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Histopathology Tip: Inking Surgical Margins

Grab your indelible markers and let the artist in you flourish! Inking surgical margins allows for identification of specific edges of a mass or lesion which is important when:

- Large excisional biopsies are incised to allow for optimal fixation
- Gingival tumours are excised and submitted
- Additional tissue excised beyond the initial incision

Inking margins in different colours allows you and your pathologist to know which edges may need additional resection in the event of dirty margins

Collect Supplies (see Fig 1)

a) Ink
   - ➢ Commercial dyes
   - ➢ Waterproof drawing ink
     - ○ We tested:
       - ✓ Liquitex Ink pens (available from Warehouse Stationary stores)
       - ✓ Indian Ink (available from Warehouse Stationary stores)

b) Cotton swabs or cotton tipped applicators
   - ➢ Ink pens do not require a separate applicator but are not as easy to ink margins on large or fatty tissues

c) Paper towel
   - ➢ To remove excess fluid/blood from the surface of tissues

Fig 1. Supplies needed for inking margins include: ink, cotton-tipped applicators, cotton swabs or cotton balls (not shown), and paper towel

Helpful hint: *Use a paper plate under your tissue while inking the margins to keep your counters cleaner!*

Inking your margins (see Fig 2)

- Biopsy margins can be painted on unfixed or fixed tissues

Step 1 Place the tissue on absorptive material (paper towel) and blot dry the surface

Step 2 Choose your colours! Use different colours to mark the different cutaneous surfaces of your biopsy

- ✓ Only ink margins of concern where you suspect incomplete removal
  - Ink marks are superior to sutures in identifying proximal and lateral margins of a mass
- ➢ **Best colours:**
  - ✓ Blues
  - ✓ Greens
- ➢ **Colours to avoid:**
  - × Yellow
  - × Orange
  - × Black ink (especially in suspected melanomas)

Fig 2. Lateral and medial margins inked with green and blue ink, respectively.

Step 3 Use a cotton swab, cotton tip applicator or ink pen to distribute ink over the tissue margins.

- × Do not pour dye on the surface!

Step 4 Allow the ink to dry for **dry for 5-10 minutes** prior to immersing the sample in formalin

- Some dye will dissolve within the fixative, but this will not affect the evaluation.