

Hypospadias Surgery: Search for Elusive Perfection—Should We Re-Define Surgical Success to Improve Outcomes and Provide Reasonable Postoperative Expectations?

Providing appropriate preoperative counsel to patients is critical for establishing measured postoperative expectations. Defining surgical success can be complicated, multifaceted, and for some surgeries rather elusive and arbitrary. Clearly conveying procedural benefits (and risks) to patients and/or families using quality outcome data is the goal of the informed consent process.

Hypospadias surgical outcomes have been historically and primarily defined by rates (or lack thereof) of urethrocutaneous fistulas. This outcome is easily measured, apparent to both patient/guardian and surgeon, and typically found during short-term followup. Other commonly measured visible and readily apparent penile complications include meatal stenosis, glans dehiscence and recurrent chordee. However, these outcomes lack clear specificity and inter-observer variation.

Additional methods have been used to more objectively and completely measure outcomes. Uroflowmetry has been used to evaluate the neourethra for stricture, but the interpretation and value of the data is unclear, particularly in asymptomatic children.¹ Several genital scoring systems evaluating postoperative hypospadias results are available but have not been used widely.^{2,3} Early health-related quality of life (HRQoL) work focused on satisfaction and psychological adjustment following surgery but did not specifically address surgically correctable items.⁴

In this issue of *The Journal*, Tack et al (page 734) provide insightful, sobering, controversial and extensive outcome data on 193 adolescent and young males who had hypospadias repairs in childhood.⁵ The authors report, rather expectedly, that higher rates of both suboptimal urinary and combined sexual function outcomes were worse in patients who had proximal repairs. Boys had an increased risk for re-intervention if they had a proximal hypospadias, smaller stretched penile length as an adult and curiously if surgery was performed before 12 months of age. Patients had a high rate of at least 1 re-intervention in all patients, with a surprising 43%

rate following a distal repair. Interestingly, there was poor inter-observer agreement of genital appraisal between physician and patient, most significantly when evaluating overall penile genital appearance. Repetitive surgery was associated with poorer genital appearance as assessed by physicians.

How does one interpret this objective and extensive information? For me it affirms the complexity of hypospadias surgery and the need to consider more regimented and encompassing postoperative assessment. The manuscript provides further confirmation that proximal hypospadias is a precarious condition, highlighting the need for continued evaluation and refinement of techniques to treat these patients.

Patients with distal hypospadias had sobering rates of re-intervention, which was defined as any trip to the operating room.⁵ This high number is certainly thought provoking and may reflect the thoroughness of postoperative evaluation and late followup of patients in this series. These data provide evidence that patients following distal repair require regular and long-term followup, and further studies are needed to objectively evaluate outcomes in this hypospadias subgroup.

Hypospadias surgery is usually performed between the recommended ages of 6 and 18 months.^{6,7} The specific timing of surgery is influenced by many factors and previous work demonstrated that healthy, full-term boys as young as 3 months were not found to be at a higher risk for urethroplasty complications.⁸ Clear reasons for the increased rates of re-interventions in boys younger than 12 months based solely on age are hard to fathom, particularly when comparing the genital physical features and hormonal milieu of a 9-month-old to a 12-month-old boy.

Interestingly, patient genital appraisal scoring was higher than physician scoring.⁵ Patient genital scoring included patients with a 25% rate of residual hypospadias defined as a meatus not positioned at the tip of this glans, a 5.7% fistula rate, and several other suboptimal aesthetic factors noted by the authors.

Repetitive surgery did not affect patient genital appraisal but did lead to decreased physician scoring.

Tack et al previously reported psychosexual outcomes from the same group of patients and found that patients with uncomplicated hypospadias repairs had equally high satisfaction as compared to the control group.⁹ However, patients who required multiple surgeries had a lower opinion of their hypospadias repair and worse psychosexual outcome. The authors postulated that repetitive surgery independently was a negative factor, and limiting surgeries and accepting less than perceived ideal outcomes may be indicated.

Recently Bhatia et al proposed 5 patient-reported outcome domains as a framework for a future hypospadias-specific HRQoL assessment: penile appearance, social function, voiding function, psychological function, and pubertal/sexual health.¹⁰ This conceptual framework has many applications and could aid in developing consensus outcome standards for clinical care and research from preoperative planning through postoperative followup.

Hypospadias surgery is fraught with complications even in the best of hands. What are reasonable outcome expectations in the early postoperative period and long-term? Is an asymptomatic and

unbothered adolescent with a straight penis, who can stand to void with a subcoronal meatus following hypospadias surgery deemed to have an acceptable result? Or even more heretical, same patient with a small coronal urethrocutaneous fistula? Should most surgical revision decisions be deferred until adulthood unless a significant functional issue is present?

Defining surgical success in hypospadias is complicated and requires better objective measures and more patient-reported outcome data. Operative results that reduce repetitive surgery but provide arguably less desirable cosmetic results may be considered a success. Observation, rather than the surgical impulse to intervene, may be the better remedy in asymptomatic young patients. Perhaps we should apply the observation by Voltaire to hypospadias surgery more regularly: “Don’t let perfect be the enemy of good.”

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