

Letter

How we do it: Untangling the web of inpatient biopsy supplies from ambulatory clinics

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To the Editor

While dermatology is primarily an outpatient specialty, inpatient consultation plays a critical role in both resident education and patient care.^{1,2} For patients admitted with a skin condition, dermatology consults have been shown to reduce length of stay and decrease the risk of readmission by up to tenfold.² Biopsies are performed in approximately 30% to 46% of inpatient consults.^{3,4} However, obtaining the necessary supplies can be challenging and time-consuming.

Anecdotally, inpatient biopsy supplies are often sourced from outpatient clinics, which are not reimbursed for these materials. When obtained from the inpatient side, supply availability and storage vary across hospital floors, and access to medications, such as lidocaine, may face additional barriers. Efficient supply workflows and inventory management have been shown to improve patient care quality, operational efficiency, and financial performance in other inpatient settings.⁵

Guidance on obtaining supplies for inpatient dermatologic procedures is limited, particularly regarding optimal reimbursement practices. To streamline the biopsy process and support patient-specific billing for supplies (rather than unaccounted loss from ambulatory clinic stock), we developed a standardized, prepackaged punch biopsy kit containing all items necessary for the majority of inpatient skin biopsies (**Figure 1**). These kits are stored in a centralized hospital supply closet, easily accessible to dermatology residents. We also recommend maintaining a reserve of additional supplies that are occasionally needed for inpatient skin biopsies but not frequently enough to include in the standardized kit (**Table 1**). Materials necessary for polymerase chain reaction testing, such as sterile specimen containers with saline-soaked gauze, were not included in our kit, as these items are widely available in the inpatient setting.

When a patient undergoes an inpatient biopsy, a standardized punch biopsy kit is checked out under the patient's name. Each dermatology resident is assigned

unique login credentials for the Cardinal Health Wave-Mark system. To document use, the resident logs into the supply closet computer, searches for the patient by name, room number, or medical record number, and selects the appropriate chart. The Dermatology Punch Biopsy Kit is then added to the patient's account, either manually from a list of available procedure kits or by scanning the barcode on the packaging. This ensures that the cost of the kit is appropriately assigned to the admitted patient. At our institution, residents hand-deliver specimens directly to the pathology lab's grossing room to expedite processing for specimens obtained Monday through Friday from 8 am to 5 pm. Samples collected after hours or on weekends are taken to the 24-hour main pathology lab desk. Most specimens are processed on campus; however, this process may differ at institutions where off-site transport is required.

To cover the cost of inpatient consult-related supplies not included in the standardized biopsy kit, we suggest negotiating a flat fee paid by the hospital to the dermatology group providing inpatient consults, based on anticipated usage and billed quarterly, semiannually, or annually. At our institution, items stocked in inpatient supply closets are monitored and restocked by the hospital's medical materials team to maintain periodic automatic replenishment (PAR) levels. The storage location, PAR level monitoring, and restocking processes should be tailored to each institution's infrastructure.

Obtaining supplies for inpatient dermatology procedures presents unique logistical and billing challenges. Traditional attempts at efficiency have often led to loss of supplies from ambulatory clinics and loss of appropriate reimbursement. Implementation of a standardized punch biopsy kit, centrally stored and integrated with institutional supply tracking and billing systems, streamlines patient care and facilitates proper reimbursement. This intervention improves workflow for inpatient dermatology consult teams and may serve as a model for other specialties facing similar challenges.

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Potential conflicts of interest

The authors declare no conflicts of interest.

















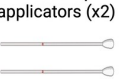


Prep	Skin marking pen 	Chuck pad 	Ballpoint pen 	
Anesthesia	Alcohol prep pads (x2) 	Lidocaine vial 	Syringe with 18G needle 	30G needle 
Biopsy Tools	4 mm punch tool 	Forceps 	Formalin cup 	Biohazard bag 
Closure	4-0 suture 	Needle driver 	Scissors 	Gel foam (optional) 
Bandaging	Gauze pads (x10) 	Cotton tip applicators (x2) 	Ointment packet 	Bandages (x1-2) 

Figure 1. Recommended contents for standardized inpatient biopsy kits. Including a pen for signing the procedure consent form can be particularly useful for patients on contact precautions. Biopsies of ulcers may be difficult to suture, so gel foam may be a helpful alternative.

Table 1. Recommended Supplies for Inpatient Biopsies.

- Consent form for procedure
- Photo consent form for educational purposes, if applicable
- Additional formalin containers for multiple biopsy sites
- Biohazard bags for multiple biopsy sites
- Michel's solution for direct immunofluorescence
- If performing a tissue culture:
 - Urine specimen cup
 - Saline to wet gauze at the bottom of the cup
 - Chlorhexidine gluconate prep stick to clean the tissue culture site
- Shave biopsy tools
- Aluminum chloride for hemostasis after shave biopsies
- Potassium hydroxide (KOH) prep supplies:
 - 11- or 15-blade scalpel
 - Glass slides
 - Slide cover slips
 - KOH solution
- Additional dressing supplies
- Swabs:
 - Bacterial swabs
 - Viral swabs
- Other sizes of punch biopsy tools (eg, 3, 5, 6, 8 mm) for telescoping punch biopsy
- Alternative sutures if the standardized kit does not contain the desired type
- Disposable electrocautery tool
- Gel foam (if not included in the standardized biopsy kit)
- Skin glue and/or adhesive skin closure strips, if desired

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