

Retrospective review of pediatric patch testing results in skin of color



To the Editor: Allergic contact dermatitis is a common condition affecting up to 20% of the pediatric population.¹ The U.S. Census Bureau projects that by 2060, non-Hispanic White children will make up only 36.4% of the pediatric population, reflecting the importance of minority representation in dermatologic studies.² We present an update of the data from the Pediatric Allergic Contact Dermatitis Registry examining patch testing results in White, Black, Hispanic, and Asian children.

We conducted a retrospective study of 612 patients patch tested at 13 centers from 2016 to 2022. Of all participants, 61.7% self-reported as White, 14.5% as Black, 11.3% as Hispanic, and 7.2% as Asian. The racial/ethnic breakdown of our cohort is reflective of the U.S. population in 2020.³ Patient characteristics and patch testing results were compared across racial/ethnic groups using the χ^2 test and the two-tailed independent t-test.

The mean age was 11.2 ± 4.6 years, and 61.8% were female. Among our cohort, 65.8%, 21.7%, and 28.9% had a history of atopic dermatitis, asthma, and allergic rhinitis, respectively. The most commonly affected areas were the face, legs, trunk, and hands. Asian and Hispanic children experienced the longest average disease duration at 3.4 and 3.3 years, respectively (Non-significant vs White, 2.7 years), and saw more providers prior to patch testing than White children (Asian: 1.4 vs 1.1, $P = .018$; Hispanic: 1.4 vs 1.1, $P = .036$). Compared to White children, Hispanic and Black children were tested with fewer allergens and had lower positivity rates; however, these results were not significantly different. Black children were tested less frequently to a customized panel compared to White children (33.7% vs 50.8%, $P = .015$), but we found no differences in rates of extended patch testing (Supplementary Table I, available via Mendeley at <https://data.mendeley.com/datasets/pyc374bt43/1>).

Although hydroperoxides of linalool was the top allergen across all racial/ethnic groups, there were significant differences in sensitization for other allergens. Compared to White children, Asian (17.6% vs 4.2%, $P = .004$) and Hispanic (12.8% vs 4.2%, $P = .035$) children both reacted to propylene glycol at higher frequencies. In contrast, Hispanic children had more positive reactions to triamcinolone acetonide and decyl glucoside while Asian children had more positive reactions to carba mix and black rubber mix. Black children had significantly lower sensitization rates to fragrance mix I and

gold than White children, consistent with previous studies reporting higher sensitization rates to fragrances in White than in Black children^{4,5} (Supplementary Table II, available via Mendeley at <https://data.mendeley.com/datasets/pyc374bt43/1>). As data were collected across 13 centers, variability in allergens and concentrations tested may have affected allergen frequencies.

This study is among the first to compare patch testing data between White, Black, Hispanic, and Asian children.⁴ Previous studies rarely included Hispanic and Asian patients⁵ and were often limited to a single center. Our results highlight differential experiences among racial/ethnic groups with respect to the following: number of providers seen, duration of dermatitis, allergen series, number of allergens tested, positivity rate, and sensitization patterns. The etiology of these differences is multifactorial and likely includes differences in exposure patterns and genetic background, as well as disparities in access, insurance coverage, and health literacy, underscoring the need for further study on patch testing in skin of color.

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Conflicts of interest

None disclosed.

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Distribution of intermediate and complex skin repairs performed by dermatologists following updated 2020 coding guidelines



To the Editor: Dermatologists perform a significant volume of skin repairs among Medicare beneficiaries.¹ However, the growing use of complex repairs led the Centers for Medicare and Medicaid Services to request revision of the guidelines for intermediate and complex layered closures.^{2,3} The Current Procedural Terminology (CPT) Editorial Panel convened a group of physicians to create revised repair guidelines, implemented in 2020.² To characterize the potential impact of these clarifications, we compared the national distribution of intermediate and complex repairs preceding and following the new guidelines.

We reviewed Medicare Public Use Files from 2018 to 2022 to trend the volume and proportion of intermediate (CPT 12031-12057) and complex (CPT 13100-13152) skin repairs performed by general dermatologists and Mohs surgeons.⁴ Trends were calculated in aggregate, based on body location, and among specific subsets of dermatologists based on practice characteristics. *P* values for the change in frequency of complex repairs between 2018 to 2019 and 2020 were calculated through a χ^2 test.

Dermatologists performed 338,539 intermediate and 444,963 complex repairs in 2020. The proportion of repairs that were complex decreased by 7.2% between 2018 to 2019 and 2020 (64.0% to 56.8%; *P* < .0001). Although use of complex repairs decreased among all subsets, more substantial declines occurred among Mohs surgeons (−8.6%), dermatologists with <15 years of practice (−8.9%), those in academic settings (−14.3%), and those in metro areas (−7.3%) (all *P* < .0001) (Table 1).

Our findings suggest that new CPT definitions and strong specialty education led to a greater understanding and distinction between intermediate and complex layered closure, with a defined shift to intermediate closure. A major distinction in 2020 is the degree of undermining for a complex repair, which must equal “at least the maximum width of the defect.”^{2,3} A diligent educational effort by the various