

DATE:	27 April 2026
TO:	Edmonton Zone: All Physicians, Nurses, Laboratory Services Staff
FROM:	Alberta Precision Laboratories – Dermatopathology Subspecialty Group
RE:	Clarification on Special Dermatopathology Specimen Types and Techniques

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Key Message

SMEX (Slow Mohs) and Muffin Techniques

1. **SMEX (staged margin-controlled excision), also known as the Spaghetti technique and slow Mohs**

- **Procedure:** It is done in two stages: margins and resection of the lesion. For margins, a layer of skin is removed and microscopically mapped, similar to standard Mohs surgery, but the tissue is processed using permanent (formalin-fixed paraffin-embedded) sections.
- **Timing:** This processing takes longer (less than 24 hours to a few days) compared to the rapid frozen sections used in traditional Mohs. The patient goes home with a dressed wound and returns later for the results and further treatment or reconstruction. Once all margins are deemed negative, final resection is performed.
- **Purpose:** In comparison to frozen section analysis via standard Mohs, the delayed processing allows for a more accurate and detailed microscopic examination of the melanocytes at margins, which is crucial for identifying the subtle, irregular borders of melanomas (especially lentigo maligna).
- **Tissue Sparing:** It preserves healthy tissue by precisely mapping the cancer's spread, similar to traditional Mohs. The technique is mostly used on anatomically sensitive sites.
- **Additional information:** In Edmonton, the SMEX procedure has been carried out for the past 13 years. This technique is almost exclusively used for melanoma in situ (lentigo maligna). Four different dermatologists (one at the University of Alberta Hospital and three in community practice) utilize this technique. The terms SMEX, Spaghetti, and slow Mohs are used interchangeably by different operators for this technique; however, from the pathology perspective, they essentially mean the same thing.

2. **Muffin technique**

- **Procedure:** The "muffin technique" or muffin technique micrographic surgery (MTMS) is a surgical method used for removing non-melanoma skin cancers (BCC, SCC) with complete margin control, primarily as an alternative to traditional Mohs surgery. The technique is named for the way the excised tissue is handled, resembling a "muffin" and its "paper".
- **Excision:** The tumor is excised from the patient using standard 90-degree angles, along with a small, healthy margin of surrounding skin. This is different from traditional Mohs surgery, which often uses a 45-degree angle.
- **Specimen Preparation:** The central portion containing the tumor (the "muffin" itself) is separated from a peripheral strip of tissue, which includes the lateral and deep margins (the "muffin paper").
- **Flattening and Orientation:** The margin ("muffin paper") is flattened into a single plane and color-coded to maintain orientation relative to the patient's body. The color-coding is performed by the dermatologist.



- **Pathology Review:** The entire margin is then processed using standard paraffin-embedded techniques and examined horizontally by a pathologist for any remaining cancer cells. The periphery of the section is the entire peripheral margin, and the center of the section is the deep margin.
- **Additional info:** In Edmonton, the Muffin Technique has been carried out for the past 8 years. It is mostly done for basal cell carcinomas, and rarely for squamous cell carcinomas. Currently, only one dermatologist uses this technique (at the University of Alberta Hospital).

Effective Immediately

Questions/Concerns

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Approved by

- Dr Michael Mengel, North Sector Medical Director, APL

References

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