

SKELETAL MUSCLE BIOPSY SURGICAL PROCEDURE

1. LOCAL ANESTHESIA

- **Avoid using epinephrine at the site of biopsy, infiltrate with xylocaine without epinephrine.**
- Infiltrate skin and subcutaneous tissue down to the level of the fascia. It is not necessary to infiltrate the muscle itself, pain fibers travel over the fascia.

2. SURGICAL PROCEDURE

- The skin of the chosen limb is incised over 3-4 cm in the longitudinal plane, **over the belly** of the muscle.
- Incise superficial fascia, then underlying muscle, **longitudinally**, in the direction of muscle fibers, penetrating into the muscle about **one cm deep**.
NB: Do not use electric cauterization until after removing swiftly the muscle biopsy specimen.
- **Isolate a cylinder of muscle, about 1.0 cm in thickness, and 2.0 cm in length.**
- Insert scalpel into the muscle to separate lateral longitudinal and deep margins of cylinder from remainder muscle. Then incise proximal and distal ends with a cross section spanning the whole thickness of the selected cylinder.
- **Always select a cylinder of muscle from deeper layers, at least 1.0cm away from superficial fibrous fascia and fat.**
- **If study of fascia is deemed also necessary, submit an additional** more superficial muscle portion with a layer of fascia.

3. IMPORTANT NOTES:

- Do not tie distal ends of selected muscle cylinder with silk sutures.
- Do not stretch or tie the specimen over flat wood board (Excess stretching will trigger curling of fibers upon release of stretching).
- Do not add formalin, alcohol or any other fixative to the muscle as this will denature proteins and enzymes, impairing biochemical and histochemical studies.
- The muscle specimen is left to relax within barely moist, saline dampened gauze (Excess saline fluid will cause multifocal contraction of muscle fibers).