DERMATOPATHOLOGY GROSSING GUIDELINES

ORIENTATION

RUSH CASES:
For all RUSH cases, the dermpath fellows AND the skin service resident should be notified via email about the case.

All skin biopsy requisitions must be reviewed and categorized by the FS or on-call resident/fellow, who must determine:

1. Whether the specimen is "RUSH" or not (and if a RUSH received on Friday, whether it should be read Saturday or Monday)

2. If there are any additional stains to be ordered up front (see below); if there are any questions about this, do not hesitate to page the dermpath fellow on service/on call.
- All cases should get a "skin package" tag (H&E x 2)
- All inflammatory cases should get a PAS
- If leukemia/lymphoma is in the differential, order unstained slides (USI) x 10
- If you are not sure and have not been able to get in touch with a dermpath fellow, order USI x 5
- If the rule out is HSV/VZV, order USI x 3

TYPES OF BIOPSY:
1. Excisional Biopsy- In this procedure, the entire tumor is excised along with a margin of normal tissue around the lesion.
2. Incisional Biopsy- In this procedure, only a portion of the tumor is excised. This is most commonly used for tumors of the skin.
3. Shave Biopsy: In this procedure, the surface portion of the lesion is removed with a blade.
4. Curette method: In this procedure, the surface of the lesion is scraped off.

NOTE: Methods 3 and 4 are performed to remove small growths and to confirm their nature.

5. Punch Biopsy: In this procedure, a small cylinder of skin and subcutaneous tissue is removed.

NOTE: Method 5 is done to sample suspected inflammatory dermatoses and small masses.

FIXATION OF SKIN SPECIMEN:
Fixative for skin specimens is 10% buffered formalin. Formalin should be approximately 10 times by volume that of the specimen.

GROSS DESCRIPTION:
A vivid macroscopic description should be provided so that while reading the report one can actually visualize the specimen and lesion.

I. Specimen-

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1. Shape and type of specimen- (e.g. Ellipse, punch, shave, fragmented, etc…)
2. Fixed or unfixed
3. Number of pieces of tissue
4. Dimensions of the specimen in millimeters (length, breadth, and thickness). In the case of small biopsies and punch biopsies, maximum diameter is noted
5. If the specimen is marked with a surgical suture, the position is described in detail.

II. Characteristics of the lesion-

1. Dimensions- length and width of the lesion or diameter of the dominant nodule
2. Nature- macule, papule, nodule, patch, plaque
3. Profile- dome-shaped; papillated; verrucous; flat-topped; umbilicated
4. Color- uniform or variegated

Color of Various Skin Tumors:

Dark brown- Melanoma
Brown to red- Pyogenic granuloma
Pink to red- Cylindroma
Yellow- Sebaceous adenoma and Steatocystoma Multiplex
Flesh colored- Spiradenoma
Blue- Blue Nevus
Dark blue, purple- Kaposi Sarcoma
Blue, black- Apocrine hidrocystoma

5. Surface - intact or ulcerated , regularity and symmetry
6. Margins - sharp or ill defined, flat or elevated
7. Satellite nodules with dimensions and measurement of distance from the main lesion and nearest margin
8. Identification and measurement of the distance between the edge of the dominant lesion and the nearest surgical margin (depending on the type of specimen)
9. Description of any other lesions present (e.g. scar, areas of pigmentation)
10. Configuration (the contour or outline of a single skin lesion, synonymous with shape)

A) Linear - in a line.
B) Arciform - in the form of an arc, curved.

1. Arcuate: having an outline of a curved line or arc.
2. Annular: ring-shaped.
3. Serpentine: having an outline like a serpent, coiled.
4. Polycyclic: having two or more rings or whorls.
5. Targetoid: resembling a target, rings within rings.

C) Circular - having an outline of a full circle without central clearing. (Guttate - like a drop. Nummular or discoid - having the shape and size of a coin or a disc.)

III. Tissue submitted-

A. Must mention whether the entire tissue has been submitted for histopathological examination.
B. Tissue submitted for special studies- (e.g. histochemical stains, immunohistochemistry, electron microscopy, cytogenetics etc.)

HANDLING OF GROSS SKIN SPECIMEN:

- In specimens from **vesicular** diseases, the vesicles should be submitted intact. One should not cut through the vesicle under any circumstances.

- **Small excisional biopsies** (up to 5mm) are submitted in toto.
  - step-levels should be undertaken in case of severely dysplastic, in-situ or any difficult melanocytic lesion.

- Make sure that **punch biopsies** are orientated on edge.

- In **re-excision specimens**, if the original lesion was completely excised and if there is no macroscopic residual lesion other than a scar, only one representative section is taken from the center of the specimen.

  - If the original lesion was incompletely excised or if any residual tumor is evident in the re-excision specimen, then blocks are taken every 2 - 3 mm through the whole scar and embedded for histopathological examination.

- **Excisional skin biopsies** or formal resections for melanocytic lesions and proven or suspected skin cancer are usually sent to the laboratory with one margin appropriately marked with an orientation suture. It is important for the grossing resident/technician to maintain orientation of the specimen while grossing by inking the specimen appropriately. This is necessary so the attending pathologist can accurately evaluate the lateral and the deep margins microscopically.

  - All specimens requiring orientation should be inked using standard technique. Multiple colors allow identification of two short axis margins, two long axis margins (denoted as 3, 6, 9 and 12 o'clock margins) and the deep margin.
    (E.g. 12-3 o'clock margins -blue, 3-6 o'clock margin –green, 6-9 o'clock margin –purple, 9-12 o'clock margin –orange, and deep margin -black).
    - A diagram of the pertinent anatomy showing the location of the sutures and ink marking is useful for maintaining proper orientation of the specimen.
    - If the excision specimen is not oriented by the clinician, then the entire margin can be inked in one color (black).
    - The first section should be taken from both "tips" of the specimen and the remaining specimen should be submitted after sectioning the whole specimen every 2 - 3 mm, transversely in a sliced bread pattern
      - The two polar ends of the skin ellipse should be placed in either one or two designated cassettes depending on whether the specimen is clinically oriented.
        - Oriented- Tips in separate cassette
        - Un-oriented- Tips in same cassette
      - The polar ends are embedded and cut from the 'face down' aspect .

- If the initial sections show malignant involvement, step levels can be undertaken to assess clearance up to the extreme peripheral margin.

- Not more than 3 sections should be processed in each cassette, to make one block.

- In specimens less than 10 mm, the entire lesion must be submitted for histopathological examination or the entire specimen if the lesion cannot be seen.

- In excisional biopsies over 10 mm containing melanoma, the entire lesion is embedded.

- In case of basal cell carcinoma and squamous cell carcinoma, blocks are taken from areas of maximum lesional thickness, ulceration and nearest margins.

* If you ever have a case where over 20 cassettes will be submitted for any single part, please contact the attending on service prior to sectioning.

- Curetted specimens, incisional biopsies, shave biopsies, and punch biopsies do not require the margins to be inked (unless requested by the clinician in Beaker).

NOTE:
Contact the attending on service if there is ever a question about how many sections to submit.