Review pertinent **Safety Regulations**, including

- Name on requisition and specimen do not match, reject the specimen
- Cytotechnologist may sign out NIL specimens
- CLIA 88, cytotechnologists may not screen more than 100 conventional slides per day
- CLIA 88, cytotechnologists must have at least 3 years’ experience to rescreen for quality control

Review principles, procedures, supplies and equipment used in **Technique**, including

- Preserve architecture thyroid cells, gently pull the 2 slides across each other
- Touch prep slide, gently touch second slide to the specimen applied to the first slide
- To preserve architecture of a specimen when preparing a smear onto 2 slides, gently rub the slides across each other and then place them in alcohol.
- Preservative for touch prep slide = 95% alcohol
- FNA for suspected lymphoma, preserve specimen in RPMI
- Air-drying increases adherence of cellular material and substances such as amyloid and colloid to a specimen slide
- Pap stain, better than Romanowsky stain to view keratinization, hyperchromasia, and nuclear detail
- Hemotoxylin stain used to stain nuclei
- Orange G and Eosin Y used to stain cytoplasm
- 10% formalin to preserve core of an FNA specimen of the lung
- Uncap a vial containing formalin under a negative pressure fume hood

Review criteria and principles sued in **Interpretation**, including

- Normal cells of thyroid, pancreas, ductal cells of breast = symmetric, honeycomb, round and oval cells, firmly joined
- Small cell carcinoma, respiratory tract = metaplastic cell size, very dark nuclei, molding, hyperplastic
- Most common differential diagnosis for a carcinoid tumor – small cell carcinoma
- Differentiation of adenocarcinoma cells from mesothelioma cells – mesothelioma cell borders appear lobulated.
- Melanoma, single highly distorted cells with or without pigment
- Multinucleated ciliated columnar cells, respiratory tract, round to oval nuclei, inconspicuous nucleoli, and cilia = benign
- Significant cell to cell variation in specimen from most body sites = potentially malignant
- Pap interpretation:
  - Criteria high grade dysplasia = metaplastic cell with dark and irregular nucleus
  - Adequate sampling of endocervical cells = 10, with fewer endocervical cells not present
o Hyperkeratosis = numerous groups of keratinized, orangophilic superficial cells with no nuclear component
o An intermediate squamous cell with a hyperchromatic nucleus, irregular nuclear border that is roughly three times the size of a normal intermediate squamous cell = LSIL
o Satisfactory for analysis criteria = Well-visualized squamous cells covering at least 10% of the viewing area of a slide.
o Intermediate squamous cell nucleus = 1 – 8 µm
o Degenerated neutrophils may be mistaken for Trichomonas
o History of medroxyprogesterone acetate (Depo-Provera®), numerous parabasal cells