SKELETAL MUSCLE BIOPSY
SURGICAL PROCEDURE

The usual procedure is an open surgical muscle biopsy, done in the Operating Room (some may be done in Private Clinics, Minor Surgery Room, or some in Doctors' Offices).

Local anesthesia:
- avoid epinephrine.
- infiltrate skin and subcutaneous tissue to the level of the fascia.
- avoid infiltrating the muscle itself.

The skin of the chosen limb is incised over 3-4 cm in the longitudinal plane over the belly of the muscle away from the tendon sheath. Incise superficial fascia, then underlying muscle, penetrating into the muscle about one cm deep, longitudinally, in the direction of muscle fibers.

Isolate a cylinder of muscle, about 8-10 mm in thickness, and 2.0 cm in length. Insert scalpel into the muscle to incise lateral longitudinal and deep margins of cylinder from remainder muscle.

An isometric muscle clamp catches the incised cylinder of muscle at both ends, slightly stretching the muscle fascicle. Both external ends of the clamped muscle cylinder are sharply incised and cut free from the main muscle body.

Several instruments have been devised to secure slightly stretched, properly oriented sections. The Price isometric clamp is the most frequently used during open surgical muscle biopsies.

NOTE: If a Price’s muscle clamp is not available, if the resected portion of muscle is too small to fit the clamp, if the biopsied muscle portion is too difficult to orient, submit a non clamped cylinder of muscle, 2.0 x 1.0 cm, unfixed and fresh, over moist gauze, to be handled by the pathology assistant.

An additional portion of muscle, 0.8 x 1.5 cm, is also needed if possible, to be used for histochemical and biochemical evaluations. Submit fresh, unclamped, over moist gauze.

- Avoid using plastic disposable clamp or tongue blade. These cause artifacts.
- Avoid using electrocoagulation before removing muscle cylinder for biopsy.
- Avoid immersing biopsy specimen in formalin or other fixative.

Use gauze, cotton, or filter paper, moistened with saline, to keep the biopsy specimen from drying within the surgical biopsy plastic bag or container, until handled by the special technician, pathology assistant, or neuropathology staff.