**New Application: Adult Cardiothoracic Anesthesiology**

**Review Committee for Anesthesiology**

**ACGME**

**Oversight**

**Participating Sites**

1. Describe the planned degree of interaction between the fellows and the residents in the core anesthesiology program. [PR I.B.1.b)]

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1. Describe the differences in planned responsibilities for the fellows from those of the core anesthesiology residents. [PR I.B.1.b)]

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**Resources**

1. Total cardiothoracic beds: [PR I.D.1.a).(1)] [ # ]

2. Number of intensive care unit beds dedicated to cardiothoracic patients: [PR I.D.1.a).(1)] [ # ]

3. Is there an emergency department in which cardiothoracic patients are managed 24 hours a day?  
[PR I.D.1.b)]  YES  NO

4. Total cardiothoracic operating rooms: [PR I.D.1.c)] [ # ]

5. Is there an adequately designed and equipped post-anesthesia care unit for cardiothoracic patients located near the operating room suite? [PR I.D.2.d)]  YES  NO

If no, how are patients cared for post-operatively?

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6. Is there monitoring and advanced life support equipment representative of current levels of technology? [PR I.D.2.e)]  YES  NO

7. Are there 24-hour laboratory services available in the hospital? [PR I.D.1.f)]  YES  NO

8. Are there facilities readily available at all times to provide prompt non-invasive and invasive diagnostic and therapeutic cardiothoracic procedures? [PR I.D.1.g)]  YES  NO

1. Echocardiography  YES  NO
2. Cardiac stress testing  YES  NO
3. Cardiac catheterization  YES  NO
4. Electrophysiological testing and therapeutic intervention  YES  NO
5. Cardiopulmonary scanning procedures  YES  NO
6. Pulmonary function testing  YES  NO

9. Describe reading and research space for the fellows: [PR I.D.1.h)]

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10. Provide the data requested for each of the participating sites. Use the ADS site numbers.

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| Inclusive Dates From: | Click here to enter a date. | To: | Click here to enter a date. |

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| **Anesthetics Administered Annually** | **Site #1** | **Site #2** | **Site #3** | **Site #4** | **Site #5** |
| Residents and/or Fellows | # | # | # | # | # |
| Attending Staff | # | # | # | # | # |
| CRNAs | # | # | # | # | # |
| Total | # | # | # | # | # |

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| --- | --- | --- | --- | --- | --- |
| **Anesthetizing Locations** | **Site #1** | **Site #2** | **Site #3** | **Site #4** | **Site #5** |
| # of operating rooms | # | # | # | # | # |
| # used regularly and simultaneously | # | # | # | # | # |

Other Anesthetizing Areas (Name and describe function)

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**Educational Program**

**ACGME Competencies**

**Patient Care and Procedural Skills**

Indicate the settings and activities in which residents will demonstrate competence in each of the following areas of patient care. Also indicate the method(s) used to assess competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Following standards for patient care and established guidelines and procedures for patient safety, error reduction, and improved patient outcomes  [PR IV.B.1.b).(1).(a)] | Click here to enter text. | Click here to enter text. |
| Pre-operative patient evaluation and optimization of clinical status prior to the cardiothoracic procedure  [PR IV.B.1.b).(1).(b).(i)] | Click here to enter text. | Click here to enter text. |
| Interpretation of cardiovascular and pulmonary diagnostic test data  [PR IV.B.1.b).(1).(b).(ii)] | Click here to enter text. | Click here to enter text. |
| Hemodynamic and respiratory monitoring  [PR IV.B.1.b).(1).(b).(iii)] | Click here to enter text. | Click here to enter text. |
| Pharmacological and mechanical hemodynamic support  [PR IV.B.1.b).(1).(b).(iv)] | Click here to enter text. | Click here to enter text. |
| Peri-operative critical care, including ventilatory support and peri-operative pain management  [PR IV.B.1.b).(1).(b).(v)] | Click here to enter text. | Click here to enter text. |
| Providing anesthesia care for patients undergoing cardiac surgery with and without extracorporeal circulation  [PR IV.B.1.b).(2).(a)] | Click here to enter text. | Click here to enter text. |
| Providing anesthesia care for patients undergoing thoracic surgery, including operations on the lung, esophagus, and thoracic aorta  [PR IV.B.1.b).(2).(b)] | Click here to enter text. | Click here to enter text. |
| Advanced-level peri-operative TEE  [PR IV.B.1.b).(2).(c)] | Click here to enter text. | Click here to enter text. |
| The ability to independently manage intra-aortic balloon counterpulsation and be actively involved in the management of other extracorporeal circulatory assist devices  [PR IV.B.1.b).(2).(d)] | Click here to enter text. | Click here to enter text. |
| Management of cardiopulmonary bypass (CPB)  [PR IV.B.1.b).(2).(e)] | Click here to enter text. | Click here to enter text. |

**Medical Knowledge**

Indicate the activity(ies) (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which residents will demonstrate knowledge in each of the following areas. Also indicate the method(s) used to assess competence.

| **Area of Knowledge** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| How cardiothoracic diseases affect the administration of anesthesia and life support to adult cardiothoracic patients  [PR IV.B.1.c).(1)] | Click here to enter text. | Click here to enter text. |
| Embryological development of the cardiothoracic structures  [PR IV.B.1.c).(1).(a)] | Click here to enter text. | Click here to enter text. |
| Pathophysiology, pharmacology, and clinical management of patients with cardiac disease, to include cardiomyopathy, heart failure, cardiac tamponade, ischemic heart disease, acquired and congenital valvular heart disease, congenital heart disease, electrophysiologic disturbances, and neoplastic and infectious cardiac diseases  [PR IV.B.1.c).(1).(b)] | Click here to enter text. | Click here to enter text. |
| Pathophysiology, pharmacology, and clinical management of patients with respiratory disease, to include pleural, bronchopulmonary, neoplastic, infectious, and inflammatory diseases  [PR IV.B.1.c).(1).(c)] | Click here to enter text. | Click here to enter text. |
| Pathophysiology, pharmacology, and clinical management of patients with thoracic vascular, tracheal, esophageal, and mediastinal diseases, to include infectious, neoplastic, and inflammatory processes  [PR IV.B.1.c).(1).(d)] | Click here to enter text. | Click here to enter text. |
| Non-invasive cardiovascular evaluation, to include electrocardiography, transthoracic echocardiography, TEE, stress testing, and cardiovascular imaging  [PR IV.B.1.c).(1).(e)] | Click here to enter text. | Click here to enter text. |
| Cardiac catheterization procedures and diagnostic interpretation, to include invasive cardiac catheterization procedures, including angioplasty, stenting, and transcatheter laser and mechanical ablations  [PR IV.B.1.c).(1).(f)] | Click here to enter text. | Click here to enter text. |
| Non-invasive pulmonary evaluation, to include pulmonary function tests, blood gas and acid-base analysis, oximetry, capnography, and pulmonary imaging  [PR IV.B.1.c).(1).(g)] | Click here to enter text. | Click here to enter text. |
| Pre-anesthetic evaluation and preparation of adult cardiothoracic patients  [PR IV.B.1.c).(1).(h)] | Click here to enter text. | Click here to enter text. |
| Peri-anesthetic monitoring, both non-invasive and invasive (intra-arterial, central venous, pulmonary artery, mixed venous saturation, cardiac output)  [PR IV.B.1.c).(1).(i)] | Click here to enter text. | Click here to enter text. |
| Pharmacokinetics and pharmacodynamics of medications prescribed for medical management of adult cardiothoracic patients  [PR IV.B.1.c).(1).(j)] | Click here to enter text. | Click here to enter text. |
| Pharmacokinetics and pharmacodynamics of anesthetic medications prescribed for cardiothoracic patients  [PR IV.B.1.c).(1).(k)] | Click here to enter text. | Click here to enter text. |
| Pharmacokinetics and pharmacodynamics of medications prescribed for management of hemodynamic instability  [PR IV.B.1.c).(1).(l)] | Click here to enter text. | Click here to enter text. |
| Extracorporeal circulation, to include: myocardial preservation; effects of CPB on pharmacokinetics and pharmacodynamics; cardiothoracic, respiratory, neurological, metabolic, endocrine, hematological, renal, and thermoregulatory effects of CPB; and coagulation/ anticoagulation before, during, and after CPB  [PR IV.B.1.c).(1).(m)] | Click here to enter text. | Click here to enter text. |
| Inotropes, chromotropes, vasoconstrictors, and vasodilators  [PR IV.B.1.c).(1).(n)] | Click here to enter text. | Click here to enter text. |
| Circulatory assist devices, to include intra-aortic balloon pumps, left and right ventricular assist devices, and extracorporeal membrane oxygenation (ECMO)  [PR IV.B.1.c).(1).(o)] | Click here to enter text. | Click here to enter text. |
| Pacemaker insertion and modes of action  [PR IV.B.1.c).(1).(p)] | Click here to enter text. | Click here to enter text. |
| Cardiac surgical procedures, to include: minimally invasive myocardial revascularization; valve repair and replacement; pericardial, neoplastic procedures; and heart and lung transplantation  [PR IV.B.1.c).(1).(q)] | Click here to enter text. | Click here to enter text. |
| Thoracic aortic surgery, to include: ascending, transverse, and descending aortic surgery with circulatory arrest; CPB employing low flow and or retrograde perfusion; lumbar drain indications and management; and spinal cord protection, including cerebral spinal fluid (CSF) drainage  [PR IV.B.1.c).(1).(r)] | Click here to enter text. | Click here to enter text. |
| Esophageal surgery, to include varices, neoplastic, colon interposition, foreign body, stricture, and tracheoesophageal fistula  [PR IV.B.1.c).(1).(s)] | Click here to enter text. | Click here to enter text. |
| Pulmonary surgery, to include segmentectomy (open or video-assisted), thoracoscopic or open, lung reduction, bronchopulmonary lavage, one-lung ventilation, lobectomy, pneumonectomy and bronchoscopy, including endoscopic, fiberoptic, rigid, laser resection  [PR IV.B.1.c).(1).(t)] | Click here to enter text. | Click here to enter text. |
| Post-anesthetic critical care of adult cardiothoracic surgical patients  [PR IV.B.1.c).(1).(u)] | Click here to enter text. | Click here to enter text. |
| Peri-operative ventilator management, to include intra-operative anesthetics, and critical care unit ventilators and techniques  [PR IV.B.1.c).(1).(v)] | Click here to enter text. | Click here to enter text. |
| Pain management of adult cardiothoracic surgical patients  [PR IV.B.1.c).(1).(w)] | Click here to enter text. | Click here to enter text. |
| Research methodology/ statistical analysis, the fundamentals of research design and conduct, and the interpretation and presentation of data  [PR IV.B.1.c).(1).(x)] | Click here to enter text. | Click here to enter text. |
| Quality assurance/ improvement  [PR IV.B.1.c).(1).(y)] | Click here to enter text. | Click here to enter text. |
| Ethical and legal issues, and practice management  [PR IV.B.1.c).(1).(z)] | Click here to enter text. | Click here to enter text. |

**Practice-based Learning and Improvement**

1. Briefly describe one planned quality improvement activity or project that will allow fellows to demonstrate an ability to analyze, improve, and change practice or patient care. Describe planning, implementation, evaluation, and provisions of faculty member support and supervision that will guide this process. [PR IV.A.1.b).(3).(a)] (Limit response to 400 words)

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1. Briefly describe one example of a learning activity in which fellows engage to develop the skills needed to locate, appraise, and assimilate evidence from scientific studies and apply it to their patients' health problems. [PR IV.B.1.d)] (Limit response to 400 words)

The description should include:

* Locating information
* Appraising information
* Assimilating evidence information (from scientific studies)
* Applying information to patient care

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**Interpersonal and Communication Skills**

1. Briefly describe one learning activity in which fellows develop interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. [PR IV.B.1.e)] (Limit response to 400 words)

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1. Briefly describe one learning activity in which fellows will demonstrate effective communication skills, including: obtaining informed consent; communicating the patient care and management plan; and explaining complications/errors and their management to patients and families. [PR IV.C.7.a)-d)] (Limit response to 400 words)

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1. Briefly describe one learning activity in which fellows will demonstrate skills in preparing and presenting educational material for medical students, graduate medical education staff members, and allied health personnel. [PR IV.C.7.e)] (Limit response to 400 words)

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1. Briefly describe one learning activity in which fellows will demonstrate competence in providing clinical consultations. [PR IV.C.7.f)] (Limit response to 400 words)

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**Professionalism**

1. Briefly describe the learning activity(ies), other than lecture, by which fellows develop a commitment to carrying out professional responsibilities and an adherence to ethical principles, including: compassion, integrity, and respect for others; responsiveness to patient needs that supersedes self-interest; respect for patient privacy and autonomy; accountability to patients, society, and the profession; and sensitivity and responsiveness to a diverse patient population, including diversity in gender, age, culture, race, religion, disabilities, and sexual orientation. [PR IV.C.8.a)-e)] (Limit response to 400 words)

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1. Briefly describe one learning activity by which fellows will demonstrate compliance with institutional, departmental, and program policies. [PR IV.C.8.f)] (Limit response to 400 words)

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**Systems-based Practice**

1. Describe the learning activity(ies) through which fellows develop an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. [PR IV.B.1.f)] (Limit response to 400 words)

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1. Briefly describe one learning activity in which fellows will work in interprofessional teams to enhance patient safety and improve patient care quality. [PR IV.C.9.a)] (Limit response to 400 words)

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1. Briefly describe one learning activity in which fellows will participate in identifying system errors and implementing potential system solutions. [PR IV.C.9.b)] (Limit response to 400 words)

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**Curriculum Organization and Fellow Experiences**

1. Provide the following surgical information for each participating site:

|  | **Total # for Reporting Year** | | | | | **Estimated Average # cases per fellow at end of year** |
| --- | --- | --- | --- | --- | --- | --- |
| **Site #1** | **Site #2** | **Site #3** | **Site #4** | **Site #5** |
| **Type of Surgery** | | | | | | |
| Thoracic aortic stent placements  [PR IV.B.1.c).(1)(f)] | # | # | # | # | # | # |
| Cardiac surgery - with cardiopulmonary bypass  [PR IV.C.3.a).(1)] | # | # | # | # | # | # |
| Cardiac surgery - without cardiopulmonary bypass | # | # | # | # | # | # |
| Valve repair or valve replacement  [PR IV.C.3.a).(2)] | # | # | # | # | # | # |
| Revascularization procedures with or without CPB  [PR IV.C.3.a).(3)] | # | # | # | # | # | # |
| Congenital cardiac procedures performed on adult patients  [PR IV.C.3.a).(4).(a)] | # | # | # | # | # | # |
| Cardiac and lung transplantation  [PR IV.C.3.a).(4).(b)] | # | # | # | # | # | # |
| electrophysiology procedures requiring general anesthesia  [PR IV.C.3.a).(4).(d)] | # | # | # | # | # | # |
| Non-cardiac thoracic surgery  [PR IV.C.3.b).(1)] | # | # | # | # | # | # |
| Ascending or descending thoracic aorta requiring full CPB, left heart bypass and/or deep hypothermic circulatory arrest  [PR IV.C.3.b).(2)] | # | # | # | # | # | # |
| **Device Placement** | | | | | | |
| Cardiac pacemakers  [PR IV.B.1.c).(1).(p)] | # | # | # | # | # | # |
| Left heart bypass  [PR IV.C.3.a).(4).(c)] | # | # | # | # | # | # |
| Ventricular assist devices  [PR IV.C.3.a).(4).(c)] | # | # | # | # | # | # |
| Intra-aortic balloon pumps  [PR IV.C.3.a).(4).(c)] | # | # | # | # | # | # |
| ECMO  [PR IV.C.2.a).(4).(c)] | # | # | # | # | # | # |
| Automatic implantable cardiac defibrillators  [PR IV.C.10.a).(2)] | # | # | # | # | # | # |
| **Age of Cardiothoracic Patient** | | | | | | |
| Less than 2 years | # | # | # | # | # | # |
| Greater than 2 years | # | # | # | # | # | # |

2. Describe the critical care rotation with respect to duration, responsibility, supervision, and faculty member participation. [PR IV.C.10.]

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3. Describe the cardiothoracic elective rotations with respect to duration, responsibility, supervision, and faculty member participation. [PR IV.C.5.]

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4. Clinical Components

Describe the experience, faculty teaching, and supervision that will be provided in pre-operative assessment, intra-operative, and post-operative management of cardiac patients scheduled for surgery. [PR IV.C.10.a)]

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5. Didactic Curriculum

1. Intradepartmental activities [PR IV.C.12.]

| **Activity** | **# Per Year** | **Attendance Obligatory for Faculty?** | **Attendance Obligatory for Fellows?** |
| --- | --- | --- | --- |
| Lectures | # | YES  NO | YES  NO |
| Conferences or Seminars | # | YES  NO | YES  NO |
| Hands-on workshops | # | YES  NO | YES  NO |
| Morbidity and Mortality Conferences | # | YES  NO | YES  NO |
| Journal Club | # | YES  NO | YES  NO |

1. Provide a list of the lectures, seminars, conferences, and other didactic exercises planned. Include all presentations represented in the curriculum, designating those specific to the fellowship with an asterisk. Include the date, title, and instructor and whether the presenter was a faculty member, fellow, or guest. Add rows as necessary. [PR IV.C.12.]

| **Date** | **Title** | **Instructor** | **Check as appropriate** | | |
| --- | --- | --- | --- | --- | --- |
| **Faculty** | **Fellow** | **Guest** |
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1. Describe the fellows' expected participation in planning and conducting conferences and other teaching activities. [PR IV.C.12.b)]

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1. Will fellows be regularly relieved from operating room assignments to attend conferences during elective operating schedule time? [PR IV.C.12.c)]  YES  NO

If “YES”, by whom?

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1. Estimate the proportion (%) of the didactic program provided by each of the following:   
   [PR IV.C.12.c).(1)]

|  |  |
| --- | --- |
| Anesthesia faculty/staff members of this hospital | # % |
| Non-anesthesiologist physicians from this hospital | # % |
| Anesthesia faculty/staff members from affiliated or integrated hospitals | # % |
| Outside speakers | # % |
| Fellow assignments or contributions | # % |

**Scholarship**

1. Describe and list fellows’ research opportunities and ongoing projects. [PR IV.D.6.a)]

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2. What provisions will be made for fellows to attend local, regional, and national meetings?   
[PR IV.D.6.a).(1)]

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