**Purpose**

To establish a procedure relative to the use of Cal-Ex to achieve decalcification of tissue in Surgical Pathology.

**Definitions**

*Cal-ex* = Cal-ex is a reagent used for the simultaneous fixation and decalcification of bone and cartilage.  The rapid infiltration and decalcification rate of Cal-Ex maintains cellular detail.  The formic acid does not impair nuclear staining.

**Procedure**

1. **Safety Considerations**
* Personal Protective Equipment (PPE) should be utilized.  This includes, but is not limited to gloves, protective clothing and protective eyewear.
1. **Quality Control**
* Tissue may be stored in Cal-Ex for up to 48 hours without adverse effects.
1. **Storage and disposal**
* Solutions should be stored at room temperature in a tightly closed container that is protected from direct heat and light.
* Pour waste Cal-Ex into a properly labeled waste container.  (See UMHS Classified Hazardous Waste Table in the Waste Codes binder).
1. **Specimen**
* Specimen size must not exceed 2.5 cm x 2.0 x 0.3 cm to ensure adequate fixation and decalcification.
1. **Considerations**
* Fixation / decalcification time is dependent on the size and hardness of the calcified tissue and must be varied accordingly.  Decalcification of many specimens (e.g., 3-4 mm thick blocks of vertebral bodies) is accomplished in 2-8 hours.  Proportionately larger and denser bone specimens require more time for decalcification.  Time should be adjusted according to practice and experience. Test bone by cutting with scalpel.
1. **Decalcification Procedure for Grossing**
* Place calcified tissue into a sufficient amount of Cal-Ex that is 5-10 times the volume of the specimen to be processed.  The specimen must be completely immersed. Room 1 contains a labeled container for Cal-ex, in which blocks can be placed for the amount of time for proper decalcification. Make sure to log all cassettes on the log sheet for Cal-ex decalcification (include SU#, cassette#, and Date In/Date out). Test the bone/tissue hardness by cutting with a scalpel. After tissue is successfully decalcified, it can be placed directly into 10% neutral buffered formalin and processed routinely.
* Pour Cal-ex waste into a properly labeled waste container.  (See UMHS Classified Hazardous Waste Table in the Waste Codes binder). Cal-ex solution should be changed on a weekly basis.