



SKIN CANCER (OTHER THAN MELANOMA)

## NUMBER OF SKIN BIOPSIES NEEDED PER MALIGNANCY: COMPARING THE UTILIZATION OF SKIN BIOPSIES AMONG DERMATOLOGISTS AND NON-DERMATOLOGIST CLINICIANS

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**Introduction:** Previous analysis at our institution found a significant difference in the utilization of skin biopsies between dermatologists (MDs) and dermatology advanced practice professionals (APPs) by measuring the number needed to biopsy (NNB) to diagnose one skin cancer. There are too few board-certified dermatologists to see all patients with skin disease, leading primary care physicians (PCPs) to serve at the frontline of skin cancer screening.

**Objective:** To compare biopsy utilization between dermatology MDs and APPs, non-dermatology PCPs and non-dermatology specialty clinicians.

**Materials and methods:** We performed a retrospective review of biopsy reports submitted by 22 dermatology MDs, 6 dermatology APPs, 127 non-dermatology PCPs, and 46 non-dermatology specialties. Biopsies for inflammatory, cosmetic, and functional indications were excluded. The number needed to biopsy (NNB) was calculated as the number of biopsied lesions divided by histologically-proven skin cancers. Clinically nonpigmented and pigmented lesions were used to calculate the NNB for nonmelanoma skin cancer (NMSC) and melanoma, respectively.

**Results:** Of 3306 biopsies, 882 NMSCs and 79 melanomas were diagnosed. The NNB for all skin cancers was 3.53. The NNB by clinician type was dermatology MD 2.79, dermatology APP 4.61, non-dermatology PCP 4.55, and non-dermatology other 6.17 ( $P < 0.0001$ ). The NNB remained significant between clinician groups for NMSC (Derm MD 1.97, Derm APP 2.66, Non-Derm PCP 2.36, and Non-Derm other 3.35;  $P < 0.0001$ ) but not for melanoma (Derm MD 14.32, Derm APP 20.81, Non-Derm PCP 27.56, and Non-Derm other 55.22;  $P = 0.1445$ ).

**Conclusions:** There is a significant difference in biopsy utilization among clinician types.





Dermatology MDs performed the least biopsies to diagnose one skin cancer. The NNB was similar between dermatology APPs and non-dermatology PCPs and highest for non-dermatology specialty clinicians. The NNB for melanoma was not significant among clinician groups however analysis was limited by low biopsy numbers in certain groups.

