

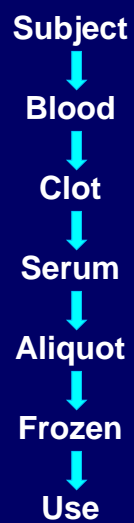


# Ensuring Quality in Serodiagnostic Studies

Suman Laal, Ph.D.  
Departments of Pathology and Microbiology  
Suman.Laal@nyumc.org



## OBTAINING SPECIMENS





## SUBJECT

- Patients and controls from same and similar setting
- Obtain as much information as possible
  - Smear (1st/2nd/3rd), 1+, 2+, etc
  - X-ray
  - Culture
  - Clinical
  - Family History
  - Exposure to TB



## BLOOD

- Sterile glass or plastic tubes for collecting blood (any specimen)
- High quality plastics to avoid non-specific binding of serum proteins (including antibodies) to tube.



## CLOT

- Clot formation at 3-4 hours at room temperature
- DO NOT draw serum
  - Low volume
  - High risk for hemolysis
  - Fibrin clots
- Dislodge clot with STERILE glass-rod (or broom stick)
- Leave in refrigerator overnight



## SEPARATE SERUM AND ALIQUOT

- Low speed centrifuge
- Separate serum (sterile)
- Aliquot:
  - Multiple aliquots in appropriate tubes
  - For example, 3mL
    - 2, 1mL aliquots
    - 1, 500 $\mu$ L aliquots
    - 5, 100 $\mu$ L aliquots
- Avoid storing smaller aliquots



## USE

- Thaw in ice whenever required
- Keep track of freeze-thaw cycles
- Make working stocks for a set of experiments
- Keep in freezer of refrigerator for short-term storage



## FREEZERWORKS

- Get Freezerworks if possible
- Specimen Organization and Management
  - Available to purchase online ([www.freezerworks.com](http://www.freezerworks.com))
  - Can be configured for any type of storage unit (freezer, refrigerator, or liquid nitrogen tank) and any type of specimen (cells, DNA, plasma, etc).
  - Drop down menus for specimen identification (name, date, type) and for user defined specimen characteristics such as sputum result, HIV status, and clinician's name.
  - Specimens can be searched for by name, type, or any specimen characteristic created.
  - User can view specimen location by drop-down hierarchal tree: Freezer /Shelf / Rack/Box/Position/Specimen name.
  - Can attach any information such as clinical notes.
  - Monitor specimen volumes and freeze/thaw cycles.
  - Customize printable specimen inventory and labels.
  - Compatible with Excel