Evaluation of surgical management of polydactyly
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**Background:** Polydactyly is a condition often treated by multiple surgical specialties, including plastic surgery, orthopedic hand surgery, and pediatric surgery. Oftentimes the treatment involves simply tying off the nubbin of skin and soft tissue in the nursery and letting the supernumerary necrose and fall off. While this may be an acceptable treatment, there are instances when surgical intervention is indicated due to the nature of the accessory digit. Radial sided deformities are often more complex in nature and require the attention of a specially trained hand surgeon, namely a plastic surgeon or orthopedic hand surgeon. The purpose of this study was to examine the pattern of specialty involvement in the surgical treatment of polydactyly.

**Methods:** Following institutional review board approval a retrospective review of all patients with a primary diagnosis code of polydactyly over the past 10 years at The University Hospital in Newark, NJ was performed. Information collected included age, sex, race, laterality, other health conditions, surgery duration, and treating service.

**Results:** During the period examined 60 patients underwent surgical correction of a polydactyly deformity. There were 39 male patients and 21 female patients and the average age at surgical correction was 27.9 months. There were 47 ulnar sided deformities and 13 radial sided deformities. 22 of the patients were treated by pediatric surgery, 21 by plastic surgery, and 17 by orthopedic hand surgery. 17 of the deformities were on the left hand, 12 on the right, and 31 were bilateral. The majority of radial deformities (10/13) were treated by either plastic surgery or orthopedic hand surgery. The majority of ulnar deformities were simple in nature and had a significantly (p<0.05) shorter operative time than radial deformities (24.8 minutes and 72.8 minutes, respectively).

**Conclusion:** The majority of patients with polydactyly were treated by pediatric surgery. When the deformity involves the ulnar side of the hand with only a small soft tissue deformity the attention of a hand surgeon may not be necessary. However, when the radial side of the hand is involved a surgeon specifically trained in disorders of the hand should be consulted. The reason for this is the often complex nature of radial sided polydactyly, which can involve neurovascular structures, osseous structures and tendons. It is important for referring physicians to be aware of the difference between ulnar and radial sided polydactyly to optimize patient outcomes.