Syllabus Pathology Clerkship

Course No:  
Course Title: Pathology Clerkship (Elective)

Credit Hours: 2-4 weeks, 2-4 credit hours for each rotation (only OMIV can do 2 week rotations)

Term - Dates: Variable in OMS III, OMSIV academic year

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Students contact Rotations Department staff by Submitting an OTRS ticket

Preceptors can email: compsite@westernu.edu

Preceptors can email: nwsite@westernu.edu

Educational Goal

Purpose of the Rotation
The Pathology Rotation is designed to provide students with a structured overview of the breadth of general anatomic and clinical pathology. The student will obtain an overview of the various subdivisions of pathology and spend concentrated time in surgical pathology, cytology and autopsy pathology and the clinical laboratory. Students will gain insight into the role of a pathologist in patient centric care. The student will develop an understanding of the differences between each of the different subspecialties of anatomic and clinical pathology and understand how each of them plays a distinct role in the context of patient care.

Pathology Clerkship Learning Objectives

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OBJECTIVES

ANATOMIC PATHOLOGY

Surgical Pathology
The student should be able to:
1. Characterize the role of the surgical pathologist and the limitations of frozen sections and permanent sections.
2. Describe the procedures for tissue processing: biopsy, grossing, fixation, cutting and staining.
3. Identify features of an adequate gross description.
4. Identify features of an adequate final description.
5. Understand the significance of synoptic reporting.
6. Understand the significance of staging and prognostic indicators.
7. Discuss the pathogenesis and diagnostic features of commonly occurring biopsy specimens.
8. Observe the performance of IHC stains.
9. Understand the value of IHC stains.
10. Characterize the most commonly used IHC panels in differentiating tumors.

Cytopathology
The student should be able to:
11. Describe the process of adequacy checks.
12. Differentiate between preparation techniques in cytology.
13. Characterize the types of specimens received for cytologic work up.
14. Observe and participate in the work-up of a patient having a fine needle aspiration biopsy including collecting patient history, obtaining the consent and observing the FNA procedure.

Autopsy Pathology
The student should be able to:
15. List situations in the hospital which require notification of the medical examiner.
16. Describe the mechanisms that are used to clinically review and prepare for the post mortem exam.
17. Participate in the post mortem examination and dissection.
18. Identify the components of the autopsy report.

CLINICAL PATHOLOGY

Clinical Pathology (General)
The students should be able to:
19. Identify the main sections of the laboratory: clinical chemistry, microbiology, hematology, transfusion medicine.
20. Describe the general process of collection and processing of laboratory samples.

Hematopathology
The student should be able to:
21. Describe the process by which bone marrow and lymph node biopsies are reviewed.
22. Identify the ancillary tests that are necessary in the work up of hematologic malignancies.
23. Characterize the classification of anemia, leukemia and lymphoma.

Transfusion Medicine
The student should be able to:
24. Discuss basic transfusion medicine principles: patient identification, ABO/Rh compatibility testing and antibody identification.
25. List and describe the different blood components that are available in the blood bank and recognize how these should be ordered.
26. Recognize the signs and symptoms of transfusion reactions.
27. Identify the major infectious and noninfectious complications associated with blood transfusions.

28. Identify knowledge deficits and search the medical literature for the most current aspects of diagnostic and treatment strategies to apply the principles of evidence-based medicine to the care of the individual medical patient. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 6, 7)

29. Integrate concepts of epidemiology and biostatistics (sensitivity/specificity/positive and negative predictive value) into the care of the individual medical patient. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

30. Formulate diagnostic and treatment plans taking into consideration cost-benefit analysis and access to healthcare. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 4, 5, 6, 7, 8)

31. Respect the cultural and ethnic diversity of their patients’ beliefs in evaluating and managing their medical care. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 2, 3, 4, 5, 6, 8)

32. Display honesty, integrity, respect, and compassion for patients and their families. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 23, 4, 5, 6, 8)

33. Display collegiality, professionalism and respect toward all members of the healthcare team. (COMP/AOA core competencies 4, 5, 7; Institutional outcomes 3, 4)

34. Follow all infection control policies and guidelines as established by the Centers for Disease Control and Prevention (CDC) and the Society for Healthcare Epidemiology of America (SHEA). (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

35. Apply Osteopathic Principles and Practice as an integral part of patient treatment and care. (COMP 1,2,3,4,5, 6,7; Institutional Outcomes 1,2,3,4,5,6,7,8)

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**Rotation Expectations**

**RESPONSIBILITIES**

The student should:

1. Meet with the Clerkship Director on day 1 (after morning report or at a designated time), on day 14 for a mid-rotation review and on day 28 for end of rotation review.

2. Shadow and work with other attendings during the 4 week period.

3. Follow the schedule as outlined in this document - the day starts at 8 AM and ends at 5 PM.

4. Attend any postmortem examinations that occur during the month.

5. Complete the written assignment to be turned in on the last day of the rotation or earlier.

6. Attend Tumor Board and Breast Pathology conferences.

7. Complete the surgical pathology checklist included in this packet by the end of the rotation to be turned into the clerkship director.

8. Provide constructive feedback for the rotation.

9. Accompany attendings, residents and interns as directed.

10. Effectively communicate with attendings, residents and interns about patients and studies.

11. Participate in all conferences, morning reports, lectures, Tumor Boards and meetings as directed by the attending and COMP faculty.

12. Lecture or present case histories/topics as requested by interns, residents or attending.

13. Complete reading assignments as directed by your attendings and required educational assignments/ECM assignments as directed by COMP.

14. Use the literature to review evidence-based diagnosis and management of cases encountered on the service.

15. Be timely.

16. Wear appropriate attire.

17. Be professional at all times.

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**Required Educational Assignments**

3. As directed by your attendings, residents or interns.
**Recommended Topics in Pathology**

**WRITTEN ASSIGNMENT**
The student will complete a written assignment during this one month rotation. The written paper can be any one of the following:

- A case report and review of the literature
- A written summary of an interesting autopsy case including review of the chart, summary of premortem clinical data and a detailed clinicopathologic discussion.
- A pathophysiologic review of an interesting case
- A complete surgical pathology or cytology report including: a gross description, microscopic description, review of pertinent diagnostic protocols and final diagnosis and comment.

1. Please review the topic with the clerkship director
2. Papers should be between 3-5 pages
3. Papers should involve a literature review and references
4. Papers should include diagnostic images (if pertinent)
5. Papers should be emailed by the last day of the rotation

**GRADING**
The student's final grade will be a combination of the following:

- Participation: The student is encouraged to be actively engaged in the daily activities of the department in surgical pathology, cytology, and in the clinical laboratory.
- Written report: See above for details.
- Professionalism: Including reporting on time, abiding by the dress code (scrubs are acceptable), demonstrating teamwork and communicating accurately and respectfully with staff and colleagues.

**THIRD AND FOURTH YEAR ANATOMIC PATHOLOGY ELECTIVE - STUDENT SCHEDULE**

**WEEKS 1, 2  Surgical pathology**

**Overview:**
Activities include:
1. Observing frozen sections
2. Observing grossing (dissecting specimens received from the operating room)
3. Sit in on sign-out. Sign-out is either small knife biopsies (afternoon) or large-knife (larger specimens) that takes place in the morning.
4. Follow their cases through the cycle.
5. Observe the performance of IHC staining.
6. Understand and recognize common IHC panels used in differentiating tumors.
7. Participate in all tumor board conferences and breast conference
8. Students should actively participate in all areas during each week assigned.

**WEEK 3 Cytology**

**Overview:**
Cytology is the practice of reviewing the fluid specimens microscopically. The cytology rotation involves adequacy checks ('cart runs') in other departments, the fine needle aspiration clinic (FNA) (generally on Tuesday and Thursday afternoons) and sign-out. The FNA clinic provides a unique opportunity for students on the pathology service to see patients. Review of the consent form, ‘time outs’, localization of the lesion and the aspirate itself are among the activities with which the student should be aware.
During the week on this service, the student should actively participate in all areas with attending.
9. Student will observe sign out of pap smears.
10. Student will understand the process of obtaining and preparation and staining of pap smears.
11. Student will understand the significance of adequate history and reporting of pap smears using TBS format.
12. Student will understand the follow up of abnormal pap smears.

**WEEK 4 Clinical pathology:**
*Choice of transfusion medicine or hematopathology*

**Overview: Transfusion Medicine**

Transfusion medicine is a critical part of the CP training for pathology residency. For all of the CP disciplines, the student acts as a liaison between the laboratory and the clinician.

13. Student should participate in the daily activities of the service including review of blood utilization data
14. Participate in the work up of transfusion reactions and transfusion medicine consults.
15. Student should become familiar with the various blood products
16. Have a solid understanding of how/when to order these products
17. Recognize the importance of proper labeling and identification of patient samples.

**Overview: Hematopathology**

The hematopathology service combines some aspects of both CP- blood smears, bone marrow aspirates, laboratory data- and AP- lymph node and bone marrow biopsy specimens to make an accurate diagnosis of many hematologic disorders.

18. Students should follow a case- identifying the importance of pertinent clinical information, the pathology review and the incorporation of ancillary studies.
19. Students should review cases with the attending.

**Texts and Media**

**Textbook:**
1. Robbins, Cotran and Kumar
2. Pathoma
3. As directed by preceptor

**Rotation Format, Evaluation, Grading and Student Feedback**

Additional information is located in the Clinical Education Manual at: http://www.westernu.edu/bin/ime/cem-2014.pdf

**Rotation Schedule**

Each site will provide students with a schedule on their first day of the rotation. If not provided please ask and have a clear understanding as to the expectations. These schedules are rarely available prior to the start the rotation.

It is solely your responsibility to read and understand all information provided to you by the site. Some sites have additional requirements above and beyond those set forth by the College of Osteopathic Medicine.

**Evaluation/Grading**

Grading for your clerkship will be calculated according to the Clinical Education Manual http://www.westernu.edu/bin/ime/cem-2014.pdf.

Please note, your attending/preceptor’s evaluation is based on, but not limited to the following:
• Communication skills regarding patients
• Care provided to assigned patients
• Attendance and participation at conferences, morning reports lectures and meetings
• Demonstration of library references on patients
• Completion and accuracy of paperwork on patients (Histories and Physicals, progress notes, treatment plans, presentations, hand-outs, etc.)
• Interaction with attendings, residents, students, medical staff, nursing and ancillary personnel
• General knowledge base and knowledge applied to specific patients
• Motivation in the learning process
• Overall performance, participation, enthusiasm to learn, and effort to improve
• Mid-rotation grades should be given by the intern/resident/attending. The final grade should be given/reviewed with the student on the last day of the rotation.

**General Policies**

**Policy on Disability Accommodations:** To obtain academic accommodations for this rotation, students with disabilities should contact the Center for Disability Issues and the Health Professions and the system coordinator within ten days of the beginning of the system. Disability Services can be reached at 909.469.5380.


**Attendance Policy:** Refer to the Clinical Education Manual at http://www.westernu.edu/bin/ime/cem-2014.pdf.

**Academic Dishonesty:** Complete confidence in the honor and integrity of the health professions student and health care professional is essential. Such confidence depends entirely on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty and colleagues. Strict honesty as a personal way of life should be nurtured during the period of education for professional service. The student shall conduct all aspects of his or her life with honor and integrity. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty, and patients who come under the student’s care or contribute to his or her training and growth, and members of the general public. This applies to personal conduct that reflects on the student’s honesty and integrity in both academic and non-academic settings, whether or not involving a University sponsored activity.

Upon accepting admission to the University, each student subscribes to and pledges complete observance to the Standards of Academic and Professional Conduct as outlined in the University Catalog for each academic program. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal.

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<thead>
<tr>
<th>WU INSTITUTIONAL OUTCOMES</th>
<th>Health Professional Education</th>
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<tr>
<td>1</td>
<td>Critical Thinking</td>
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<tr>
<td>2</td>
<td>Breadth and Depth of Knowledge in the Discipline/Clinical Competence</td>
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<td>COMP/AOA CORE COMPETENCIES</td>
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<tr>
<td>1</td>
<td>Osteopathic Philosophy and Osteopathic Manipulative Medicine</td>
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<td>2</td>
<td>Medical Knowledge</td>
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<td>3</td>
<td>Patient Care</td>
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<td>4</td>
<td>Interpersonal and Communication Skills</td>
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<td>5</td>
<td>Professionalism</td>
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<tr>
<td>6</td>
<td>Practice-Based Learning and Improvement</td>
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Systems-based Practice

Residents are expected to demonstrate an understanding of health care delivery systems, provide effective and qualitative patient care within the system, and practice cost-effective medicine.

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<tr>
<th>COMPARISON OF OUTCOMES STANDARDS: WU AND COMP</th>
<th>WU</th>
<th>COMP</th>
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<tbody>
<tr>
<td>Critical Thinking</td>
<td>1</td>
<td>1, 2, 3, 6</td>
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<tr>
<td>Breadth and Depth of Knowledge in the Discipline/Clinical Competence</td>
<td>2</td>
<td>1, 2, 3, 4, 5, 6, 7</td>
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<tr>
<td>Interpersonal Communication Skills</td>
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<td>Collaboration Skills</td>
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<td>Ethical and Moral Decision Making Skills</td>
<td>5</td>
<td>1, 3, 5, 6</td>
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<td>Life Long Learning</td>
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<td>1, 2, 3, 6, 7</td>
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<td>Evidence-Based Practice</td>
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<td>1, 2, 3, 6, 7</td>
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<td>Humanistic Practice</td>
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<td>3, 4, 5</td>
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STUDENT CHECKLIST

THIRD AND FOURTH YEAR PATHOLOGY ELECTIVE
Surgical Pathology Checklist

Student Name:
Dates in Surgical Pathology:
Attendings on service:

Frozen Sections (FS)
Observed FS
Yes Approximate #: Type:
No

Performed/prepared FS
Yes Approximate #: Type:
No

Reviewed FS/diagnosis
Yes Approximate #: Type:
No

Grossing
Observed grossing of cases
Yes Approximate #: Type:
No

Dissected cases
Yes Approximate #: Type:
No

Sign-Out
### Observed small knife sign-out
- [ ] Yes  Approximate #:  Type:  
- [ ] No

### Observed large knife sign-out
- [ ] Yes  Approximate #:  Type:  
- [ ] No

### Presented a case to attending
- [ ] Yes  Approximate #:  Type:  
- [ ] No

### Observed IHC reporting
- [ ] Yes  Approximate #:  
- [ ] No

### Observed Synoptic Reporting
- [ ] Yes  Approximate #:  
- [ ] No

### Attended Tumor Board
- [ ] Yes  Approximate #:  
- [ ] No

### Observed FNA procedures
- [ ] Yes  Approximate #:  
- [ ] No

### Observed FNA Cytology case sign-out
- [ ] Yes  Approximate #:  
- [ ] No

### Observed Pap smear case sign-out
- [ ] Yes  Approximate #:  
- [ ] No

**List the 10 most common surgical pathology diagnoses that you observed:**

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10.  

**List the 5 most common pap smear diagnoses that you observed?**

1.  
2.  
3.  
4.  
5.  

**List the 5 most common FNA diagnoses that you observed?**
List the 5 most common causes for transfusions that you observed?

1.
2.
3.
4.
5.

What were the most common 4 hematologic clinical scenarios you observed?

1.
2.
3.
4.
5.

What area of surgical pathology did you enjoy most and why?

What area of clinical laboratory medicine did you enjoy the most and why?

What changes would you like to see in this rotation?

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