**New Application: Adult Congenital Heart Disease**

**Review Committee for Internal Medicine**

**ACGME**

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**Administration of the Fellowship Program**

1. Will the sponsoring institution provide adequate program director support (25-50% of the program director’s salary or protected time) for the administrative activities of the program? [x]  YES [ ]  NO
2. Will the sponsoring institution and participating sites share appropriate inpatient and outpatient faculty performance data with the program director? [x]  YES [ ]  NO
3. Describe the reporting relationship between the subspecialty program director and the cardiovascular disease fellowship director.

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| Dr. Peter Buttrick is the Program Director for Cardiovascular Disease as well as the Division Head of Cardiology. He and Dr. Kay, the subspecialty Program Director meet at least monthly to review any issues that need attention and to collaborate on managing and improving the fellowship. |

1. Will there be adequate inpatient facilities (e.g., conference rooms, on-call rooms) for the fellowship program? [x]  YES [ ]  NO
2. Will there be adequate facilities in the ambulatory settings (e.g., exam rooms, meeting/conference room, and work area) for patient care and the educational components of the program?
 [x]  YES [ ]  NO

**Ambulatory Experiences**

1. Provide information for the fellows’ follow-up, ambulatory experiences. List each experience indicating the name of the experience, site number, duration of the experience, number of half-day sessions per week, whether faculty supervision is provided, and the percent of female patients.

| **Name of Experience** | **Site #** | **Duration** | **Sessions Per Week** | **Average # of Patients Seen Per Session** | **On-site concurrent faculty supervision present?** | **% Female Patients** |
| --- | --- | --- | --- | --- | --- | --- |
| Outpt ACHD | 1 | 9 months | 7 | 6 | yes | 50% |
| Teen / Transition clinic | 2 | 9 | 1 | 6 | yes | 50 |
| Diag and Intvl SvcsAnd Imaging | 1 | 4 weeks x 2 | 5 | 5 | yes | 40-60% |
| Diag and Intvl SvcsAnd Imaging | 2 | 4 weeks x2 | 5 | 5 | yes | 50% |
| Cath – diag & inv | 1 | 4weeks x2  | 5 | 3 | yes | 50% |
| Intensive care | 1 | 4 | 5 | 7 | yes | 50 |
| Intensive care | 2 | 4 | 5 | 7 | yes | 50 |
| Ped/IM/Card | 1 or 2 | 4 | 6 | 7 | yes | 50% |
| Research | 1 | 6 | 5 | 0 | yes | n/a |
| Research | 2 |  |  |  |  |  |
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1. What percentage of the fellows’ education will occur in the ambulatory setting? 70 %
2. If the questions in the rotation and ambulatory sections above or their format do not permit you to describe accurately or optimally the rotations in the program, provide a narrative that more completely or accurately describes this particular component of the program.

(200 word limit)

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| Currently in the fall of 2015, we have 7 half days of clinic at University of Colorado Hospital per week with an average of 6 patients seen per half day. In addition, the fellow will have a half day of clinic per week which services as a pediatric / young adult transition clinic at Children’s Hospital, which also has approximately 6 patients per clinic. In total the some of ambulatory congenital heart patients seen per year will surpass 350 patients over the course of their ACHD training  |

1. If the program has at-home call, explain how time will be monitored to ensure compliance with the 80-hour work week and one-day-off-in-seven requirements.

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| The ACHD fellow will take home call week day nights the 9 months they are on the consultation / ambulatory blocks with 2 weekend calls per month. |

**Evaluation - Additional Information**

**Fellow Evaluation**

1. Will the program director review fellow procedure logs to document that each fellow has performed the minimum number and achieved competence in required procedures? [x]  YES [ ]  NO
2. Will faculty members always provide the program director with written evaluations of each fellow’s performance? [x]  YES [ ]  NO

**Faculty Evaluation**

1. Will faculty members be evaluated by the fellows they supervise at the end of each rotation?
 [x]  YES [ ]  NO
2. Will these evaluations be written and confidential? [x]  YES [ ]  NO
3. Will the results of these evaluations be communicated on a regular basis, at least annually, to faculty members? [x]  YES [ ]  NO

**Evaluation Narrative**

Describe the method of assessment for procedural competence.

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| In addition to direct supervision and observation by faculty during the procedure, faculty will complete formal evaluations of overall performance at the end of each rotation, reviewed quarterly by the clinical competency committee, as well as with the fellow during their quarterly and semiannual meeting with the PD. The fellow’s procedure log is also reviewed at this time. |

**Institution Information**

**Medical Records**

1. Will inpatient and outpatient systems be in place to prevent fellows from performing routine clerical functions, including scheduling tests and appointments, and retrieving records and letters?
 [x]  YES [ ]  NO
2. Will fellows have access to an electronic health record? [x]  YES [ ]  NO

**Resources/Facilities**

Will fellows have access to the following:

1. a patient population with a variety of clinical problems and stages of diseases [x]  YES [ ]  NO
2. a full range of patients with advanced or complex adult congenital heart disease (ACHD)

 [x]  YES [ ]  NO

1. training using simulation [x]  YES [ ]  NO

**Educational Program**

**Patient Care**

1. Provide the following information about the curriculum:
2. Will the overall goals and objectives be distributed to faculty members and fellows annually?
 [x]  YES [ ]  NO
3. Will the goals and objectives be reviewed by the fellows at the start of each new rotation/assignment? [x]  YES [ ]  NO
4. Indicate the setting(s) in which fellows will develop competence in prevention education, evaluation, and management of inpatients and outpatients with the following:

| **Clinical Area** | **Inpatient Experience** | **Outpatient Experience** |
| --- | --- | --- |
| atrial septal defects (secundum, primum, venosus) | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| ventricular septal defects | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| atrioventricular defects | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| patent ductus arteriosus | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| bicommissural and unicommissural aortic valve | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| subvalvular aortic stenosis | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| supravalvular aortic stenosis | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| aortic coarctation | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| congenital abnormalities of left-sided inflow, including pulmonary vein disease, cor triatriatum and mitral valve abnormalities | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| pulmonary stenosis (subvalvular, valvular, supravalvular and peripheral pulmonary stenosis) | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| tetralogy of Fallot | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| tetralogy of Fallot with pulmonary atresia | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| Ebstein anomaly | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| single ventricle anatomy (double outlet right ventricle, double inlet left ventricle, pulmonary atresia, hypoplastic left ventricle, tricuspid atresia) | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| D-transposition of the great arteries with atrial switch repair (Senning, Mustard) | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| D-transposition of the great arteries with arterial switch repair | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| L-transposition of the great arteries with arterial switch repair | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| congenital coronary anomalies | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| Eisenmenger syndrome, and pulmonary hypertension associated with congenital heart disease | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| syndrome-associated and inherited forms of congenital heart and vascular disease (including Down, Williams, Turner, Noonan, Marfan) | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| heart failure (including mechanical circulatory support and transplantation) associated with congenital heart disease | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| atrial arrhythmias associated with congenital heart disease | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| ventricular arrhythmias associated with congenital heart disease | [x]  YES [ ]  NO | [x]  YES [ ]  NO |
| pregnancy associated with maternal congenital heart disease | [x]  YES [ ]  NO | [x]  YES [ ]  NO |

If the questions in this section or their format do not permit you to describe the program accurately or optimally, provide a narrative that more completely or accurately describes this particular component of the program.

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1. Will all fellows achieve competence in ACHD evaluation, to include:
2. applying and interpreting approaches to evaluating symptom severity, functional capacity, and health-related quality of life in patients with congenital heart disease [x]  YES [ ]  NO
3. recognizing clinical features in all forms and etiologies of congenital heart disease
 [x]  YES [ ]  NO
4. recognizing the indications for, understanding the complications with, and interpreting the results of all diagnostic tests and modalities relevant to evaluating and managing patients with or suspected of having congenital heart disease; in particular, recognizing the impact of such testing on the management of these patients, including transthoracic ACHD echocardiography, transesophageal ACHD echocardiography, and diagnostic catheterization [x]  YES [ ]  NO
5. Will all fellows achieve competence in heart failure management, to include:
6. assigning timing and methods of surveillance for each lesion [x]  YES [ ]  NO
7. surveillance, diagnosis, and both medical and mechanical management of atrial and ventricular arrhythmias in the unoperated and post-operative state [x]  YES [ ]  NO
8. surveillance, diagnosis, and both medical and mechanical management of heart block and conduction abnormalities in the unoperated and post-operative state [x]  YES [ ]  NO
9. recognizing the indications for and prescribing non-pharmacologic, non-device treatment modalities, including diet and exercise [x]  YES [ ]  NO
10. recognizing the indications for, prescribing, and monitoring all classes of drugs relevant to patient care [x]  YES [ ]  NO
11. recognizing the indications for, understanding the complications with, and interpreting the results of all interventional modalities relevant to managing patients with or suspected of having congenital heart disease; in particular, recognizing the impact of such interventions on the management of these patients, including interventional catheterization, cardiac and cardiovascular surgery, non-cardiac surgery, and pregnancy [x]  YES [ ]  NO

If the questions in this section or their format do not permit you to describe accurately or optimally the program, provide a narrative that more completely or accurately describes this particular component of the program.

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**Medical Knowledge**

1. Will fellows be able to demonstrate knowledge of the scientific method of problem solving, evidence-based decision making, and guidelines-assisted decision making? [x]  YES [ ]  NO
2. Will fellows be able to demonstrate knowledge of indications and contraindications of, limitations and complications with, techniques for, and interpretation of results from those diagnostic and therapeutic procedures (including electrocardiogram (EKG) and electrophysiologic testing and intervention; cardiopulmonary function assessment and exercise testing; transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE); cardiac and vascular computed tomography (CT) and magnetic resonance imaging (MRI); hemodynamics and catheterization-based imaging and intervention; and surgeries, including peri-operative and procedure-related anesthetics and mechanical cardiopulmonary support techniques) integral to the discipline, to include the appropriate indications for and use of screening tests/procedures?
 [x]  YES [ ]  NO
3. Will all fellows be able demonstrate knowledge of the following basic mechanisms underlying each type of cardiac anomaly:
4. principles of cardiac development and anatomy in unrepaired and repaired states for each type of anomaly [x]  YES [ ]  NO
5. principles of physiology in unrepaired and repaired states for each type of anomaly
 [x]  YES [ ]  NO
6. important genetic associations specific to each individual type of anomaly, particularly as related to outcomes [x]  YES [ ]  NO
7. childhood palliative and complete surgical and interventional repairs, including the associated intermediate- and longer-term outcomes, for each type of anomaly [x]  YES [ ]  NO
8. expected presenting symptoms, physical examination, and cardiac conduction findings for each type of anomaly [x]  YES [ ]  NO
9. differential diagnosis that includes specific etiologies of and exacerbating factors for each type of anomaly [x]  YES [ ]  NO
10. guidelines specific recommendations regarding diagnosis and management of each type of anomaly [x]  YES [ ]  NO
11. lesion- and repair-specific intermediate- and longer-term effects on myocardial function
 [x]  YES [ ]  NO
12. lesion- and repair-specific effects on pregnancy and maternal health risk and interventions, and potential complications [x]  YES [ ]  NO
13. genetics, including common mutations leading to congenital heart disease [x]  YES [ ]  NO
14. the impact of age- and development-specific chronic disease skills and psychosocial factors on the manifestation, expression, and management of ACHD across the of lifespan of disease
 [x]  YES [ ]  NO

If the questions in this section or their format do not permit you to describe accurately or optimally the program, provide a narrative that more completely or accurately describes this particular component of the program.

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**Practice-Based Learning and Improvement**

1. Describe an example of a learning activity in which fellows will develop competency in systematically analyzing practice using quality improvement methods, and implement changes with the goal of practice improvement.

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| Our ACHD program will be having quarterly Morbidity and Mortality conferences in which we will evaluate complications in our patients including possibly missed diagnosis, expected complications, and unexpected complications, with plan to develop measures to prevent or minimize such complications again |

1. Describe one example of a learning activity in which fellows will engage to develop the skills needed to locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems.

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| Fellows will be expected to present on an ACHD topic at our weekly ACHD conference at least once per month, presenting up to date literature on specific ACHD defects.  |

1. Describe one example of a learning activity in which fellows will engage to apply new advances to the management and care of their patients.

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| Fellows are expected to develop at least on individual research project, which may help to change current practice approach.  |

**Interpersonal and Communication Skills**

1. Describe one learning activity in which fellows will develop competence in communicating effectively with patients, their families, and health professionals.

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| Daily clinic encounters with the supervision of the faculty. Faculty will be initially showing fellows how to teach patients and their families about results and recommendations, and after a few months of training, the fellows will take over this role in patient education under the supervision of the faculty. This will be part of their monthly evaluations |

1. Describe one learning activity in which fellows will demonstrate competence in providing consultation and obtaining informed consent.

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| Weekly inpatient consultation to general medicine, OB/GYN, pediatric cardiology, and adult cardiology and cardiac surgery services  |

1. Describe one learning activity in which fellows will demonstrate competence in interacting with patient families, advocates, and guardians, as well as with local, regional, and national patient advocacy groups.

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| Fellows will have an important role in learning how to educate families during the patient visit. Differences in how to do will be demonstrated in the pediatric and transition clinic, where families still take a central role in patient care, verses the adult clinic were most (although not all) adults are more independent. Fellows will learn medical legal differences in caring for these patients during the age span. Fellows will also be required to participate in the annual Adult congenital heart disease / Children’s heart foundation walk which shows commitment to families outside the hospital environment, as well as attending the bi-annual provider / patient adult congenital heart association national conference.  |

1. Will the program use both direct observation and multi-source evaluation, including patients, peers, and non-physician team members, to assess fellow performance in communication with patients and families? [x]  YES [ ]  NO
2. Will the program use both direct observation and multi-source evaluation, including patients, peers, and non-physician team members, to assess fellow performance in teamwork? [x]  YES [ ]  NO
3. Will the program use both direct observation and multi-source evaluation, including patients, peers, and non-physician team members, to assess fellow performance in communication with peers, including transitions of care? [x]  YES [ ]  NO
4. Will the program use both direct observation and multi-source evaluation, including patients, peers, and non-physician team members, to assess fellow performance in record keeping? [x]  YES [ ]  NO

**Professionalism**

1. Describe at least one learning activity, other than lecture, by which fellows will develop a commitment to carrying out professional responsibilities and an adherence to ethical principles.

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| Fellows will be expected to attend our monthly cardiology Morbidity and Mortalit conferences, which is a mutli-disciplinary meeting were we discuss errors and system improvement, and were faculty and trainees are mandated to show professionalism and respect for those involved with the adverse outcomes, and ethical end of life discussions are frequently discussed in the forum.  |

1. How will the program promote professional behavior by the fellows and faculty members?

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| The Fellow will be evaluated by support staff as well as by the faculty members on a regular basis which includes professional behavior. As all of our clinical activities are directly supervised by faculty members they set examples for professional behavior and provide mentoring. Direct and immediate feedback will be given to correct any less than appropriate behavior. |

1. Describe at least one learning activity in which fellows will demonstrate high standards of ethical behavior, including maintaining appropriate professional boundaries and relationships with other physicians and other health care team members, and avoiding conflicts of interest.

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| Weekly cardiology grand rounds as well as monthly cardiology Morbidity and Mortality conferences.  |

1. Will the program use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow’s honesty and integrity? [x]  YES [ ]  NO
2. Will the program use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow’s ability to meet professional responsibilities? [x]  YES [ ]  NO
3. Will the program use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow’s ability to maintain appropriate professional relationships with patients and colleagues? [x]  YES [ ]  NO
4. Will the program use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow’s commitment to self-improvement? [x]  YES [ ]  NO

**Systems-based Practice**

1. Describe the settings and learning activities in which fellows will gain 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.

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| Out fellows will have a unique opportunity to be consulting regularly on patients in both the adult and pediatric hospitals, and will hence learn resource utilization between both facilities, and understand strength and weakness of both systems for our unique population. |

1. Will the program use multi-source evaluation, including peers and non-physician team members, to assess each fellow’s ability to provide care coordination, including transition of care?
 [x]  YES [ ]  NO
2. Will the program use multi-source evaluation, including peers and non-physician team members, to assess each fellow’s ability to work in interdisciplinary teams? [x]  YES [ ]  NO
3. Will the program use multi-source evaluation, including peers and non-physician team members, to assess each fellow’s advocacy for quality of care? [x]  YES [ ]  NO
4. Will the program use multi-source evaluation, including peers and non-physician team members, to assess each fellow’s ability to identify system problems and participate in improvement activities?
 [x]  YES [ ]  NO

**Competency Evaluation Narrative**

If the questions in this section or their format do not permit you to describe accurately or optimally the evaluation method(s) of fellows in any of the competencies listed above, provide a narrative that more completely or accurately describes the evaluation method(s).

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**Curriculum Organization and Fellow Experiences**

1. Will fellows routinely participate in the following:
2. core curriculum conference series [x]  YES [ ]  NO
3. clinical case conferences [x]  YES [ ]  NO
4. research conferences [x]  YES [ ]  NO
5. journal club [x]  YES [ ]  NO
6. morbidity and mortality conferences [x]  YES [ ]  NO
7. quality improvement conferences [x]  YES [ ]  NO
8. Will the members of the faculty participate in required conferences? [x]  YES [ ]  NO
9. Describe how the program will ensure that fellows have the opportunity to make up missed core conferences (e.g., when off-site).

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| All core conferences will be scheduled around fellow’s availability. Grand Rounds conference presentations are recorded on a DVD so fellow can view at their convenience. |

1. Briefly describe the program’s Core Curriculum Conference Series.

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| Weekly ACHD conference Monday AM at 7:30 attending by ACHD faculty, Fellows, NP/Pas, nursing team, and transition coordinators. The fellow will give at least 1 lecture per month on specific topics, but be exposed to the patient discussions, M&M and journal clubs at this venue.  |

1. Describe how the program will provide fellows clinical experience in caring for patients in the context of a multidisciplinary disease management program.

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| Our Monday conference provide this multi disciplinary approach, but also through consult with our cardiac surgery conferences, as well as the different pediatric cardiology services which utilize multidisciplinary approach to patient care on a daily bases.  |

1. Will the program provide fellows clinical experience in end-of-life care? [x]  YES [ ]  NO
2. Will the program provide fellows clinical experience in evaluating patients for cardiac or pulmonary transplant or mechanical assist devices? [x]  YES [ ]  NO
3. Will all fellows participated in pre-procedural planning, including the indications for a procedure?
 [x]  YES [ ]  NO
4. Will all fellows participated in pre-procedural planning, including the selection of the appropriate sedation and anesthetic agents, procedures, or instruments? [x]  YES [ ]  NO
5. Describe how fellows will demonstrate substantial involvement in post-procedure care.

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| Faculty evaluation will be performed on their monthly rotations which involved catheterization based treatments as well as the 9 months of inpatient consultative work, following post procedure patients until discharge.  |

1. Will fellows be instructed in practice management relevant to ACHD? [x]  YES [ ]  NO
2. Describe how faculty members and fellows will be educated about fatigue and its negative effects.

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| Faculty and fellow are required to complete a training module on sleep deprivation and duty hours on an annual basis. |

If the questions in this section or their format do not permit you to describe accurately or optimally the program, provide a narrative that more completely or accurately describes this particular component of the program.

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