

How to Conduct a Biopsy So Nobody Gets Hurt

Because few nurse practitioners (NPs) have had an opportunity to directly observe the agonies and ecstasies of their consulting dermatopathologist, we present this pertinent peek. We hope that NPs, once armed with this glimpse, will perform only appropriate, safe, and effective biopsies that have the potential to fully inform patient treatment options.

For those NPs who are unaware of the credentials, resources, and training that distinguish a dermatopathologist from a general pathologist, clarification may be necessary. A dermatopathologist is a medical doctor who has additional training in general pathology, clinical dermatology, and the special techniques and interpretations pertaining to the 1500+ diseases of the skin. He or she also functions as an expert consultant to the primary care providers, dermatologists, general pathologists, and other providers sending patient skin specimens.

It is imperative that clinicians performing simple biopsy procedures optimize their chances of obtain-

ing you do a tiny 3 mm punch biopsy in what you believe to be the “worst area” of a larger lesion, you risk missing the melanoma, especially if it is arising from a pre-existing nevus. Do an excisional or deep shave biopsy of the entire lesion unless that is impractical. If it’s not practical (eg, on the face), you should tell the pathologist the size of the total lesion, remembering that melanoma in situ on sun-damaged skin of the face can be very subtle and easy to miss. At least a couple of punches from within that lesion are advisable.

- **Overlooking where important diagnostic features are seen in biopsy specimens.** This error results in choosing the wrong biopsy technique and most commonly arises with dermatitis biopsies. Think about that word for a second—dermatitis means “inflammation of the dermis.” The dermis is therefore the most important area to be evaluated microscopically. A deep punch biopsy should always be performed for any dermatitis; a shave biopsy is nearly useless. Similarly, if you are looking for panniculitis, the punch must be very deep to get a satisfactory specimen; you may even have to do a punch biopsy and then another punch in the hole you just created to get a decent sample of subcutaneous fat.
- **Attempting to spare patients multiple pathology charges by placing similar-appearing lesions in the same specimen container.** Clinicians may believe these to be intradermal nevi, skin tags, sebaceous hyperplasia, or even dermatitis thought to be occurring in several locations. Submitting these together in 1 container results in a lower lab fee, but 1 of the specimens could, and occasionally does, turn out to be a diagnostic surprise. One of those banal-appearing nevi may actually be a melanoma, or 1 of the psoriasiform rashes may be SCC or BCC, but you may never know which site it was. Even submitting multiple skin tags can occasionally yield an unwelcome surprise (Figure 1).

DISCERNING DERMATOLOGY



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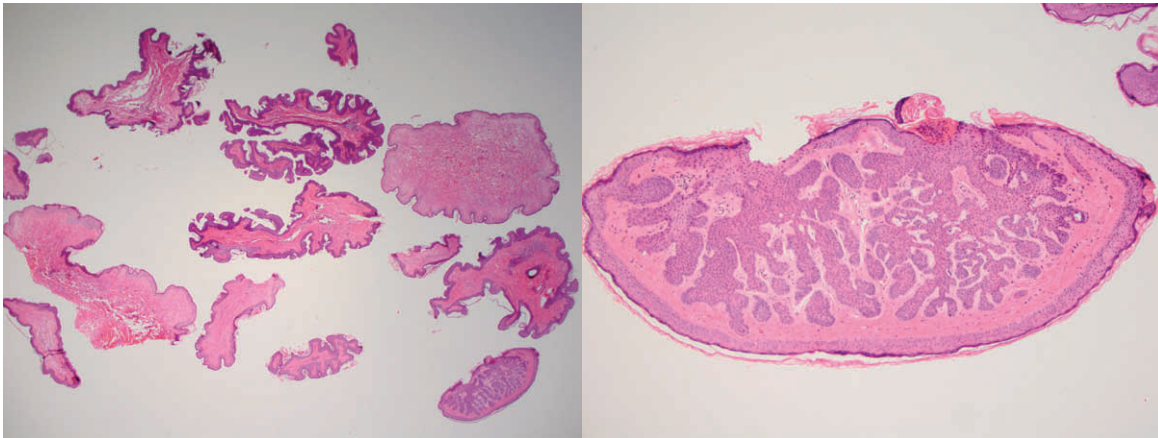
ing useful treatment information in a safe, accurate, and maximally cost-effective manner. This goal involves avoiding the following **common biopsy-ing errors**.

- **Partially sampling pigmented lesions.** If you believe that the pigmented lesion may be a melanoma, provide enough material to allow the pathologist to see the entire lesion. Size, symmetry, and circumscription are the most important microscopic features, and none of those features can be evaluated on a partial biopsy. If

Figure 1. Specimens Submitted Together to Pathology, Yielding Indeterminable Locations

Note: Image on the left demonstrates multiple specimens submitted together in 1 specimen container, all of which were benign except 1 basal cell carcinoma (BCC). The image on the right is an enlarged view of the same BCC from that specimen container.

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- **Performing a superficial shave biopsy, rather than a deeper scoop shave biopsy, when attempting to distinguish between a superficial lesion such as an actinic keratosis (AK) and an invasive squamous cell carcinoma (ISCC).** Contrary to popular belief, ISCCs typically arise from AKs (NOT squamous cell carcinoma in situ). Therefore, a punch biopsy or a scoop shave is necessary in order to see the dermis under the epidermis (which is often thickened in an AK). If AK is present at the deep edge of the biopsy specimen, ISCC cannot be excluded, and the biopsy was a waste of time and money.
- **Thinking that atypical nevi occur anywhere on the face (except the ears).** If a concerning pigmented lesion is seen on the face of a middle-aged or older patient, the possibilities are essentially only 5: a routine papular/intradermal nevus that is heavily pigmented, a pigmented keratosis (eg, solar lentigo or seborrheic keratosis), a pigmented AK, a pigmented carcinoma (basal cell carcinoma [BCC] or SCC), or a melanoma. Dysplastic nevi don't occur on the face (except the ears); neither do junctional nevi. If you get the diagnosis of a junctional or atypical nevus on the face, consider doing

another biopsy or calling your dermatopathologist to communicate the size and other features of the lesion.

- **Failing to recognize that a curette is simply not a biopsying instrument;** it is a treatment tool. Fragments obtained via curettage are challenging to interpret microscopically and can lead to a missed diagnosis. Be especially sure to never make the very dangerous mistake of using a curette on a pigmented lesion, where melanoma can easily be missed entirely.
- **Assigning inaccurate, imprecise, or careless designations to tissue sites.** Confusing left and right on requisitions can lead to the wrong site being excised on follow-up. Knowing the exact anatomic location is significant to your dermatopathologist. Some vital locations include the lower extremity; *leg* indicates the area from the knee to the foot only; the *thigh* is above the knee (melanomas are rare on the thigh but common on the leg). *Arm* and *forearm* should also be used precisely, just as *thigh* and *leg*. A benign nevus from within the hairline of the scalp looks much worse microscopically than a melanoma from the non-hairbearing forehead just an inch away. Check requisitions before sending and use specific, accurate location descriptions.

- **Failing to make absolutely sure that the specimen landed in the specimen container, not stuck to a glove, still in the punch instrument, or some other obscure place.** In a related error, make sure that the specimen ends up in the correct bottle when sampling 2 or more lesions; it's disturbing how often a provider puts a specimen in the wrong container.
- **Partially sampling a recurrent nevus.** The clinician mistakenly performs a punch biopsy that is too small to get fully outside of the prior biopsy scar. Recurrent nevi are also called *pseudomelanoma* for a reason. They can be very atypical-appearing microscopically and can be indistinguishable from melanoma unless the dermatopathologist can see what the lesion looks like in its entirety (particularly beyond the scar of the previous biopsy site). On a similar topic, if you know that the nevus has been previously biopsied or traumatized, inform your dermatopathologist so he or she doesn't inadvertently misinterpret the lesion as a melanoma.
- **Using the clinical history section of the lab requisition as a justification for billing, rather than for communicating with a dermatopathologist.** This section is your means to communicate thoughts and concerns to your dermatopathologist. Not doing so by writing down things you think insurance companies are more likely to approve (eg, "R/O melanoma" rather than "SK") is both dangerous and substandard care.

This list of common biopsying errors is not exhaustive, but includes all too commonly encountered pitfalls. Avoiding these common errors, as well as effectively communicating with your consulting dermatopathologist, improves the level of care for your patients. **JNP**

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