###### Purpose

To provide a procedure for the gross dissection of a femoral head for a fracture.

1. **Principle**

To take histologic sections to demonstrate any possible pathologic process present so that a diagnosis can be made microscopically by a Pathologist.

###### Equipment

1. Ruler
2. Forceps
3. Scalpel
4. Scissors
5. Large Knife
6. Stryker Saw or Table Saw
7. **Safety**
8. **PPE** should be worn.
9. **FORMALIN** is a known carcinogen.
10. **DECALCIFICATION SOLUTION** is a strong acid.
11. **Supplies and Reagents**
12. **10% NEUTRAL BUFFERED FORMALIN** (pH range 6.9 – 7.2)
13. **DECALCIFYING SOLUTION**
14. **MOL-DECALCIFIER** (Unbuffered 10% EDTA decalcification solution for morphology and molecular studies)
15. **Quality Control**

All remaining tissue should be retained in formalin.

1. **Limitations/ Notes**

The following may influence the validity of test results:

1. The specimen should be fixed in formalin for a minimum of 6 ½ hours before being decalcified.
2. Prolonged decalcification will affect the histologic detail and the preservation of some nuclear antigens.
3. **Procedure**
4. Measure the femoral head and the femoral neck (3 dimensions – cm.). Due to the fracture, the specimen may be received in two pieces.
5. Describe and measure any attached soft tissue (3 dimensions – cm.).
6. Locate, measure (3 dimensions – cm.), and describe the fracture site.
7. Describe the articular cartilage (texture).
8. Using the Stryker Saw or a Table Saw, serially section the femoral head and neck.
9. Note the cut surface adjacent to the fracture site.
10. Describe the cancellous bone and any abnormalities that are present away from the fracture site.
11. Measure the thickness of the articular cartilage (cm.).
12. If soft tissue is attached to the femoral head, submit a section.
13. If sent for pathologic fracture from tumor, and the tumor is boney, submit a single 1x1 cm section, no more than 1 mm thick in Mol-Decal (after a minimum of 6 ½ hours fixation in formalin) and give to histology to be Mol-decalcified. Note: hard cortical bone cannot be Mol-decalcified.
14. Submit 2-3 sections of the fracture site after decalcification.
15. Submit a representative section of the articular cartilage and adjacent cancellous bone after decalcification.
16. If another pathologic process is identified, provide 2-3 representative sections after decalcification.
17. Include in the dictation which cassettes are decalcified, specifying which cassettes are Mol-Decal vs. Decal.
18. **References**

Hruban RH, Westra, WH, Phelps, PH, & Isacson, C: Surgical Pathology Dissection An Illustrated Guide, New York, NY, Springer-Verlag Inc., 1996.

Lester, SC: Manual of Surgical Pathology, New York, NY, Churchill

Livingstone, 2001.

1. **Related Documents**

RA.HI.PR.SP.005- Molecular Decalcification

1. **Authorized Reviewers**
2. Medical Director, Anatomic Pathology
3. Chief, Surgical Pathology

##### Document Control

##### Location of Master: Master electronic file stored on the Beaumont Laboratory server under

S:\ AP\_Grossing\_Manual

**Number of Controlled Copies posted for educational purposes: 0**

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**Location of circulating Controlled Copies: Master Grossing Manual** located in Surgical Pathology

##### Document History

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| Prepared by: *Anne Tranchida, PA(ASCP)* | 09/09/2007 | **r00** |  |  |
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| *Ali-Reza Armin, MD* | 12/10/2008 | **r00** |  |  |
| *Anne R. Tranchida,PA(ASCP)* | 10/20/2009 | **r00** |  |  |
| *Ali-Reza Armin, MD* | 10/20/2011 | **r00** |  |  |
| *Ali-Reza Armin,MD* | 04/02/2013 | **r00** |  |  |
| *Mitual B. Amin,MD* | 02/14/2015 | **r00** |  |  |
| *Zhenhong H. Qu, MD* | 03/12/2015 | **r00** |  |  |
| *Kurt Bernacki, MD* | 10/27/2017 | **r00** |  |  |
| Revised by: *Heather Genson, HTL(ASCP)CMPACM* | 12/13/2017 | **r01** | Added steps for Mol-Decal |  |
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| *Kurt Bernacki, MD* | 10/22/2019 | **r01** |  |  |
| *Kurt Bernacki, MD* | 10/20/2021 | **r01** |  |  |
| Revised by: Heather Genson, HTL(ASCP)CMPACM | 01/14/2022 | **r02** | Removed time in Mol-Decal |  |
| Approved by: *Kurt Bernacki, MD* | 01/14/2022 | **r02** |  |  |
| *M. Jawwad Arshad, MD* | 3/23/2023 | **r02** |  |  |
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