Smearing Techniques

**Smearing Techniques**

- **Purpose**
  - Monolayer Dispersion
  - Mild Cohesion Test

- **Character**
  - Semisolid → One Step
  - Fluid → Two Step
  - Fluid in Hub → Snap
  - Fluid with Particles → Crackle
  - Fluid in Syringe → Pop


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**Original One & Two Step Technique – Zajicek 1974**

- **One Step (Semisolid)**
- **Two Step (Fluid)**

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**One Step Technique**

- **One Step Technique – Right Handed**

- **Original One Step Technique**
Smearing Techniques

FNA SMEAR ARTIFACTS
SKIP AND POP-OFF

Two Step Technique

Two Step Technique

Two Step Technique

Two Step Technique

Two Step Technique

Two Step Technique

John S. Abele, MD
Smearing Techniques
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FNA SMEAR ARTIFACTS

WICK CONCENTRATION

INCLINE CONCENTRATION

THE SNAP TECHNIQUE

POP TECHNIQUE

FNA BIOPSY OF BREAST

INFLUENCE OF # OF BIOPSIES

4 BIOPSIES OF 400 LESIONS
INCREMENTAL CONTRIBUTION
1ST BIOPSY ~70% DIAGNOSTIC
2-4 DECLINING YIELD (20, 6, 4)

TARGET TYPES
BENIGN / MALIGNANT: SAME OUTCOME
SMALLER TARGETS: BETTER INCREMENTAL YIELD

SENSITIVITY vs. #BX - RMS CURVE FIT
- 100% SENSITIVE AT 9-10 BX
4 "OPTIMAL YIELD"

PENNIS. ACTA CYTOL 34:673,1990

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