Clinical Rotations/Experiences

Consultation and Transfer Case Service

Duties
Fellows are responsible for previewing all received materials (including ancillary data) ordering immunohistochemistry panels and/or other ancillary tests as needed, reviewing case materials with an attending hematopathologist, dictating diagnostic reports, and notifying clinical services or referring physicians of results as necessary and/or appropriate. The fellows are responsible for maintaining consult pending cases in an orderly manner such that clear information regarding the cases available to administrative support staff as needed. The fellows will deliver and pick up special stain or immunostained slides in a timely manner to ensure good turnaround times. Fellows will perform fee coding for diagnostic cases, but it is the ultimate responsibility of the attending hematopathologist to assure completeness and accuracy billing codes.

Rotation Goals and Objectives

The goal for the fellow in the early rotations (July-Sept) on the in-house or transfer/consult service is to move from being an

Advanced Beginner (The advanced beginner is still dependent on rules, but can adapt rules to changing circumstances. However, all attributes of a situation tend to be given equal importance, and there is still little feeling of personal responsibility for outcomes.)

To

Competent (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

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<td>Acquires knowledge of the pathophysiology and laboratory manifestations of common conditions; knows where to access information.</td>
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  - Benign and malignant bone marrow disorders  
  - Benign and malignant lymph node pathology  
  - Hematology instrumentation and special testing  
  - Peripheral blood smear review |
The fellow will learn to access the standard textbooks available in the signout room, and will review the relevant online learning modules.

**Patient Care**  
Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation.

With appropriate supervision (see below), the fellow will:

- The fellow will learn to assess the adequacy of clinical information provided with the specimen and will know if additional information should be obtained.
- The fellow will understand how to order and interpret ancillary diagnostic tests, such as cytochemical stains, immunohistochemical stains, and molecular diagnostic tests.
- Keep incomplete cases organized until completed.

**Practice-based Learning and Improvement**  
Uses feedback and evaluations to generate or modify learning plan and improve skills.

The fellow:

- Uses faculty critiques and personal assessment to improve and refine diagnostic skills.
- Uses feedback from preliminary diagnostic errors to improve diagnostic accuracy.
- Asks questions and seeks guidance in building medical knowledge and improving patient care skills.
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge that come to light during case discussions.
- Develops increasingly efficient case management.

**Interpersonal and Communication Skills**  
Establishes collegial interactive and communication skills in dealing with others; structures reports that are clear, succinct, and follow templates; listens to and fulfills requests from other providers.

The fellow will:

- Interact in a collegial way with technical staff, including histotechnologists, pathology assistants, and transcriptionists, with goal of providing optimal patient care.
- Volunteer his/her opinion of cases to faculty, using correct terminology.
- Dictate diagnoses that use accepted terminology, are easy to understand, and that relay the information important to patient management.
- With direction, notify treating physicians of unexpected diagnoses.

**Professionalism**  
Is honest, compassionate, and respectful of others; complies with laws and regulations; fulfills patient care and educational responsibilities faithfully.

The fellow:

- Is present and ready for signout at the agreed time.
- Admits errors or omissions and takes steps to correct them.
- Protects patient privacy.
- Is sensitive to issues of race, gender, ethnic background, religion, sexual orientation and other social factors in dealing with patient care and in interactions with other providers and other learners.
- Treats colleagues at all levels with respect.
Systems-based Practice
Identifies issues related to error, cost, and the need for interdisciplinary collaboration in the delivery of health care. Conducts handoff at the conclusion of rotation with care and thoroughness.

The fellow:
- Is vigilant regarding possible specimen, slide, or identification errors and takes steps to investigate and resolve potential errors
- Accurately assigns billing codes and quality codes to cases, and understands the role of these codes
- Discusses the cost-effectiveness in the selection of ancillary studies.
- Understands the value of intradepartmental consultation and collaboration with other departments and specialties in delivering optimal patient care.
- Follows the appropriate procedure to hand off incomplete cases at the end of their rotation so that patient care is not compromised.

The goal of the middle in-house rotations(s) (Oct-Feb) is for the fellow to move from being

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

To

**Proficient** (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

**Proficient**

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<td><strong>Medical Knowledge</strong></td>
<td>The fellow will acquire knowledge about:</td>
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<td>Acquires knowledge of less commonly-encountered conditions and laboratory techniques; critically evaluates knowledge sources and uses evidence-based approach to acquire new knowledge.</td>
<td>- Use of molecular diagnostic test in hematology</td>
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<td>- Unusual reactive conditions</td>
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<td>- Other uncommon neoplasms, and uncommon variants of common neoplasms.</td>
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<td>- Urine crystal identification</td>
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<td>Patient Care</td>
<td>With appropriate supervision (see below), the fellow will:</td>
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| Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation. | - Be able to provide preliminary opinions on difficult cases  
- Demonstrate advanced skills in differential counting and dictation.  
- Review prepared slides and dictate preliminary reports that are usually accurate, and need some editing by faculty.  
- Suggest additional studies during signout with faculty, analyze results and anticipate need for further studies or consultation. |

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<tr>
<th>Practice-based Learning and Improvement</th>
<th>The fellow:</th>
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| Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others. | - Continues to use feedback from preliminary diagnostic errors to improve diagnostic accuracy.  
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.  
- Uses feedback and questions from clinicians to refine approach to reporting cases.  
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout. |

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<th>Interpersonal and Communication Skills</th>
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| Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers. | - Interact in a collegial way with treating physicians, other learners who request information or attend signout.  
- Volunteer his/her opinion of cases to faculty, with explanations of rationale  
- Dictate reports that are designed to answer both the articulated and anticipated clinical questions.  
- Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout.  
- Brings cases to consensus conference and relays pertinent information |

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<th>Professionalism</th>
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| Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues. | - Attends hematopathology tumor boards, setting aside cases as directed  
- Assures successful completion of cases |
**Systems-based Practice**

Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives.

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<td>- Is knowledgeable about and suggests the most efficient and effective ancillary studies in difficult cases.</td>
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<td>- Gives feedback to laboratory about quality and timeliness of slides and case delivery</td>
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<td>- Initiates intradepartmental consultations so as to improve case turnaround time.</td>
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The goal of the **Final rotations (March-June)** is as follows

**Independent Practitioner**

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<tr>
<th>Fourth Quarter Rotation Goals</th>
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<td><strong>Medical Knowledge</strong></td>
<td>Exercises judgment in application of evidence-based knowledge to patient and to patient population; assists junior residents and other learners in accessing sources of medical knowledge.</td>
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<tr>
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<td>- The fellow will acquire knowledge about rare bone marrow/lymph node diseases.</td>
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<td>- The fellow will independently bring new clinical and scientific evidence to the discussions at signout and apply it to challenging cases.</td>
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<td>- The fellow will serve as a resource to other learners (residents, medical students, clinical fellows).</td>
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<td><strong>Patient Care</strong></td>
<td>Recognizes clinical cases and circumstances that are rare or unique and selects appropriate additional studies; initiates consultant role in unusual cases; directs other providers and learners in challenging situations.</td>
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<td>The fellow will:</td>
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<td>- Recognize subtle deviations from normal or common lesions and seek out relevant information to explain the findings.</td>
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<td>- Recognize subtle discrepancies between diagnostic reports and histologic findings.</td>
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<td>- Be able to ask sophisticated questions of clinicians about cases with complex or confusing gross or microscopic findings.</td>
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<td></td>
<td>- Proactively seek expert intradepartmental consultation on cases for which this is required.</td>
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<td></td>
<td>- Give direction to other residents, technical staff, and pathology assistants regarding the handling of unusual cases.</td>
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<tr>
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<td>- Serve as a resource for other learners regarding interpretation and diagnoses.</td>
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<td><strong>Practice-based Learning and Improvement</strong></td>
<td>Facilitates collaboration and teamwork to promote learning.</td>
</tr>
<tr>
<td>The fellow:</td>
<td>- Work with other learners, such as fellows, other residents, and medical students, to share tasks related to gathering knowledge</td>
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<td>- Recognize gaps in others’ learning (fellow, residents, students, and faculty) and contribute to filling the gaps.</td>
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</table>
| **Interpersonal and Communication Skills**  
Demonstrates skill in dealing with conflicting opinions or perspectives; responds independently to questions from other providers, patients, and families; generates sophisticated reports that relay information about complex cases. | **The fellow will:**  
- Manage conflicting opinions or perspectives in such a way that optimal patient care is protected.  
- Independently handle inquiries for clarification or additional information, and initiate tasks necessary to provide this.  
- Generate reports that convey diagnostic information about both simple and complex cases effectively, needing no editing by faculty. |
|---|---|
| **Professionalism**  
Recognizes impairment in themselves and peers and takes steps to address this. Mentors others in use of inter-professional and multi-disciplinary collaboration; Is a role model to other learners regarding accountability to self and others. | **The fellow:**  
- Can be viewed as a role model in understanding and managing the strengths and weaknesses of him/herself and others. |
| **Systems-based Practice**  
Identifies sources of error and inefficiency and initiates action to assess and fix them. | **The fellow:**  
- Identifies processes that lead to inefficiencies and potential errors, and suggests improvements. |

**Supervision**
Hematopathology faculty attending on the transfer/consult service.

**Evaluation**
Constructive criticism and feedback will be given on a case-by-case basis. The fellow and responsible faculty member will debrief at the end of the service week to address the fellow's performance on the service. Formal evaluations will be conducted on a quarterly basis via MedHub.

**Length of rotation**
Longitudinal: Approximately 1-2 weeks per month. (minimum 14 weeks/year).
Clinical Rotations/Experiences

**Molecular Diagnostics**

**Duties**
Fellows preview molecular test data in the context of all other pertinent clinical and laboratory information, and they are subsequently responsible for signing out these tests with the attending molecular pathologist. The fellows will observe and assist with the performance of individual tests as appropriate. In addition, fellows will triage specimens received by the molecular diagnostics laboratory to assure that the appropriate test is performed. Fellows will perform paraffin tissue review, while on Molecular rotation. Fellows will attend didactic lectures given by the director of the laboratory and/or the laboratory technical staff. Fellows will be responsible for presentation of a Molecular-related case at HP educational Conference. The topic will be selected by the fellow after discussion with the Molecular Pathology faculty/director. Twice during the rotation present a 15 minute overview of at least 1 molecular test as it relates to practice of hematopathology immediately following signout. Fellows may participate in the design, optimization and improvement of molecular assays pertinent to hematopathology. They will also function as a liaison for tissue-based molecular diagnostic assays.

**Rotation Goals and Objectives**

The goal for the fellow in the first two weeks on the molecular service is to move from being an

**Advanced Beginner** (The advanced beginner is still dependent on rules, but can adapt rules to changing circumstances. However, all attributes of a situation tend to be given equal importance, and there is still little feeling of personal responsibility for outcomes.)

To

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)
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<td><strong>Medical Knowledge</strong>&lt;br&gt;Acquires knowledge of the pathophysiology and laboratory manifestations of common conditions; knows where to access information.</td>
<td>The fellow will acquire knowledge about:&lt;br&gt;• Basic molecular tests&lt;br&gt;• Technical aspects of PCR and sequencing&lt;br&gt;• Safe and cost-effective triage of specimens&lt;br&gt;The fellow will learn to access the standard textbooks available in the signout room, and will review the relevant online learning modules.</td>
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<td><strong>Patient Care</strong>&lt;br&gt;Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation.</td>
<td>With appropriate supervision (see below), the fellow will:&lt;br&gt;• The fellow will learn to assess the adequacy of clinical information provided with the specimen and will know if additional information should be obtained&lt;br&gt;• The fellow will understand how to order the appropriate test for the clinical situation&lt;br&gt;• Keep incomplete cases organized until completed</td>
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<td><strong>Practice-based Learning and Improvement</strong>&lt;br&gt;Uses feedback and evaluations to generate or modify learning plan and improve skills.</td>
<td>The fellow:&lt;br&gt;• Uses faculty critiques and personal assessment to improve and refine interpretive skills.&lt;br&gt;• Uses feedback to improve diagnostic accuracy&lt;br&gt;• Asks questions and seeks guidance in building medical knowledge and improving patient care skills&lt;br&gt;• Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge that come to light during case discussions&lt;br&gt;• Develops increasingly efficient case management</td>
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<td><strong>Interpersonal and Communication Skills</strong>&lt;br&gt;Establishes collegial interactive and communication skills in dealing with others; structures reports that are clear, succinct, and follow templates; listens to and fulfills requests from other providers.</td>
<td>The fellow will:&lt;br&gt;• Interact in a collegial way with technical staff, including technologists, with goal of providing optimal patient care&lt;br&gt;• Volunteer his/her opinion of cases to faculty, using correct terminology&lt;br&gt;• Provide preliminary results that use accepted terminology, are easy to understand, and that relay the information important to patient management&lt;br&gt;• With direction, notify treating physicians of unexpected diagnoses</td>
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<td><strong>Professionalism</strong>&lt;br&gt;Is honest, compassionate, and respectful of others; complies with laws and regulations;</td>
<td>The fellow:&lt;br&gt;• Is present and ready for signout at the agreed time&lt;br&gt;• Admits errors or omissions and takes steps to correct them</td>
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fulfills patient care and educational responsibilities faithfully.

- Protects patient privacy
- Is sensitive to issues of race, gender, ethnic background, religion, sexual orientation and other social factors in dealing with patient care and in interactions with other providers and other learners
- Treats colleagues at all levels with respect

### Systems-based Practice

Identifies issues related to error, cost, and the need for interdisciplinary collaboration in the delivery of health care. Conducts handoff at the conclusion of rotation with care and thoroughness.

The fellow:
- Is vigilant regarding possible specimen, slide, or identification errors and takes steps to investigate and resolve potential errors
- Understands basic fee codes and billing
- Discusses the cost-effectiveness in the selection of additional studies.
- Understands the value of intradepartmental consultation and collaboration with other services and specialties in delivering optimal patient care.

The goal of the **second two weeks** is for the fellow to move from being

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

To

**Proficient** (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

Proficient

### Second Rotation Goals

**Medical Knowledge**

Acquires knowledge of less commonly-encountered conditions and laboratory techniques; critically evaluates knowledge sources and uses evidence-based approach

### Second Rotation Objectives

The fellow will acquire knowledge about:

- The interpretation of all hematopathology-type molecular tests
- Common pitfalls in performance and interpretation of molecular tests
- The utility of newer tests and the laboratory development of tests
| **Patient Care** | With appropriate supervision (see below), the fellow will:
| Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation. | • Be able to provide preliminary opinions on difficult cases
• Demonstrate advanced skills in interpretation.
• Provide interpretations that are usually accurate, and need some editing by faculty.
• Suggest additional studies with faculty, analyze results and anticipate need for further studies or consultation.
• Be able to integrate molecular diagnostic test results into the overall evaluation of hematopathology cases. |

| **Practice-based Learning and Improvement** | The fellow:
| Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others. | • Continues to use feedback from preliminary diagnostic errors to improve interpretation and trouble-shooting.
• Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.
• Uses feedback and questions from clinicians to refine approach to reporting cases.
• Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout. |

| **Interpersonal and Communication Skills** | The fellow will:
| Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers. | • Interact in a collegial way with treating physicians, other learners who request information or attend signout.
• Volunteer his/her opinion of cases to faculty, with explanations of rationale
• Dictate reports that are designed to answer both the articulated and anticipated clinical questions.
• Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout. |

| **Professionalism** | The fellow:
<p>| Manages patient care duties and interacts with other providers with compassion and | • Attends hematopathology tumor boards, setting aside cases as directed |</p>
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<th>The fellow:</th>
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| Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives. | • Is knowledgeable about and suggests the most efficient and effective additional approaches to difficult cases (repeat).  
• Is knowledgeable about the quality assurance, quality control, and quality improvement methods used in the molecular diagnostics laboratory  
• Gives feedback to laboratory about quality and timeliness of preparation of cases.  
• Initiates intradepartmental consultations so as to improve case turnaround time. |

**Supervision**

Molecular Diagnostics Laboratory Director, Molecular Attendings: (or laboratory supervisor for technical component).

**Evaluation**

Constructive criticism and feedback will be given on a case-by case-basis. The fellow and the training attending will debrief at the end of each rotation to discuss pertinent training/performance issues. Formal evaluations will be performed via MedHub on a quarterly basis.

**Length of rotation**

Longitudinal; approximately 2 consecutive weeks, twice during the year. (minimum 4 weeks/year).
Clinical Rotations/Experiences

**In-House Hematopathology Service**

**Duties**
Fellows preview the in-house diagnostic material with the general pathology program resident on the hematopathology service and subsequently sign-out these materials with the attending hematopathologist.
The fellow acts as a senior resident during this rotation.

**Rotation Goals and Objectives**

The goal for the fellow in the early rotations (July-Sept) on the in-house or transfer/consult service is to move from being an

**Advanced Beginner** (The advanced beginner is still dependent on rules, but can adapt rules to changing circumstances. However, all attributes of a situation tend to be given equal importance, and there is still little feeling of personal responsibility for outcomes.)

To

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

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| **Systems-based Practice** | Identifies issues related to error, cost, and... |}

With appropriate supervision (see below), the fellow will:

- The fellow will learn to assess the adequacy of clinical information provided with the specimen and will know if additional information should be obtained.
- The fellow will understand how to order and interpret ancillary diagnostic tests, such as cytochemical stains, immunohistochemical stains, and molecular diagnostic tests.
- Keep incomplete cases organized until completed.

The fellow will:

- Uses faculty critiques and personal assessment to improve and refine diagnostic skills.
- Uses feedback from preliminary diagnostic errors to improve diagnostic accuracy.
- Asks questions and seeks guidance in building medical knowledge and improving patient care skills.
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge that come to light during case discussions.
- Develops increasingly efficient case management.

The fellow will:

- Interact in a collegial way with technical staff, including histotechnologists, pathology assistants, and transcriptionists, with goal of providing optimal patient care.
- Volunteer his/her opinion of cases to faculty, using correct terminology.
- Dictate diagnoses that use accepted terminology, are easy to understand, and that relay the information important to patient management.
- With direction, notify treating physicians of unexpected diagnoses.

The fellow:

- Is present and ready for signout at the agreed time.
- Admits errors or omissions and takes steps to correct them.
- Protects patient privacy.
- Is sensitive to issues of race, gender, ethnic background, religion, sexual orientation and other social factors in dealing with patient care and in interactions with other providers and other learners.
- Treats colleagues at all levels with respect.

The fellow:

- Is vigilant regarding possible specimen, slide, or identification errors and takes steps to...
the need for interdisciplinary collaboration in the delivery of health care. Conducts handoff at the conclusion of rotation with care and thoroughness.

investigate and resolve potential errors
- Accurately assigns billing codes and quality codes to cases, and understands the role of these codes
- Discusses the cost-effectiveness in the selection of ancillary studies.
- Understands the value of intradepartmental consultation and collaboration with other departments and specialties in delivering optimal patient care.
- Follows the appropriate procedure to hand off incomplete cases at the end of their rotation so patient care is not compromised.

The goal of the **middle in-house rotations (s)** (Oct-Feb) is for the fellow to move from being

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

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**Proficient** (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

**Proficient**

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Patient Care
Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation.

With appropriate supervision (see below), the fellow will:
- Be able to provide preliminary opinions on difficult cases
- Demonstrate advanced skills in differential counting and dictation.
- Review prepared slides and dictate preliminary reports that are usually accurate, and need some editing by faculty.
- Suggest additional studies during with faculty, analyze results and anticipate need for further studies or consultation.

Practice-based Learning and Improvement
Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others.

The fellow:
- Continues to use feedback from preliminary diagnostic errors to improve diagnostic accuracy.
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.
- Uses feedback and questions from clinicians to refine approach to reporting cases.
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout.

Interpersonal and Communication Skills
Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers.

The fellow will:
- Interact in a collegial way with treating physicians, other learners who request information or attend signout.
- Volunteer his/her opinion of cases to faculty, with explanations of rationale
- Dictate reports that are designed to answer both the articulated and anticipated clinical questions.
- Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout.
- Brings cases to consensus conference and relays pertinent information

Professionalism
Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues.

The fellow:
- Attends hematopathology tumor boards, setting aside cases as directed
- Assures successful completion of cases
**Systems-based Practice**
Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives.

The fellow:
- Is knowledgeable about and suggests the most efficient and effective ancillary studies in difficult cases.
- Gives feedback to laboratory about quality and timeliness of slides and case delivery
- Initiates intradepartmental consultations so as to improve case turnaround time.

The goal of the **Final rotations (March-June)** is as follows

**Independent Practitioner**

<table>
<thead>
<tr>
<th>Fourth Quarter Rotation Goals</th>
<th>Fourth Quarter Rotation Objectives</th>
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</thead>
<tbody>
<tr>
<td><strong>Medical Knowledge</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Exercises judgment in application of evidence-based knowledge to patient and to patient population; assists junior residents and other learners in accessing sources of medical knowledge. | • The fellow will acquire knowledge about rare bone marrow/lymph node diseases.  
• The fellow will independently bring new clinical and scientific evidence to the discussions at signout and apply it to challenging cases.  
• The fellow will serve as a resource to other learners (residents, medical students, clinical fellows). |

| **Patient Care**              |                                   |
| Recognizes clinical cases and circumstances that are rare or unique and selects appropriate additional studies; initiates consultant role in unusual cases; directs other providers and learners in challenging situations. | The fellow will:  
• Recognize subtle deviations from normal or common lesions and seek out relevant information to explain the findings.  
• Recognize subtle discrepancies between diagnostic reports and histologic findings.  
• Be able to ask sophisticated questions of clinicians about cases with complex or confusing gross or microscopic findings.  
• Proactively seek expert intradepartmental consultation on cases for which this is required.  
• Give direction to other residents, technical staff, and pathology assistants regarding the handling of unusual cases.  
• Serve as a resource for other learners regarding interpretation and diagnoses. |

| **Practice-based Learning and Improvement** |                                   |
| Facilitates collaboration and teamwork to promote learning. | The fellow:  
• Work with other learners, such as fellows, other residents, and medical students, to share tasks related to gathering knowledge  
• Recognize gaps in others’ learning (fellow, residents, students, and faculty) and contribute to filling the gaps. |
**Interpersonal and Communication Skills**

Recognize circumstances in which the current state of clinical and scientific evidence is lacking.

- Demonstrates skill in dealing with conflicting opinions or perspectives; responds independently to questions from other providers, patients, and families; generates sophisticated reports that relay information about complex cases.

- The fellow will:
  - Manage conflicting opinions or perspectives in such a way that optimal patient care is protected.
  - Independently handle inquiries for clarification or additional information, and initiate tasks necessary to provide this.
  - Generate reports that convey diagnostic information about both simple and complex cases effectively, needing no editing by faculty.

**Professionalism**

Recognizes impairment in themselves and peers and takes steps to address this. Mentors others in use of inter-professional and multi-disciplinary collaboration; Is a role model to other learners regarding accountability to self and others.

- The fellow:
  - Can be viewed as a role model in understanding and managing the strengths and weaknesses of him/herself and others.

**Systems-based Practice**

Identifies sources of error and inefficiency and initiates action to assess and fix them.

- The fellow:
  - Identifies processes that lead to inefficiencies and potential errors, and suggests improvements.

**Supervision**

Attending Hematopathologist on the in-house diagnostic service.

**Evaluation**

Constructive criticism and feedback will be given on a case-by case-basis. The fellow and the training pathologist will debrief at the end of each rotation to discuss pertinent training/performance issues. Formal evaluations will be performed on a quarterly basis via MedHub.

**Length of rotation**

Longitudinal: 1-2 weeks per month (minimum 14 weeks/year), based on prior level of training and experience.
Clinical Rotations/Experiences

Hemoglobinopathy Service

Duties
Fellows first observe hemoglobinopathy testing and then perform supervised sign-out of hemoglobinopathy cases. The fellows are expected to read the provided review articles on thalassemias and structural hemoglobinopathies. As a means of graduated responsibility, a follow-up week will be assigned to each fellow near the end of the fellowship year in which the fellows will be responsible for providing the signout impressions for the hemoglobin cases for that week. Dr. Keren will review those impressions with the fellow and finalize the cases with immediate feedback for the fellows. The fellows are expected to present one Hemoglobinopathy related case at HP Educational conference following the rotation.

Goals and Objectives
The goal for the rotation is to move from being

Competent (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

To

Proficient (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

Proficient

<table>
<thead>
<tr>
<th>Rotation Goals</th>
<th>Rotation Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Knowledge</strong>&lt;br&gt;Acquires knowledge of less commonly-encountered conditions and laboratory techniques; critically evaluates knowledge sources and uses evidence-based approach to acquire new knowledge.</td>
<td>The fellow will acquire knowledge about:&lt;br&gt;• The interpretation of HPLC for hemoglobinopathies&lt;br&gt;• Interpretation of gels and other confirmatory methods&lt;br&gt;• Identification of common and uncommon hemoglobin variants, patterns</td>
</tr>
</tbody>
</table>
### Patient Care
Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation.

With appropriate supervision (see below), the fellow will:
- Be able to provide preliminary opinions on difficult cases
- Demonstrate advanced skills in interpretation.
- Provide interpretations that are usually accurate, and need some editing by faculty.
- Suggest additional studies during sign out with faculty, analyze results and anticipate need for further studies or consultation.

### Practice-based Learning and Improvement
Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others.

The fellow:
- Continues to use feedback from preliminary interpretive errors to improve.
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.
- Uses feedback and questions from clinicians to refine approach to reporting cases.
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout.

### Interpersonal and Communication Skills
Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers.

The fellow will:
- Interact in a collegial way with treating physicians, other learners who request information or attend signout.
- Volunteer his/her opinion of cases to faculty, with explanations of rationale.
- Signout reports that are designed to answer both the articulated and anticipated clinical questions.
- Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout.

### Professionalism
Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues.

The fellow:
- Attends relevant didactic and case-based discussions
- Assures successful completion of cases
**Systems-based Practice**
Implements patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives.

<table>
<thead>
<tr>
<th>The fellow:</th>
</tr>
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<tbody>
<tr>
<td>• Is knowledgeable about and suggests the most efficient and effective additional approaches to difficult cases.</td>
</tr>
<tr>
<td>• Gives feedback to laboratory about quality and timeliness of preparation of cases.</td>
</tr>
<tr>
<td>• Initiates intradepartmental consultations so as to improve case turnaround time.</td>
</tr>
</tbody>
</table>

**Supervision**
Dr. David F. Keren, Dr. Lauren Smith, Dr. Don Giacchario.

**Evaluation**
Constructive criticism and feedback will be given on a case by case basis. The fellow and the training attending will debrief at the end of each rotation to discuss pertinent training/performance issues. Formal evaluations will be performed via MedHub.

**Length of Rotation**
One week followed by one week of ~ one hour per day of sign out.
### Clinical Flow Cytometry

**Duties**

Fellows review and triage samples submitted for flow cytometry, utilizing clinical history, previous pathologic diagnosis, and other laboratory data to determine if and what type of immunophenotyping panel is necessary. Fellows are responsible for selecting appropriate immunophenotyping panels, and subsequently reviewing and interpreting the immunophenotyping data independently. Fellows derive a diagnostic interpretation and prepare a preliminary report utilizing the XPLAIN software. Fellows are encouraged to re-analyze data as necessary using the Kaluza software. Fellows are responsible for communicating urgent results to clinical staff as well as for obtaining additional pertinent information from the clinical staff and/or referring pathologists. Fellows are expected to assist with the training of general program residents rotating through the flow cytometry service, and to share the service with them as appropriate for their level of training and experience.

### Rotation Goals and Objectives

The goal for the fellow in the first two weeks on the flow cytometry service is to move from being an

**Advanced Beginner** (The advanced beginner is still dependent on rules, but can adapt rules to changing circumstances. However, all attributes of a situation tend to be given equal importance, and there is still little feeling of personal responsibility for outcomes.)

To

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

<table>
<thead>
<tr>
<th>Rotation Goals (first two weeks)</th>
<th>Rotation Objectives (first two weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Knowledge</strong></td>
<td>The fellow will acquire knowledge about :</td>
</tr>
</tbody>
</table>
| Acquires knowledge of the pathophysiology and laboratory manifestations of common conditions; knows where to access information. |  - Basic technical aspects of flow cytometry  
- Immunophenotype of common lymphoproliferative disorders, leukemias  
- Safe and cost-effective triage of specimens |
The fellow will learn to access the standard textbooks available in the signout room, and will review the relevant online learning modules.

**Patient Care**
Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation.

With appropriate supervision (see below), the fellow will:

- The fellow will learn to assess the adequacy of clinical information provided with the specimen and will know if additional information should be obtained
- The fellow will understand how to order panels of markers to complete cases
- Keep incomplete cases organized until completed

**Practice-based Learning and Improvement**
Uses feedback and evaluations to generate or modify learning plan and improve skills.

The fellow:

- Uses faculty critiques and personal assessment to improve and refine diagnostic skills.
- Uses feedback from preliminary diagnostic errors to improve diagnostic accuracy
- Asks questions and seeks guidance in building medical knowledge and improving patient care skills
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge that come to light during case discussions
- Develops increasingly efficient case management

**Interpersonal and Communication Skills**
Establishes collegial interactive and communication skills in dealing with others; structures reports that are clear, succinct, and follow templates; listens to and fulfills requests from other providers.

The fellow will:

- Interact in a collegial way with technical staff, including flow technologists, pathology assistants, and transcriptionists, with goal of providing optimal patient care
- Volunteer his/her opinion of cases to faculty, using correct terminology
- Dictate diagnoses that use accepted terminology, are easy to understand, and that relay the information important to patient management
- With direction, notify treating physicians of unexpected diagnoses

**Professionalism**
Is honest, compassionate, and respectful of others; complies with laws and regulations; fulfills patient care and educational responsibilities faithfully.

The fellow:

- Is present and ready for signout at the agreed time
- Admits errors or omissions and takes steps to correct them
- Protects patient privacy
- Is sensitive to issues of race, gender, ethnic background, religion, sexual orientation and other social factors in dealing with patient care and in interactions with other providers and other learners
- Treats colleagues at all levels with respect

**Systems-based Practice**

The fellow:
Identifies issues related to error, cost, and the need for interdisciplinary collaboration in the delivery of health care. Conducts handoff at the conclusion of rotation with care and thoroughness.

- Is vigilant regarding possible specimen, slide, or identification errors and takes steps to investigate and resolve potential errors.
- Understands basic fee codes and billing.
- Discusses the cost-effectiveness in the selection of panels and additional markers.
- Understands the value of intradepartmental consultation and collaboration with other services (ie. in-house) and specialties in delivering optimal patient care.

The goal of the **second two weeks** is for the fellow to move from being

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

**To**

**Proficient** (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

**Proficient**

<table>
<thead>
<tr>
<th>Rotation Goals (second two weeks)</th>
<th>Rotation Objectives (second two weeks)</th>
</tr>
</thead>
</table>
| **Medical Knowledge**  
  Acquires knowledge of less commonly-encountered conditions and laboratory techniques; critically evaluates knowledge sources and uses evidence-based approach to acquire new knowledge. | The fellow will acquire knowledge about :  
  - The immunophenotype of unusual lymphoproliferative disorders and leukemias  
  - Less common tests including PNH, Sezary, and immunodeficiency panels  
  - Other uncommon neoplasms, and uncommon variants of common neoplasms. |
| **Patient Care**  
  Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant | With appropriate supervision (see below), the fellow will :  
  - Be able to provide preliminary opinions on difficult cases  
  - Demonstrate advanced skills in interpretation.  
  - Review flow plots/cytospins and dictate preliminary reports that are usually accurate, and |
to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation.

**Practice-based Learning and Improvement**
Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others.

The fellow:
- Continues to use feedback from preliminary diagnostic errors to improve diagnostic accuracy.
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.
- Uses feedback and questions from clinicians to refine approach to reporting cases.
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout.

**Interpersonal and Communication Skills**
Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers.

The fellow will:
- Interact in a collegial way with treating physicians, other learners who request information or attend signout.
- Volunteer his/her opinion of cases to faculty, with explanations of rationale.
- Dictate reports that are designed to answer both the articulated and anticipated clinical questions.
- Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout.
- Brings cases to consensus conference and relays pertinent information.

**Professionalism**
Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues.

The fellow:
- Attends hematopathology tumor boards, setting aside cases as directed.
- Assures successful completion of cases.

**Systems-based Practice**
Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives.

The fellow:
- Is knowledgeable about and suggests the most efficient and effective additional approaches to difficult cases (extra flow cytometry antibodies, other ancillary studies).
- Gives feedback to laboratory about quality and timeliness of preparation of cases.
- Initiates intradepartmental consultations so as to improve case turnaround time.

The goal of the **Final two weeks** is as follows

**Independent Practitioner**

<table>
<thead>
<tr>
<th>Rotation Goals (final weeks)</th>
<th>Rotation Objectives (final weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Knowledge</strong></td>
<td><strong>The fellow will acquire knowledge about rare immunophenotypes/flow findings.</strong></td>
</tr>
<tr>
<td>Exercizes judgment in application of evidence-based knowledge to patient and to patient population; assists junior residents and other learners in accessing sources of medical knowledge.</td>
<td><strong>The fellow will independently bring new clinical and scientific evidence to the discussions at signout and apply it to challenging cases.</strong></td>
</tr>
<tr>
<td><strong>Patient Care</strong></td>
<td><strong>The fellow will:</strong></td>
</tr>
<tr>
<td>Recognizes clinical cases and circumstances that are rare or unique and selects appropriate additional studies; initiates consultant role in unusual cases; directs other providers and learners in challenging situations.</td>
<td><strong>Recognize subtle deviations from normal or common lesions and seek out relevant information to explain the findings.</strong></td>
</tr>
<tr>
<td><strong>Practice-based Learning and Improvement</strong></td>
<td><strong>The fellow:</strong></td>
</tr>
<tr>
<td>Facilitates collaboration and teamwork to promote learning.</td>
<td><strong>Recognize gaps in others’ learning (fellow, residents, students, and faculty) and contribute to filling the gaps.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Recognize circumstances in which the current state of clinical and scientific evidence is lacking.</strong></td>
</tr>
<tr>
<td><strong>Interpersonal and Communication Skills</strong></td>
<td>The fellow will:</td>
</tr>
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<td>------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Demonstrates skill in dealing with conflicting opinions or perspectives; responds independently to questions from other providers, patients, and families; generates sophisticated reports that relay information about complex cases.</td>
<td>• Manage conflicting opinions or perspectives in such a way that optimal patient care is protected.</td>
</tr>
<tr>
<td></td>
<td>• Independently handle inquiries for clarification or additional information, and initiate tasks necessary to provide this.</td>
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<tr>
<td></td>
<td>• Generate reports that convey diagnostic information about both simple and complex cases effectively, needing no editing by faculty.</td>
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<table>
<thead>
<tr>
<th><strong>Professionalism</strong></th>
<th>The fellow:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizes impairment in themselves and peers and takes steps to address this. Mentors others in use of inter-professional and multi-disciplinary collaboration; is a role model to other learners regarding accountability to self and others.</td>
<td>• Can be viewed as a role model in understanding and managing the strengths and weaknesses of him/herself and others.</td>
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<table>
<thead>
<tr>
<th><strong>Systems-based Practice</strong></th>
<th>The fellow:</th>
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</thead>
<tbody>
<tr>
<td>Identifies sources of error and inefficiency and initiates action to assess and fix them.</td>
<td>• Identifies processes that lead to inefficiencies and potential errors, and suggests improvements.</td>
</tr>
</tbody>
</table>

**Supervision**
Hematopathology faculty attending on the flow cytometry service.

**Evaluation**
Constructive criticism and feedback will be given on a case-by-case basis. The fellow and the training pathologist will debrief at the end of each rotation to discuss pertinent training/performance issues. Formal evaluations will be performed via Med Hub on a quarterly basis.

**Length of rotation**
Longitudinal; approximately 1 week per month. (Minimum 6 weeks/year)
Clinical Rotations/Experiences

Clinical Cytogenetics

Duties
Fellows observe laboratory techniques performed by experienced technologists and review diagnostic cases with the laboratory directors. The fellows are required to read all pertinent provided literature prior to or during the rotation.

Rotation Goals and Objectives
The goal of this rotation is to move from being

Competent (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

To

Proficient (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)

Proficient

<table>
<thead>
<tr>
<th>HP Rotation Goals</th>
<th>HP Rotation Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Knowledge</td>
<td>The fellow will acquire knowledge about:</td>
</tr>
<tr>
<td></td>
<td>• The principles and techniques of human chromosome analysis including routine cytogenetic karyotyping and FISH analysis.</td>
</tr>
<tr>
<td></td>
<td>• Identification of common cytogenetic karyotypic and FISH abnormalities.</td>
</tr>
<tr>
<td>Patient Care</td>
<td>With appropriate supervision (see below), the fellow will:</td>
</tr>
<tr>
<td>Is able to perform procedures necessary to</td>
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</tbody>
</table>
generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation.

- Be able to provide preliminary opinions on difficult cases
- Learn how to incorporate cytogenetic data into the analysis of diagnostic hematopathology cases
- Suggest additional studies with faculty, analyze results and anticipate need for further studies or consultation.

<table>
<thead>
<tr>
<th>Practice-based Learning and Improvement</th>
<th>The fellow:</th>
</tr>
</thead>
</table>
| Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others. | - Continues to use feedback from preliminary interpretive errors to improve.  
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.  
- Uses feedback and questions from clinicians to refine approach to reporting cases.  
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge. |

<table>
<thead>
<tr>
<th>Interpersonal and Communication Skills</th>
<th>The fellow will:</th>
</tr>
</thead>
</table>
| Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers. | - Interact in a collegial way with treating physicians, other learners who request information.  
- Volunteer his/her opinion of cases to faculty, with explanations of rationale.  
- Recognize cases that indicate the need to notify treating physicians, and suggest this need to faculty at signout. |

<table>
<thead>
<tr>
<th>Professionalism</th>
<th>The fellow:</th>
</tr>
</thead>
</table>
| Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues. | - Attends relevant didactic and case-based discussions  
- Incorporates cytogenetic data appropriately into case presentations. |

<table>
<thead>
<tr>
<th>Systems-based Practice</th>
<th>The fellow:</th>
</tr>
</thead>
</table>
| Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives. | - Is knowledgeable about and suggests the most efficient and effective additional approaches to difficult cases.  
- Gives feedback to laboratory about quality and timeliness of preparation of cases. |
- Is knowledgeable about the quality control, quality assurance and quality improvement methods used in the cytogenetics laboratory.

**Supervision**
Cytogenetics laboratory directors (or senior technical staff for procedural components).

**Evaluation**
Constructive criticism and feedback will be given on a case-by-case basis. The fellow and the training faculty will debrief at the end of the rotation to discuss pertinent training/performance issues. The lab directors will complete a formal evaluation form via MedHub.

**Length of Rotation**
0-2 weeks / year (dependent on previous training).
Clinical Rotations/Experiences

Coagulation Rotation

Rotation Requirements (Duties)
The HP fellows will be introduced to the coagulation lab, test and quality control procedures as they relate to coagulation at the beginning of the rotation by the Coagulation Supervisor.

The HP fellows will attend the coagulation clinical case sign-out session on Mondays and Thursdays at 11:00 A.M. The fellows will preview the coagulation cases before sign-out, and will be expected to review and interpret the data at sign-out. The coagulation sign-out sessions will also be attended by the clinical pathology residents on the blood bank rotation as well as the transfusion medicine fellow and clinical residents/fellows.

The fellows will also be expected to attend all didactic lectures related to coagulation.

For additional experience, the fellows will attend clinical patient rounds with the pediatric and/or adult hematology consult services; contact the adult hematology consult fellow or Dr. Steve Pipe in pediatric hematology for times and locations of rounds.

The HP fellows will be expected to attend clinic 2x per week while on service. Contact Dr. Pipe for days and times.

The fellows will be responsible for presenting coagulation case presentations at HP educational conference after the conclusion of their Coagulation rotation.

The HP fellows will be encouraged to present at least one CE session relating to coagulation to the hematology technologists.

The HP fellows will be expected to become involved with ongoing research and development and quality assurance/quality control projects occurring in the coagulation laboratory.

Educational materials available to the fellows include case management books, self-directed learning with test and Q/A section, ppt lectures by Dr. Pipe and Dr. Bockenstedt, coagulation procedures available on-line.

Rotation Goals and Objectives

The goal for the fellow in the first week on the coagulation service is to move from being an
**Advanced Beginner** (The advanced beginner is still dependent on rules, but can adapt rules to changing circumstances. However, all attributes of a situation tend to be given equal importance, and there is still little feeling of personal responsibility for outcomes.)

To

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

<table>
<thead>
<tr>
<th>First Week Rotation Goals</th>
<th>First Week Rotation Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Knowledge</strong></td>
<td>The fellow will acquire knowledge about:</td>
</tr>
</tbody>
</table>
| Acquires knowledge of the pathophysiology and laboratory manifestations of common conditions; knows where to access information. | - Basic coagulation disorders  
- Clinical presentation of coagulation disorders  
- Laboratory handling of specimens  

The fellow will learn to access the standard textbooks available in the signout room, and will review the relevant online learning modules. |
| **Patient Care**          | With appropriate supervision (see below), the fellow will: |
| Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. | - The fellow will learn to assess the adequacy of clinical information provided with the specimen and will know if additional information should be obtained  
- The fellow will understand how to instruct clinicians to order coagulation tests  
- Keep incomplete cases organized until completed |
| **Practice-based Learning and Improvement** | The fellow: |
| Uses feedback and evaluations to generate or modify learning plan and improve skills. | - Uses faculty critiques and personal assessment to improve and refine diagnostic skills.  
- Uses feedback from preliminary diagnostic errors to improve diagnostic accuracy  
- Asks questions and seeks guidance in building medical knowledge and improving patient care skills  
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge that come to light during case discussions  
- Develops increasingly efficient case management |
| **Interpersonal and Communication Skills** | The fellow will: |
communication skills in dealing with others; structures reports that are clear, succinct, and follow templates; listens to and fulfills requests from other providers.

- Interact in a collegial way with technical staff, including technologists, nurses, and transcriptionists, with goal of providing optimal patient care
- Volunteer his/her opinion of cases to faculty, using correct terminology
- Dictate diagnoses that use accepted terminology, are easy to understand, and that relay the information important to patient management
- With direction, notify treating physicians of unexpected diagnoses

### Professionalism

**Is honest, compassionate, and respectful of others; complies with laws and regulations; fulfills patient care and educational responsibilities faithfully.**

- Is present and ready for signout at the agreed time
- Admits errors or omissions and takes steps to correct them
- Protects patient privacy
- Is sensitive to issues of race, gender, ethnic background, religion, sexual orientation and other social factors in dealing with patient care and in interactions with other providers and other learners
- Treats colleagues at all levels with respect

### Systems-based Practice

**Identifies issues related to error, cost, and the need for interdisciplinary collaboration in the delivery of health care. Conducts handoff at the conclusion of rotation with care and thoroughness.**

- Is vigilant regarding possible specimen identification errors and takes steps to investigate and resolve potential errors
- Discusses the cost-effectiveness in the selection of coagulation tests.
- Understands the value of intradepartmental consultation.

The goal of the **second week** is for the fellow to move from being

**Competent** (The competent learner grasps the relevant facts, can sort information by relevance, can bring his/her own judgment to each case, and solve problems. Guidelines are adapted to unexpected events. He/she feels accountable for outcomes because of increasing decision-making.)

**To**

**Proficient** (Characterized by the progress of the learner from step-by-step analysis and task performance to a holistic perception of the entirety of the situation. Uses pattern recognition arising from experience to identify problems. Perceives deviations from what is expected. Learns from the experience of others. Sense of responsibility grows with increasing decision-making.)
### Proficient

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<th>Second Week Rotation Goals</th>
<th>Second Week Rotation Objectives</th>
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<tr>
<td><strong>Medical Knowledge</strong></td>
<td>The fellow will acquire knowledge about:</td>
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| Acquires knowledge of less commonly-encountered conditions and laboratory techniques; critically evaluates knowledge sources and uses evidence-based approach to acquire new knowledge. | - The less common coagulation disorders including laboratory values and clinical features  
- Medications and conditions that can interfere with the interpretation of tests  
- Other uncommon conditions and uncommon variants of common conditions. |
| **Patient Care**          | With appropriate supervision (see below), the fellow will: |
| Is able to perform procedures necessary to generate laboratory information, gather clinical information needed to establish a diagnosis, and make observations relevant to the clinical situation. Uses laboratory data and own observations to generate accurate diagnoses and differential diagnoses; suggests appropriate ancillary studies as needed; responds to requests for consultation. | - Be able to provide preliminary opinions on difficult cases  
- Demonstrate advanced skills in interpretation.  
- Review coagulation results and dictate preliminary reports that are usually accurate, and need some editing by faculty.  
- Suggest additional studies with faculty, analyze results and anticipate need for further studies or consultation. |
| **Practice-based Learning and Improvement** | The fellow: |
| Adapts practices based on literature review, case outcomes, peer and 360 reviews, and system demands; seeks and gives feedback to improve self and others. | - Continues to use feedback from preliminary diagnostic errors to improve diagnostic accuracy.  
- Uses information accessed on past cases to more efficiently arrive at a diagnosis in subsequent cases.  
- Uses feedback and questions from clinicians to refine approach to reporting cases.  
- Accesses learning sources (textbooks, medical literature, online resources) to fill gaps in medical knowledge before coming to signout. |
| **Interpersonal and Communication Skills** | The fellow will: |
| Effectively communicates in a variety of settings, including during conferences, while providing consultations, and teaching peers. | - Interact in a collegial way with treating physicians, other learners who request information or attend signout.  
- Volunteer his/her opinion of cases to faculty, with explanations of rationale  
- Dictate reports that are designed to answer both the articulated and anticipated clinical
<table>
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<tr>
<th>Professionalism</th>
<th>The fellow:</th>
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| Manages patient care duties and interacts with other providers with compassion and respect for diversity; recognizes and responds to need for help from colleagues. | - Attends coagulation clinic, hematology conference  
- Assures successful completion of cases |

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<tr>
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<th>The fellow:</th>
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| Improves patient outcomes and promotes efficiency by making decisions based on best evidence of outcomes, and by involvement in quality initiatives. | - Is knowledgeable about and suggests the most efficient and effective additional approaches to difficult cases (additional laboratory tests, clinical information)  
- Gives feedback to laboratory personnel about quality and timeliness of preparation of results  
- Initiates intradepartmental consultations so as to improve case turnaround time. |

**Supervision**
Director of Coagulation laboratory.

**Evaluation**
Constructive criticism and feedback will be given on a case-by-case basis. The fellow will be evaluated at the end of their rotation via Med-Hub.

**Length of rotation**
2 consecutive weeks/ year (minimum).