**Supplementary material for:** Sensitivity of Initial Thoracentesis for Malignant Pleural Effusion Stratified by Tumor Type in Patients with Strong Evidence of Metastatic Disease

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**Appendix S1-** *Pleural fluid processing*

1. There is no lower limit for fluid, but it is generally understood that the diagnostic yield increases with sample volume and 50 ml is generally considered a threshold below which false negative results are more likely.
2. When cytology gets the sample, it is processed for smears by centrifugation concentration (make a pellet and re-suspend).  If it is very bloody, a ficoll gradient is used before centrifugation to remove the blood, which otherwise can obscure the cells of interest.
3. The slides are then reviewed by the pathologist.  When this review is complete or when immunoperoxidase stains are needed, a cell block is prepared.
4. The volume needed for a cell block is highly dependent on the cellularity of the fluid (pure transudates with clear light yellow fluid are paucicellular, but also less likely to have malignant cells).  The volume needed for a cell block may be 50-200 ml.
5. Smears are used for immunostains when there is not enough sample for a cell block but most of the effusions are large volume (>400 ml).