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A cucumber mount for processing lung biopsy specimens from calves

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Visualization and proper orientation for processing of biopsy specimens from pulmonary endoscopy for histologic sectioning is frequently a challenge due to the small size of the specimen. The specimen can also be easily lost during processing. Our solution for this problem was to adapt procedures previously described for biopsies from other anatomical sites.

The procedure involved using slices of cucumber as a support for the biopsied specimen. The cucumber slice has been used for processing cervical,⁶ intestinal,^{1,2} urinary bladder,⁷ laryngeal,⁴ and conjunctival biopsies.³ The cucumber mount allowed for proper orientation of the specimen and provided a means for handling the specimen without directly contacting and disrupting tissue architecture.

Cucumbers were peeled and sliced longitudinally in quar-

ters, and seeds were removed. Quarters were sliced into sections approximately 2-3 mm thick. Each slice was cut again into small pieces approximately 6 x 6 mm square. Cucumber slices were decolorized by 3 overnight changes in absolute ethanol and stored in absolute ethanol at 4 C.

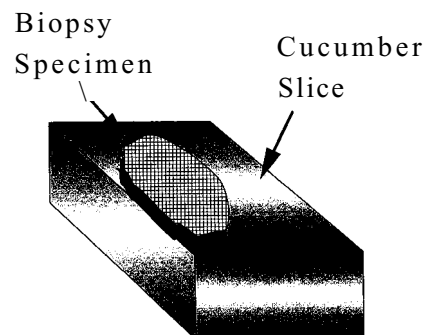


Figure 1. Schematic representation of positioning of biopsy specimen on cucumber slice.

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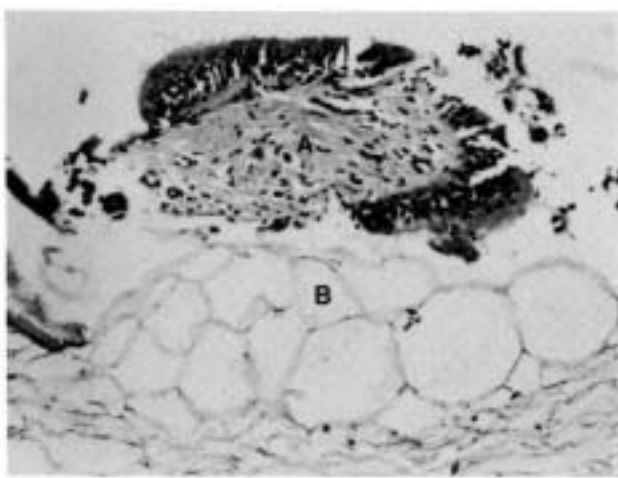


Figure 2. Biopsy (A) mounted on cucumber slice (B).

At the time of sampling, the biopsy specimen was mounted on a cucumber slice using a dissection needle. Because the cucumber-biopsy unit was embedded on edge, the biopsy was placed near the edge of the cucumber slice (Fig. 1). One drop of 0.5% aqueous solution of merbromin was placed on the cucumber-biopsy unit for visualization of the biopsy specimen. The cucumber-biopsy unit was then wrapped in a piece of end wrap paper (normally used for wrapping hair), placed in a tissue processing cassette, fixed in 10% neutral buffered formalin, and processed by routine methods for paraffin embedment. The cucumber-biopsy unit retained some of the merbromin for visualization of the biopsy on the cucumber, thus allowing for proper orientation of the biopsy specimen in the paraffin block (Fig. 2).

Cucumber was seen at the base of biopsies; however, little stain was retained in sections of cucumber. Sections can be stained by routine hematoxylin and eosin staining or a variety

of other staining methods, including immunohistochemical techniques.

Mounting small biopsy specimens on cucumber slices allowed for easier manipulation and visualization of tissues. This procedure enabled specimens that were too small to manipulate to remain intact during processing and embedment. In addition, the cucumber slice served as an aid for proper orientation of the specimen. Albumin was not used for adherence of the specimen to the cucumber, as has been reported.⁵ Utilization of the end paper during processing ensured adhesion of the specimen to the cucumber and serves as a small field to work in while embedding. This procedure can be employed for virtually any tissue specimen for which proper orientation or loss of a specimen during processing is a concern.

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The use of kidney biopsy of broodstock steelhead trout (*Oncorhynchus mykiss*) to determine the status of bacterial kidney disease infection

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To successfully reduce the incidence of bacterial kidney disease (BKD), caused by *Renibacterium salmoninarum*, in salmonid offspring, the status of BKD of the broodstock should be determined.¹ Identification of BKD-infected

broodstock and use of only non-BKD-infected broodstock may significantly decrease the incidence of BKD in offspring, because the disease is thought to be most commonly transmitted vertically.² In this paper, we report on a method of successful identification of BKD-infected salmonid broodstock using renal biopsy as a nonlethal sampling method.

Ten effete 4-5-year-old steelhead (*Oncorhynchus mykiss*) broodstock (9 males, 1 female) with a mean length of 71.4 cm (range, 55-77 cm) and mean weight of 2.75 kg (range, 1.85-3.5 kg) were randomly selected for this experiment. The fish were netted from the raceway and immediately placed

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