

Hypertrophic Scar Severity and Clinical Management in the Real-World Dermatology Setting

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Background

- Hypertrophic scars are characterized by raised, erythematous, and often pruritic or painful lesions that remain confined within the original wound boundaries.¹
- Hypertrophic scarring can affect patient quality of life, especially when located on visible or functional areas, prompting a range of management strategies.²
- The severity of hypertrophic scars is commonly assessed using standardized clinical tools such as the Vancouver Scar Scale or the Patient and Observer Scar Assessment Scale³; however, these tools are not widely used in routine practice.
- Dermatology-specific electronic health record (EHR) data collection allows for systematic clinician assessment and documentation of hypertrophic scar severity.
- Understanding how scar severity correlates with the choice and timing of clinical interventions can inform treatment guidelines and improve patient outcomes.

Objective

- To characterize hypertrophic scar management by severity in the real-world dermatology setting.

Methods

- A retrospective analysis (January 2022-January 2025) of EHRs of patients with hypertrophic scar (L91.0, ICD-10) from specialty dermatology facilities in the US-based OMNY Health real-world data platform was performed.
- Patients were selected if they had at least 1 scar assessment scale (ScAS) measurement associated with a hypertrophic scar diagnosis code.
- Additional diagnoses, prescriptions, and procedures were assessed at the same visit as the ScAS measurement.
- Proportions of patients by ScAS measurement were calculated for comorbid dermatologic conditions and common treatment strategies.

Results

- A total of 21,726 patients with 28,779 ScAS measurements were included. Distribution of scar assessment severity measurements is presented in **Figure 1**. (1% no noticeable scar, 22% flat scar, 61% raised scar, 16% nodular scar).
- Distributions of gender (64% female), race (25% nonwhite), ethnicity (10% Hispanic or Latino), and age (mean: 46 years; standard deviation: 21 years) were similar across ScAS categories (**Figure 2**).
- Top comorbid dermatologic conditions were melanocytic nevi (27%), seborrheic keratosis (22%), melanin hyperpigmentation (19%), hemangioma (15%), and actinic keratosis (12%) and similar across ScAS categories (**Figure 3**).
- Treatment patterns by ScAS category are presented in **Figure 4**:
 - Topical corticosteroids and 5-fluorouracil injections also did not vary across ScAS categories and were used in 11% and 1% of encounters, respectively.
 - For patients with no noticeable scar, flat scar, raised scar, and nodular scar, laser therapy was used in 5%, 9%, 7% and 5% of encounters, and cryotherapy was used in 13%, 11%, 10%, and 5% of encounters, respectively.
- Documentation of steroid injections, pressure therapy, scar massage therapy, radiation therapy, and microneedling during routine practice was negligible.

Conclusions

- Hypertrophic scar severity did not seem to influence clinical management for most treatment strategies; although, cryotherapy decreased monotonically with increasing scar severity.
- Analyses of clinical notes and linked claims may be beneficial to understand if more invasive procedures or treatments were implemented outside of the specialty dermatology setting.

Figure 1. Distribution of Scar Assessment Severity Measurements

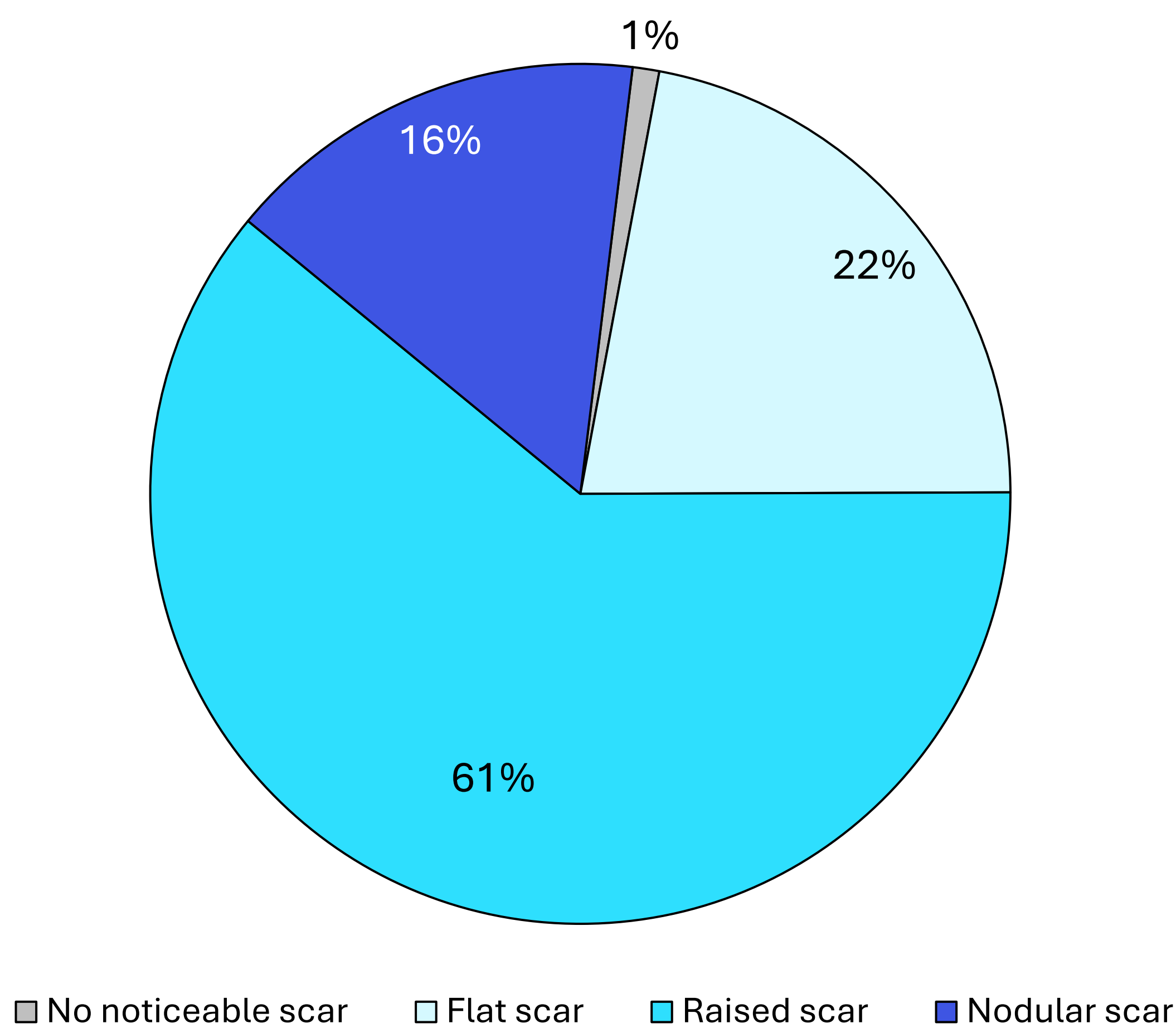


Figure 2. Demographic Characteristics of Study Population

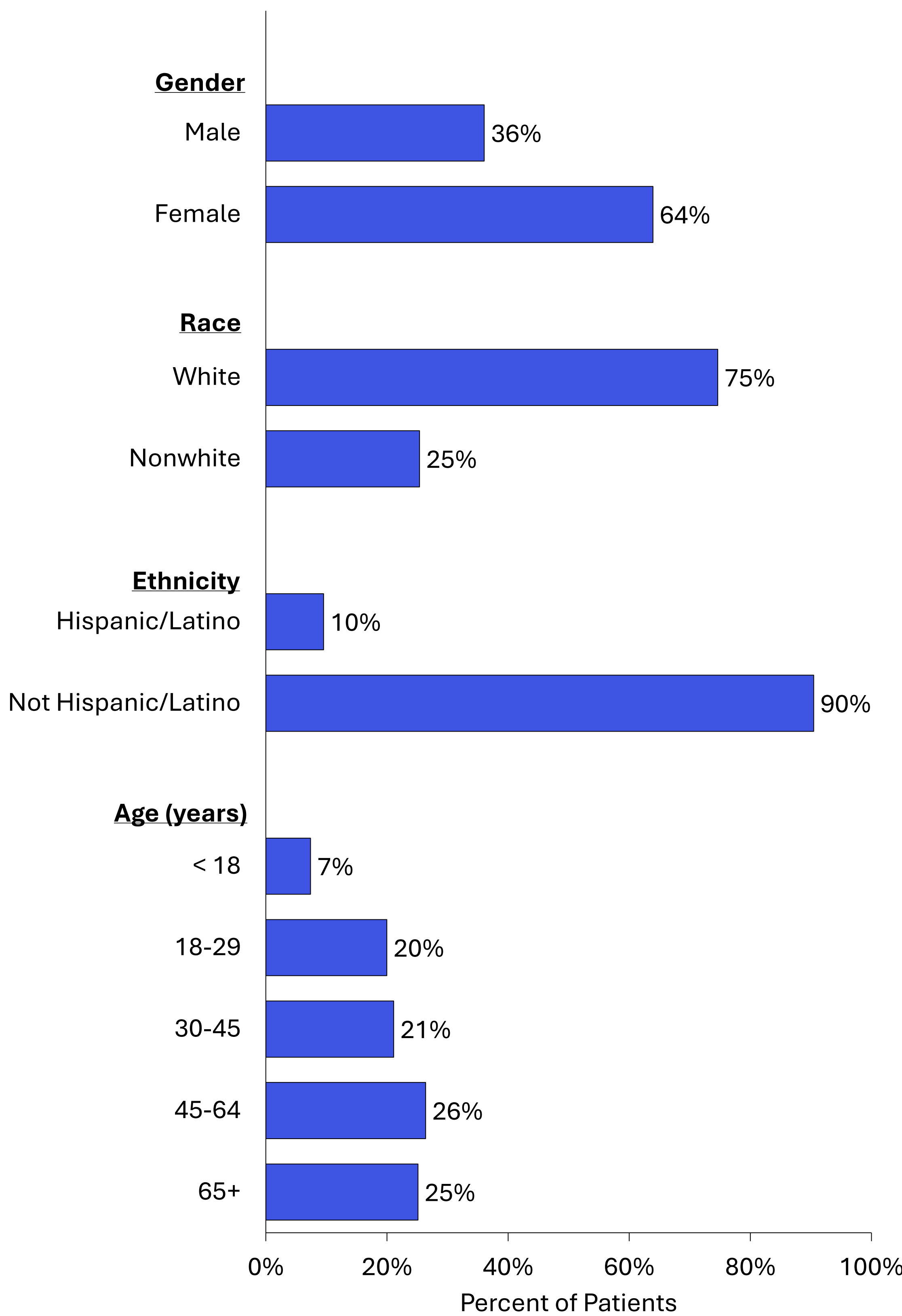


Figure 3. Top Dermatologic Comorbid Conditions

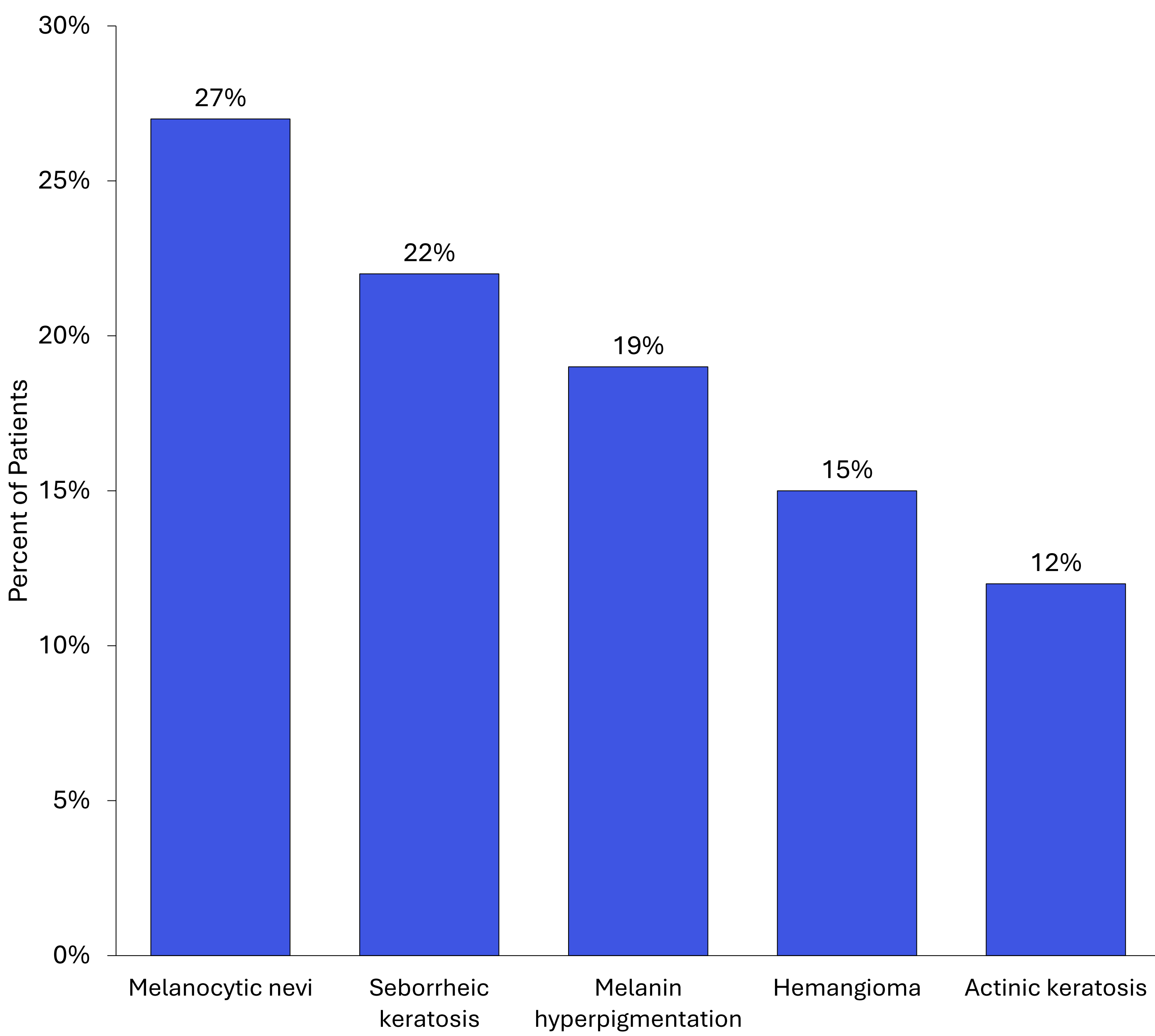
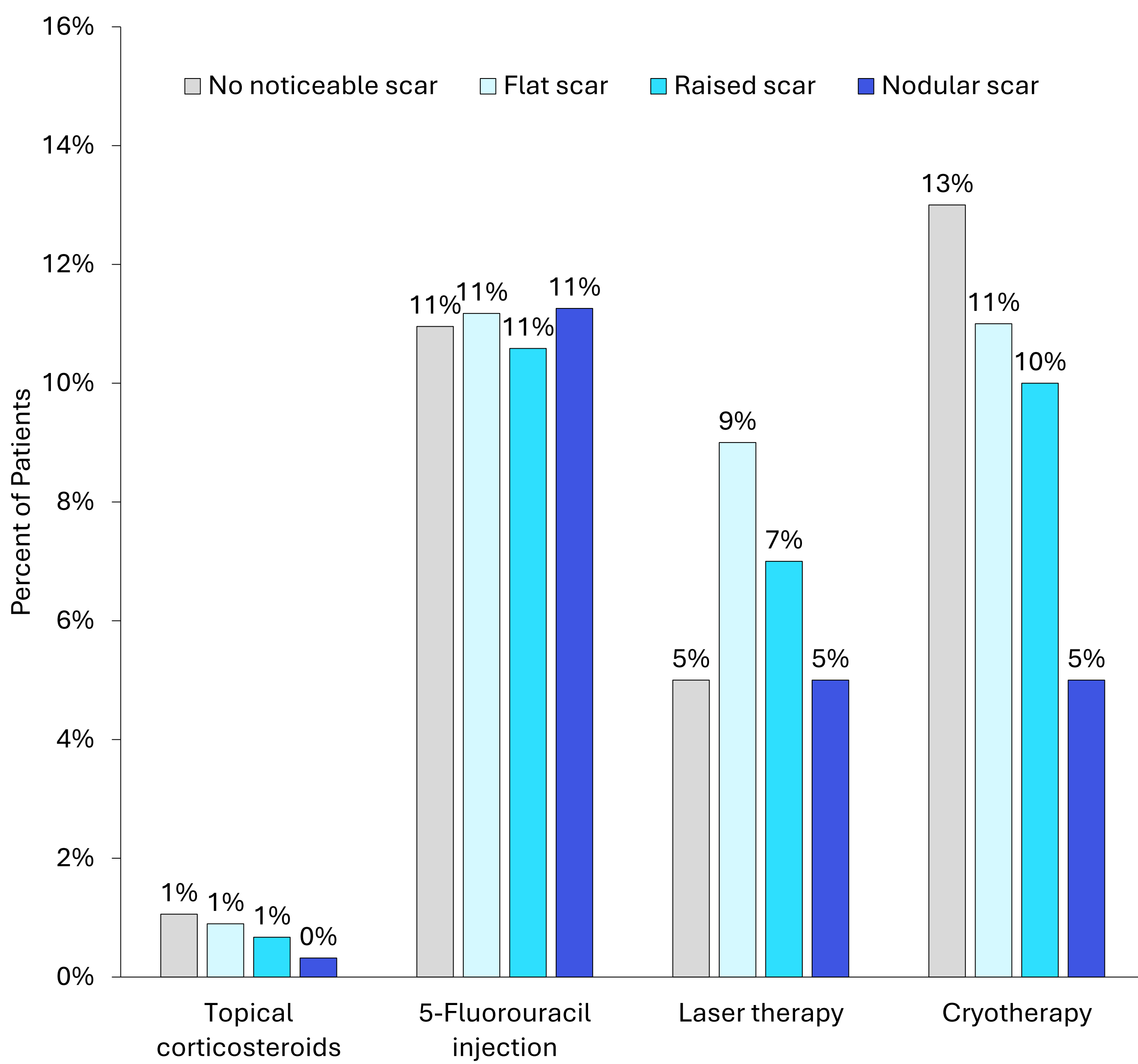


Figure 4. Treatment by Scar Assessment Severity Category



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