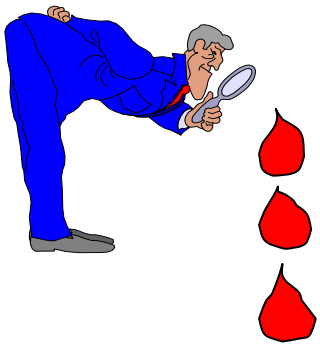
# ANOTHER *BLOODY* NEWSLETTER!
## March 2007



**Welcome:**
Please wish a warm welcome to Carolann Gerhard, our new medical technologist. She comes with twenty years of human laboratory experience. She works primarily weekday afternoons and evenings.

**Fluid analysis on chylous fluids:**
The refractometer protein will be falsely high on fluids that are grossly and diffusely lipemic (the lipemia does not form layers at the top of the sample). The fluid supernatant should be run on the Hitachi 917 to give an accurate protein result. (The lipemic supernatant may be used for chemistry tests such as triglycerides, but other chemistries may be inaccurate.)
**Example**: Feline – suspect FIP (Feline Infectious Peritonitis). Both thoracic and abdominal fluids were submitted for analysis. The refractometer protein was 7.6 g/dl. The sample was unsuccessfully airfuged, and the refractometer protein was reduced to 6.5 g/dl. The supernatant was then tested on the Hitachi, and the accurate protein was 2.7g/dl. The diagnosis with the original protein would have been FIP, but since the protein was <3.0 g/dl, the findings were consistent with a chylous effusion.

***Order of draw for multiple tube collections:***

| **Collection Tube** | **Mix by inverting:** |
|---|---|
| Citrate tube (Blue) | 3 to 4 times |
| SST Gel Separator tube (Red/Black) | 5 times |
| Serum tube (Red) | none |
| Heparin tube (Green) | 8 to 10 times |
| EDTA tube (Lavender) | 8 to 10 times |
| Fluoride (glucose) tube (Grey) | 8 to 10 times |

**The hazards of underfilling EDTA tubes:**
EDTA tubes **must** be filled at least ½ full. The liquid EDTA (7.5% solution) in a 2ml tube has an apparent protein concentration of approximately 7.5 g/dl. The effect of underfilling a tube will depend on the actual protein concentration of the sample. For example, if the concentration is actually 1.9 g/dl, as in a transudate, severely underfilling the tube could nearly double the apparent protein concentration. If the protein in a blood sample is originally 5.0 g/dl, the protein concentration will be falsely increased approximately 0.3 g/dl. The effects are greater in 7 ml and 10 ml tubes, as a 15% EDTA solution is used. Since the original protein content of a sample is not known, it is necessary to fill the tube at least ½ full to minimize these effects.

**Microtainer EDTA tubes:**
A word of caution regarding using these tubes: they do not mix well by inversion. Instead, vortexing or flicking multiple times with a finger is recommended. Otherwise clots may result, rendering them useless for testing. Also, the microtainer tubes are 12 times more expensive than the 2ml EDTA tubes. The blood volume required to fill the 2 ml tubes appropriately will have minimal impact on patient care. Please reserve the microtainer tubes for exotic species.

**Reference:**
NCCLS H3-A5, VOL 23, No32, 8.10.2.

**Respectfully submitted by Cherie Heger, MT (ASCP).**

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