

Procedure for Semitendinosus/Semimembranosus Muscle Biopsy for Equine Polysaccharide Storage Myopathy

Following sedation, local anesthetic is infiltrated into the subcutaneous tissue over the incision site. Care should be taken to avoid putting lidocaine directly into the muscle at the site of incision, as artifacts could result. If a gauze stent is to be placed, the suture sites should also be infiltrated with local anesthetic. A longitudinal incision is made vertically over the muscle belly of the semitendinosus (more laterally) or the semimembranosus muscle (more medially). We have been taking samples from the semimembranosus muscle. Incisions made higher up in the muscle (between the tail head and the tuber ischium) appear to heal with fewer suture breakdowns, and incisions made more medially may be more cosmetic as the tail hairs may cover the small scar. The incision parallels the long axis of this muscle. The incision is extended into and through the epimysium (muscle fascia). Following exposure of the muscle, 2 parallel vertical incisions are made to isolate a strip of muscle approximately 3 cm long; a single vertical incision can also be employed. The strip is created by undermining the incision or incisions by blunt dissection, as with curved scissors. The diameter of the strip should be approximately 1.0 cm around. If the sample is greater than 1.0 cm diameter, split it longitudinally prior to fixation to ensure rapid fixation of glycogen. If an end is excised prior to undermining, the muscle will contract, making the rest of the isolation extremely difficult. Following isolation of the strip it can be excised at both ends. Care should be taken to handle the sample only at the ends. Closure includes both epimysium and skin, and subcuticular sutures may aid in cosmetic healing. A gauze stent sutured over the incision site seems to aid in healing without suture breakdown.

For formalin-fixation, place the strip on a piece of wooden tongue depressor or corrugated cardboard (this will decrease the contraction artifact that occurs during fixation). **Do not use non-formalin fixatives such as Histochoice, as they do not preserve glycogen.** Pinning the ends with needles will aid in reducing contraction, as well as keeping the sample in place. Additional wrapping of the sample is not necessary, and could result in compression artifact.

Samples should be shipped to:

Dr. Beth A. Valentine
Oregon State University
Veterinary Diagnostic Laboratory
30th & Washington Way
Corvallis, OR 97331

My phone number is 541-737-5061 and the fax is 541-737-6817.
I can also be reached by e-mail at beth.valentine@oregonstate.edu.

Charges: \$65 per biopsy plus \$5.00 accession fee includes histopathology for 1-2 slides and special stains (PAS for glycogen). Please include a form detailing the signalment and pertinent clinical history.