**New Application: Molecular Genetic Pathology**

**Review Committees for Medical Genetics and Genomics and Pathology**

**ACGME**

**Oversight**

**Sponsoring Institution**

1. Will the Sponsoring Institution also sponsor ACGME-accredited residencies in the following disciplines? [PRs I.B.1.a)-I.B.1.a).(2)]
2. Medical genetics and genomics  YES  NO
3. Anatomic and clinical pathology  YES  NO
4. Briefly describe the opportunities molecular genetic pathology fellows will have to interact with fellows and faculty members from other ACGME-accredited programs. [PR I.B.1.a)]

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**Participating Sites**

1. Is the program jointly supported by the academic units responsible for pathology and clinical medical genetics? [PR I.B.1.c)]  YES  NO
2. Briefly describe how the program will ensure that activity is supported by other disciplines, including infectious disease, internal medicine, obstetrics and gynecology, oncology, pediatrics, and surgery. [PR I.D.1.c)]

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**Resources**

1. Autopsy Pathology: Provide the following data for each site to which fellows are assigned for autopsy education. [PR I.D.1.a)]

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| --- | --- | --- |
| 12-month period covered by statistics: | From: Click here to enter a date. | To: Click here to enter a date. |

|  | **Site #1** | **Site #2** | **Site #3** | **Site #4** |
| --- | --- | --- | --- | --- |
| Total deaths (exclude stillbirths and medicolegal) | # | # | # | # |
| Stillbirths | # | # | # | # |
| Inpatient autopsies (exclude stillbirths and medicolegal) | # | # | # | # |
| Perinatal and stillbirth autopsies | # | # | # | # |
| Medicolegal autopsies | # | # | # | # |
| **TOTAL** | # | # | # | # |

1. Surgical Pathology: Provide the following data for each site to which fellows are assigned for surgical pathology education. [PR I.D.1.a)]

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| 12-month period covered by statistics: | From: Click here to enter a date. | To: Click here to enter a date. |

|  | **Site #1** | **Site #2** | **Site #3** | **Site #4** |
| --- | --- | --- | --- | --- |
| Products of conception/placentas | # | # | # | # |
| Bone marrow specimens | # | # | # | # |
| Lymph node specimens | # | # | # | # |
| Gross examination only | # | # | # | # |
| Other | # | # | # | # |
| **TOTAL** | **#** | **#** | **#** | **#** |

1. Medical Genetics Patient Data: Provide the data requested below for each site/clinic where fellows actively participate in patient care. Copy this section as necessary. [PR I.D.1.a)]

|  |  |  |
| --- | --- | --- |
| 12-month period covered by statistics: | From: Click here to enter a date. | To: Click here to enter a date. |

|  | **Site #1** | **Site #2** | **Site #3** | **Site #4** |
| --- | --- | --- | --- | --- |
| Enter the number of patients/families seen during the last 12-month period: | # | # | # | # |
| If the clinic sees a mix of pediatric, adult and prenatal patients, enter the percentage of the total clinic population that each group comprises: | | | | |
| Pediatric | #% | #% | #% | #% |
| Adult | #% | #% | #% | #% |
| Prenatal | #% | #% | #% | #% |

1. Provide a concise description of key educational facilities and services, including comments on the following:
2. The facilities and resources (including space, equipment, support personnel, and funding) that will be utilized for fellow education in the basic sciences [CPR I.D.1.]

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1. The clinical and laboratory research facilities and resources (including space, equipment, support personnel, and funding) available to support fellow research [CPR I.D.1.]

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1. The facilities for patient care activities, meeting rooms, offices, and classrooms [CPR I.D.1]

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1. Pathology space, equipment, and laboratories [CPR I.D.1]

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Provide a narrative description of program research activity, including comments on each of the following:

1. What is the current accreditation status and/or licensure date (list accrediting body) for each laboratory associated with the program? [PR I.D.1.b)]

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Molecular Genetic Pathology Methods: Provide data for each molecular genetics laboratory that contributes significantly to fellow education. Ensure each lab director’s name and CV are included on the Faculty Roster in the Accreditation Data System (ADS). Copy and add tables as needed. [PR I.D.1.a)]

Enter the data requested for the clinical molecular tests performed in the laboratory during the last year.

|  |  |  |
| --- | --- | --- |
| 12-month period covered by statistics: | From: Click here to enter a date. | To: Click here to enter a date. |

|  |  |
| --- | --- |
| Laboratory Name: | Laboratory name |
| Address: | Laboratory address |
| Name of Laboratory Director: | Laboratory director |

| **Name of Disease or Agent** | **Diagnostic Methods** | **Number of Cases\*** | **Number of Tests Performed** |
| --- | --- | --- | --- |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
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| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |
| 1. Disease or agent | Diagnostic method(s) | # | # |

\*A case is defined as the complete laboratory evaluation of an individual or an individual tissue (e.g., for tumor specimens). If a family study is involved, the entire family is considered a single case.

**Other Learners and Other Care Providers**

1. What other types of learners (e.g., genetic counseling students, medical students, residents from other programs, graduate students) are involved in molecular genetic pathology education at program sites? What type of impact do these learners have on the educational resources available for genetics? What is the planned nature and extent of these learners’ interactions with the program fellows? [PR I.E.]

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**Educational Program**

**ACGME Competencies**

**Patient Care and Procedural Skills**

* 1. Indicate the settings and activities in which fellows will demonstrate competence in the evaluation and management of the following areas of patient care. Also indicate the method(s) that will be used to assess competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Acting as a consultant in clinical decision making in collaboration with professionals from related disciplines, and in the cost-effective use of molecular genetic and genomic testing  [PR IV.B.1.b).(2).(a).(i)] | Click here to enter text. | Click here to enter text. |
| For fellows who are pathologists: developing an approach for genetic and genomic testing to categorize conditions in a manner that facilitates clinical management  [PR IV.B.1.b).(2).(a).(i)] | Click here to enter text. | Click here to enter text. |

1. Briefly describe fellow opportunities to become proficient in the set-up, performance, troubleshooting, and interpretation of molecular genetic pathology techniques, as well as in the application of this knowledge to the establishment of new diagnostic procedures. [PR IV.B.1.(2).(a).(i-ii)]

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**Medical Knowledge**

1. Indicate the activities (lectures, conferences, journal clubs, clinical teaching rounds, etc.) in which fellows will demonstrate their knowledge in each of the following areas. Also indicate the method(s) that will be used to assess competence.

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| Molecular biology and biochemistry of nucleic acids and proteins, including structure, function, replication mechanisms, in vitro synthesis, and the roles of DNA and various RNA classes and proteins in cellular biology  [PR IV.B.1.c).(1).(a)] | Click here to enter text. | Click here to enter text. |
| The mechanism of regulation of gene expression in prokaryotes and eukaryotes, and the biochemical mechanisms of mutations  [PRs IV.B.1.c).(1).(b)-(c)] | Click here to enter text. | Click here to enter text. |
| Disease processes at the molecular level and the methods used for their detection, including solid tumors, leukemia-lymphomas, infectious diseases, inherited Mendelian diseases, non-Mendelian and acquired genetic diseases (e.g., mitochondrial disorders, triplet repeats, expansion disorders, cytogenetic aberrations, and imprinting disorders)  [PRs IV.B.1.c).(1).(d)- IV.B.1.c).(1).(d).(i)] | Click here to enter text. | Click here to enter text. |
| HLA typing/identity testing and the principles of linkage analysis  [PR IV.B.1.c).(1).(e)] | Click here to enter text. | Click here to enter text. |
| statistics as applied to diagnosis and management and calculation of primary and residual risk  [PR IV.B.1.c).(1).(f)] | Click here to enter text. | Click here to enter text. |
| The principles of molecular diagnostic, prognostic, and therapeutic testing for patients with infectious diseases and cancer, and tests to monitor affected patients  [PR IV.B.1.c).(1).(g)] | Click here to enter text. | Click here to enter text. |
| For fellows who are medical geneticists: autopsy and surgical pathology procedures, infectious diseases, hematopathology, and other relevant pathology activities  [PR IV.B.1.c).(1).(h)] | Click here to enter text. | Click here to enter text. |
| How to select and appropriately sample fresh and fixed tissue for molecular testing  [PR IV.B.1.c).(1).(h).(i)] | Click here to enter text. | Click here to enter text. |
| Incorporate clinical and other laboratory information into the interpretation and the reporting of genetic and genomic results.  [PR IV.B.1.c).(2)] | 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 evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care. [PR IV.B.1.d)] (Limit response to 400 words)

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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 your 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.A.2.f)] (Limit your response to 400 words)

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1. Describe the learning activities through which fellows develop and demonstrate the following:

| **Competency Area** | **Settings/Activities** | **Assessment Method(s)** |
| --- | --- | --- |
| The ability to work effectively in a variety of health care delivery settings and systems relevant to pathology [PR IV.A.2.f).(1)] | Click here to enter text. | Click here to enter text. |
| The ability to incorporate cost considerations and risk-benefit analysis in patient and population-based care [PR IV.A.2.f).(2)] | Click here to enter text. | Click here to enter text. |
| The ability to participate in identifying system errors and implementing potential systems solutions [PR IV.A.2.f).(3)] | Click here to enter text. | Click here to enter text. |
| The ability to advocate for quality patient care, patient safety, and optimal patient care systems [PR IV.A.2.f).(4)] | Click here to enter text. | Click here to enter text. |
| Knowledge of the requirements for establishing and operating a molecular genetic pathology laboratory and laboratory management, and for supervising and training laboratory personnel in advanced techniques [PR IV.A.2.f).(5)] | Click here to enter text. | Click here to enter text. |
| Competence in statistics as applied to test performance and applications and limitations of genetic and genomic test methodologies [PR IV.A.2.f).(6)] | Click here to enter text. | Click here to enter text. |
| The ability to comply with laboratory regulatory and accreditation requirements [PR IV.A.2.f).(7)] | Click here to enter text. | Click here to enter text. |
| The ability to contribute to quality improvement projects, quality assurance audits, and quality management of molecular genetic pathology [PR IV.A.2.f).(8)] | Click here to enter text. | Click here to enter text. |

**Curriculum Organization and Fellow Experiences**

Provide a narrative description of fellow education, including comments on the following:

1. Briefly describe how the program will provide a structured educational experience in all current aspects of the discipline, including basic science, diagnostic laboratory procedures, laboratory management, and consultation. [PR IV.C.3.]

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1. How will the program ensure that fellows participate in molecular genetic pathology diagnostic activities throughout the year? [PR IV.C.4.]

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1. How will the program ensure that fellows participate in the diagnosis, management, and treatment of patients with genetic disorders, in the counseling of the patient and family, and in the supervision of trainees and/or laboratory personnel? [PRs IV.C.4.-IV.C.4.a)]

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1. Briefly describe the types and frequency of molecular genetic pathology related inter- and intra-departmental clinical conferences, seminars, journal clubs, rounds, and other didactic sessions. Comment on the levels of teaching staff participation and fellow attendance at these sessions. Provide a list of topics and speakers as appropriate. Specifically include molecular genetic pathology outreach activities to departments other than medical genetics and pathology.   
   [PRs IV.C.6.-IV.C.6.a)]

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1. Briefly describe the lectures and other didactic sessions that molecular genetic pathology fellows will be required to attend. When relevant, a syllabus/conference schedule may be attached. [PR IV.C.6.]

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1. Will instruction include the use of study sets and files of both usual and unusual cases, as well as other educational materials? [PR IV.C.7.]  YES  NO

If “NO,” explain.

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1. Briefly describe how fellows gain experience with the evaluation and counseling of adults with or at risk for genetic disorders, including (a) the settings in which such disorders are seen, (b) the types of such disorders seen by fellows in the past 12-month period, and (c) the number of non-prenatal adult patients seen by fellows in the last 12-month period. [PR IV.C.8.]

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1. Describe the opportunities for fellows to regularly participate in interdisciplinary work with genetic counselors, including counselors involved in familial cancer genetic counseling, nurses, clinical lab staff, pathologists, clinical care providers, and other health care professionals who are involved in the provision of clinical medical genetics services. [PRs IV.C.8.-9.]

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**the Learning and Working Environment**

**Clinical Experience and Education**

* + 1. Briefly describe the program policies and practices regarding fellow scheduling, including commenting on regular working hours, on-call assignments, and time away from program responsibilities. [PR VI.F.]

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