformity patients.
 - b. Management of low cardiac output in postoperative cardiac patients.
 - c. Medical management of congestive heart failure in pre and post-operative patients.
 - d. Basic understanding of the importance and use of color Doppler echocardiography in evaluating patients with complex congenital heart disease
 - e. Evaluation of electrocardiograms, chest x-rays, and hemodynamic data in planning the surgical approach.
 - f. Observation of cardiac catheterizations and evaluation of post catheterization hemodynamic data.
 - g. Observation of surgical repair of complex congenital cardiac lesions.
 - h. Use of temporary pace makers in the management of postoperative patients to influence hemodynamics and improve cardiac output.
 - i. Evaluation and management of cardiac arrhythmias.
 - j. Participation in vascular access techniques on the postoperative patient.
 - k. Evaluation of continuous hemodynamic monitoring of SvO₂, left atrial and right atrial and pulmonary artery pressures.
- D. Fellows will participate in pre-surgical cardiothoracic conference to review hemodynamics and management plan of patients who will be undergoing surgery.
- E. Suggested readings for the fellow will be provided by cardiology staff.
- F. Written evaluations will be performed on both the fellow and attending on service, and will be provided to them for review.

Cardiac Intensive Care Unit (CICU) Rotation Competency based goals and objectives

PATIENT CARE

Goal: Develop proficiency in ability to provide effective management of the continuum of care for the cardiovascular in-patients and intensive care patients in the context of pre and post surgical care.

Objectives:

1. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
2. Gather the appropriate cardiovascular information about patients
3. Develop and carryout cardiovascular patient management plans
4. Learn basic concepts related to all medical non-invasive and invasive procedures considered essential for the practice of cardiovascular medicine
5. Work with health care professionals, including those from other disciplines/specialties to provide patient focused general medical and cardiovascular care.
6. Counsel and educate patients and families with respect to cardiovascular disease
7. Provide health care services focused at preventing subsequent cardiovascular events and in maintaining overall health
8. Provide end-of-life care to patients being cared for, and to communicate effectively end-of-life issues to patients' families

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

MEDICAL KNOWLEDGE

Goal:

Develop proficient knowledge skills and critical thinking regarding disease process, diagnosis and treatment of cardiovascular patients receiving inpatient or intensive cardiac care setting.

Objectives:

1. Demonstrate knowledge, skills, clinical judgment attitudes and values necessary for a cardiovascular consultant specializing in interventional cardiology.
2. Demonstrate investigatory and analytic thinking approaches to various clinical cardiovascular situations
3. Access and critically evaluate current cardiovascular medical information and scientific evidence
4. Know and apply basic science and clinical cardiovascular knowledge to patient care
5. Diagnose and manage acutely ill patients in all aspects of cardiovascular disease

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT	X	Subspecialty conference		
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

INTERPERSONAL AND COMMUNICATION SKILLS

Goal:

Demonstrate interpersonal and communication skills in medical practice that develop and maintain effective information exchange and collaboration with cardiology patients and family members as well as other professional associates

Objectives:

1. Create and sustain a therapeutic and ethically sound relationship with patients and their families
2. Interact with other professional and paraprofessional staff in a respectful and appropriate manner
3. Maintain comprehensive and timely medical records

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

PROFESSIONALISM

Goal:

Demonstrate commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse cardiology patient population

Objectives:

1. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities
2. Demonstrate a commitment to ethical principles involved in cardiovascular care or withholding clinical care, confidentiality or patient information, informed consent and business practices
3. Demonstrate respect, compassion, and integrity

4. Demonstrate responsiveness to the needs of patients and society that supersedes self-interest

5. Demonstrate a commitment to excellence and on-going professional development

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf	X	Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

PRACTICE BASED LEARNING AND IMPROVEMENT

Goal:

Learn to investigate and evaluate personal patient care practices, appraise and assimilate scientific evidence related to Cardiology, and improve personal patient care practices.

Objectives:

1. Analyze practice based experiences and perform practice-based improvement activities using systematic knowledge
2. Locate, appraise and assimilate cardiovascular evidence from scientific studies related to their patient's cardiovascular health problems
3. Obtain and use information about their own population of patients and the larger population from which their patients are drawn
4. Apply cardiovascular knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness

Learning activities: (check all that apply)					
X	Attending Rounds		Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
	Simulation		Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
X	ILP	X	SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

SYSTEM BASED PRACTICE

Goal:

Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care in that is of optimal value to cardiology patients.

Objectives:

1. Understand how patient care and other professional activities affect other health care professionals, the health care organization, and society at-large
2. Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
3. Practice cost-effective cardiovascular health care
4. Advocate for the quality of cardiovascular patient care and assist patients in dealing with system complexities

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				

Other

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

G. Anesthesia Rotation

The Pediatric Critical Care fellow will rotate at least one month on the anesthesia service at Children's Healthcare of Atlanta at Egleston.

A. During this month the Critical Care fellow will participate in all aspects of anesthesia under the supervision of an attending anesthesiologist. These are:

1. Attend morning conferences/lectures
2. Preoperative assessment
3. Operating room preparation (monitors, breathing circuits, medications, airway equipment and anesthesia machine)
4. Airway management
5. Vascular access procedures
6. Intraoperative anesthetic management
7. Postoperative anesthesia recovery care
8. PACU management
9. Observe and learn about regional anesthetic techniques

B. The Critical Care trainee will develop an understanding of the following based on direct patient management, didactic discussion, and directed reading:

1. Appropriate preoperative assessment of pediatric patient for surgical intervention
2. The pharmacology and use of the following classes of drugs including their respective side effects, indications, and contraindications: volatile anesthetic agents, depolarizing and non-depolarizing muscle relaxants, narcotic and narcotic antagonists, sedative and sedative antagonists and IV general anesthetic induction agents
3. Appropriate management of the pediatric airway, including positioning techniques, bag-valve-mask ventilation, and endotracheal intubation
4. Understanding of the physiology and pathophysiology of the pediatric patient undergoing surgery and anesthesia
5. Understanding of the physiology, pathophysiology, and acute management of malignant hyperthermia

6. Appropriate postoperative management of the pediatric patient including indications for intubation and subacute effects of anesthetic agents including pain, hypertension, hypotension, apnea, airway obstruction delirium
- C. Suggested readings for the trainee will be provided by the Critical Care and Anesthesia attendings.
- D. Written evaluations will be performed on both the trainee and the primary attending responsible for the trainee's anesthesia month. These will be provided to both for their personal review.

Medical Knowledge:

- Basics of the anesthesia machine and routine monitors
- Basics of neuromuscular blockade
- Routine use of vasoactive medications
- Indications for the use of routinely used anesthetic drugs
- Major cardiovascular and respiratory effects of routinely used anesthetic drugs
- Key preoperative evaluation (patient history, physical exam, laboratory results)
- Understand universal precautions
- Identify pathophysiology and anesthetic concerns associated with basic and complex pediatric cases

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
X	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

Patient Care:

Cognitive objectives:

- Understand induction plan and different approaches based on patient needs and conditions

- Appropriately select airway and access equipment
- Estimate and administration of fluid requirements (blood, colloid, crystalloid) in routine cases
- Identify and treat with faculty assistance basic intraoperative complications (e.g.- hypoxemia, hypotension, hypertension, arrhythmias, anuria)
- Manage difficult airways with close supervision for elective surgery
- Perform emergency airway management utilizing a rapid sequence induction in the OR, ICU, and emergency department with supervision

Technical skills:

- Perform mask ventilation and routine tracheal intubation in straight forward airways
- Perform peripheral and central intravenous cannulation and arterial lines with minimal assistance

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

Interpersonal and Communication Skills:

- Communicate effectively with patients
- Communicate effectively with surgeons, nurses, and other healthcare professionals to provide patient-focused care
- Present concise, organized case presentation, including management concerns, to faculty
- Formulate anesthetic management for ASA 1-3 patients for moderately complex surgery

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club

	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

Practice-based Learning and Improvement:

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education

Learning activities: (check all that apply)					
X	Attending Rounds		Multidisciplinary rounds	X	Direct Patient Care
X	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
	Simulation		Faculty Supervision	X	Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review	X	In-Training Exam	X	Faculty Supervision and Feedback
X	ILP	X	SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

Professionalism:

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity

- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf	X	Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

Systems-based Practice:

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Learning activities: (check all that apply)					
X	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
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X	Attending Evaluation		Directly Supervised Procedures	X	Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
X	Mock Codes	X	Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

H. *Children's Sedation Services Rotation*

Rotation: 4-5 MRI, 1 CT/nuclear medicine, and 2 AFLAC

Time: 7AM to 5pm

All fellows need to complete MRI safety CBT and screening forms.

Contact Dr. Laurie Burton before you begin your rotation. Dr. Burton or an Attending physician will orient fellows to the sedation areas.

Goal: Participate in the management of children in the outpatient setting who require sedation for diagnostic and/or therapeutic procedures performed outside of the operating room.

Learning objectives:

- Discuss patient/procedural factors that increase risk of morbidity from sedation, scenarios requiring anesthesia consultation regarding sedation safety, and issues that drive a need for general anesthesia rather than sedation.
- Understand the basic pharmacology of commonly used agents for sedation and their side effects (including but not limited to propofol, brexvatil and ketamine).
- Identify safe procedures for administering and monitoring sedatives and analgesics when general anesthesia is not used, e.g., for the following procedures commonly ordered:
 1. Magnetic resonance imaging
 2. Computed tomography
 3. Lumbar puncture
 4. Wound management
 5. Bone Marrow aspiration/biopsy
- Explain current terminology for various levels of sedation, including terms used by hospital accreditation bodies and credentialing committees (e.g., "procedural sedation") and demonstrate that you understand your hospital's standards for safety for each type of sedation.
- Recognize circumstances when optimal care of the child requires the services of an anesthesiologist.

- Complete pre-sedation evaluation, including history, physical examination, and pediatric assessment of anesthesia risk (including ASA scores, Aldrete, etc.).
- Demonstrate an understanding of and competence in the following aspects of sedation management:
 1. Non-invasive monitoring of blood pressure, heart rate, oximetry and capnography
 2. Bag mask ventilation devices (self-inflating bag, anesthesia bag)
 3. Airway devices (oral/nasal airways,)
 4. Use of physical examination and monitoring methods for early detection of airway obstruction
 5. Airway suction devices
 6. Oxygen supplementation devices
- Demonstrate understanding of contrast reactions and subsequent treatments.
- Demonstrate understanding of discharge criteria.

Review sedation related articles in the sedation folder on the share drive.

Only pediatric CCM or ED fellows can push IV drugs (under very close supervision by the attending physician).

Learning activities: (check all that apply)					
	Attending Rounds		Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation	X	Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
	360° Evaluation with nursing personnel, patients				

Websites with important sedation information:

1) <http://an.hitchcock.org/PediatricSedationRC/>

On the left side please click on Dartmouth Pediatric sedation project site. Then under links click on Pediatric sedation course.

2) www.pedsedation.org/

On the left side under resources: articles, lectures etc. Lectures are for SPS members only (please email me if any topic interests you and I will email you the full text). Also under literature reviews there are many good topics.

3) www.pedsccm.org

Put sedation in the search box.

4) <http://www.asahq.org/>

Click on clinical information on the left side. Look under index on the right hand side for tons of good clinical information.

I. *ICU Financial and Administrative Management Rotation*

Objectives:

- A. Introduce the fellow to management practices which are essential to the functioning of an intensive care unit and critical care program.
- B. Provide the Critical Care fellow an understanding of the administrative structure of children's and general hospitals and introduce them to administrative issues commonly discussed and essential to ongoing unit function.
- C. Introduce the fellow to financial issues affecting critical care, including:
 - Impact of managed care on the intensive care unit
 - Budgeting for the ICU
 - Incentives and compensation for critical care physicians
 - Financing research
 - Technology, assessing and purchasing new technologies
 - Computerization in the ICU
- D. Orient the fellow to the multidisciplinary relationships which are necessary for an efficient ICU management, including interactions with the unit administrative director, nursing staff, respiratory therapists, social workers, child life specialists, and leadership team.

Components of Rotation

- A. The rotation will consist of two two-week sessions, one each during second and third year of fellowship.
- B. **Directed reading:** the fellow is provided directed reading utilizing the referenced *Business of Critical Care* by Sibbald, et al and a notebook of collected abstracts and documents germane to management and finance in critical care.
- C. **Interaction with administrative personnel.** The fellow spends individual time with the hospital medical director, the PICU medical director, and PICU administrative director. As available, the fellow also spends time with ECMO director, Children's Response director, and Leadership team.
- D. **Hospital and Service Committee meetings:** The fellow attends a variety of hospital service and PICU service committee meetings for the purpose of observing the daily issues addressed by PICU administrators and to gain a better understanding of matters considered important to hospital administrators in their interactions with the ICU.

- E. Self-learning Modules:** There are computerized based several self-learning modules on Aspen to be completed during the year as part of this rotation. These include but are not limited to : Situational leadership; Essentials of leadership; Resolving Conflict; Taking charge of your development; Guiding the development of others; Leading a successful meeting

Learning activities: (check all that apply)					
	Attending Rounds		Multidisciplinary rounds		Direct Patient Care
	M&M conf		Ethics Rounds/Conf	X	Fellows Conference
	Simulation	X	Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
	360° Evaluation with nursing personnel, patients				

J. Transport Rotation

Objectives:

- A.** Orient the fellow to the Children's Response pediatric transport system
- B.** Learn the treatment protocols and algorithms utilized by transport personnel
- C.** Introduce the fellow to the role of providing medical control for all transports.
- D.** Introduce the fellow to management practices essential to the functioning of a specialized pediatric transport system.

Components of Rotation

- A.** The rotation will consist of a two-week session during the first year of training; once the CCM faculty feel the fellow has a reasonable understanding of the operations of the Egleston PICU a fellow will be able to do medical control. Typically, this will be at the midpoint of the first year.
- B. Transport shifts:** During these weeks, the fellow will be assigned 6-10 12-hour shifts along with a senior transport nurse. During each shift, the fellow will attend on all transports (regardless of acuity).

Competency Based Objectives

- g. **Patient Care:** Provide care that is age appropriate and effective
- i. Be able to verbalize the transport process for all patients
 - ii. Be familiar with transport protocols
 - iii. Gather essential and accurate information in a brief period in order to triage and assess the patient
 - iv. Make informed diagnostic and therapeutic decisions based on patient information, current scientific evidence and clinical judgment, using clinical problem-solving skills, recognizing the limits of one's environment and resources
 - v. Develop and carry out patient care plans, using principles of evidence-based decision-making and appropriate prioritization
 - vi. Perform competently all medical procedures considered essential for transport (intubation/ IV access)

Learning activities: (check all that apply)					
	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
	Mock Codes		Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

- h. **Medical Knowledge:** Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a pediatrician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care. Especially those which relate to transport medicine
- i. Recognize the limits of one's environment.
 - ii. Be familiar with transport physiology as it relates to the different modes of transport
 - iii. Be familiar with the limitations of ones equipment and resources
 - iv. Apply current medical information and scientific evidence effectively to patient care (e.g., use an open-minded, analytical approach, sound clinical judgment, and appropriate attention to priorities)

Learning activities: (check all that apply)					
	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf		Fellows Conference

X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes		Simulation Session	X	Chart Review
	360° Evaluation with nursing personnel, patients				

- i. **Communication Skills:** Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
- i. Practice the SBAR model of communication to relay quick concise reports
 - ii. Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.
 - iii. Communicate effectively and efficiently with both receiving and referral facilities to aid in the transport process
 - iv. Communicate effectively in a developmentally appropriate manner with patients and families to create and sustain a therapeutic relationship across the broad range of socioeconomic and cultural backgrounds.
 - v. Work effectively as a member or leader of a health care team, and collaborate productively with professional organizations.

Learning activities: (check all that apply)					
	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC	X	Tape review
X	Mock Codes		Simulation Session	X	Chart Review
X	360° Evaluation with nursing personnel, patients				

- j. **Practice-based Learning and Improvement:** Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.

- i. Use scientific methods and evidence to investigate, evaluate and improve one's own patient care practice; continually strive to integrate best evidence into one's daily practice of medicine.
- ii. Demonstrate willingness and capability to be a life-long learner by pursuing answers to clinical questions, using journal articles, texts,
- iii. Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement (e.g., use evaluations provided by patients, peers, superiors and subordinates to improve patient care).

Learning activities: (check all that apply)					
	Attending Rounds		Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf		Fellows Conference
	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
X	ILP	X	SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

- k. **Professionalism:** Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
 - i. Demonstrate commitment, responsibility, and accountability for patient care, including continuity of care.
 - ii. Be honest and use integrity in your professional duties.
 - iii. Consistently use compassion and empathy in one's role as a physician.
 - iv. Maintain professional boundaries in one's dealings with patients, family, staff, and professional colleagues.
 - v. Demonstrate sensitivity and responsiveness to patients' and colleagues' gender, age, culture, disabilities, ethnicity, and sexual orientation

Learning activities: (check all that apply)					
	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf	X	Ethics Rounds/Conf		Fellows Conference
	Simulation		Faculty Supervision		Journal Club
X	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference

X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
X	ILP	X	SOC	X	Tape review
X	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				

- I. **Systems-Based Practice:** Understand how to practice quality health care and advocate for patients within the context of the health care system
- i. Practice cost-effective health care and resource allocation that does not compromise quality of care. Learn the cost of modes of transport and how decisions are based on time of day, distance and acuity
 - ii. Work with health care managers and providers to assess, coordinate, and improve patient care while consistently advocating for high quality.
 - iii. Acknowledge medical errors and develop practice systems to prevent them.

Learning activities: (check all that apply)					
	Attending Rounds	X	Multidisciplinary rounds	X	Direct Patient Care
	M&M conf		Ethics Rounds/Conf		Fellows Conference
X	Simulation	X	Faculty Supervision		Journal Club
	CBT				
	Other				

Evaluation Methods: (check all that apply)					
X	Attending Evaluation		Directly Supervised Procedures		Participation in fellows Conference
X	Program Dir Review		In-Training Exam	X	Faculty Supervision and Feedback
	ILP		SOC		Tape review
	Mock Codes		Simulation Session		Chart Review
X	360° Evaluation with nursing personnel, patients				