

Discrepant rates of hypospadias surgical complications: a comparison of USNWR, PHIS and published literature.

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COI: None

Background

- Historical hypospadias complication rates
 - Distal hypospadias, 5-10% ⁽¹⁻³⁾
 - Proximal hypospadias, 12-23% ⁽³⁻⁵⁾

1) Rushton HG, Belman AB. The split prepuce in situ onlay hypospadias repair. J Urol 1998. 160:1134e6

2) Sedberry-Ross S, Stisser BC, Hederson CG, et al. Split Prepuce In Situ Onlay Hypospadias Repair: 17 year Experience. 2007. 178:1663-1667.

3) Phistermuller KLM, McArdle AJ, Cuckow PM. Meta-analysis of complication rates of tubularized incised plate (TIP) repair. J Pediatr Urol. 2016. 12(196):e1-e5.

4) Sondgrass W, Bush N. Tubularized incised plate proximal hypospadias repair: Continued evolution and extended applications. J Pediatr Urol. 2011. 7:2-9.

5) Castagnetti M, Zhapa E, Rigamonti W. Primary Severe Hypospadias: Comparison of Reoperation Rates and Parental Perception of Urinary Symptoms and Cosmetic Outcomes Among 4 Repairs. J Urol. 2012. 189:1508-1513.

Background

- USNWR
 - Distal hypospadias, <1% (3 pts), 1-3% (2 pts), 3-5% (1 pts), >5% (0 pts)
 - Proximal hypospadias, <5% (3 pts), 5-10% (2 pts), 10-15% (1 pts), >15% (0 pts)

Background

- Contemporary series report higher complication rates
 - Up to ~50%⁽⁶⁻⁹⁾

6) Pippi Salle JL, Sayed S, et al. Proximal hypospadias: A persistent challenge. Single institution outcome analysis of three surgical techniques over a 10-year period. J Pediatr Urol. 2016. 12:28.e1-28.e7.

7) Long CJ, Chu DI, Tenney RW, et al. Intermediate-Term Followup of Proximal Hypospadias Repair Reveals High Complication Rates. J Urol. 2017. 197:852-858.

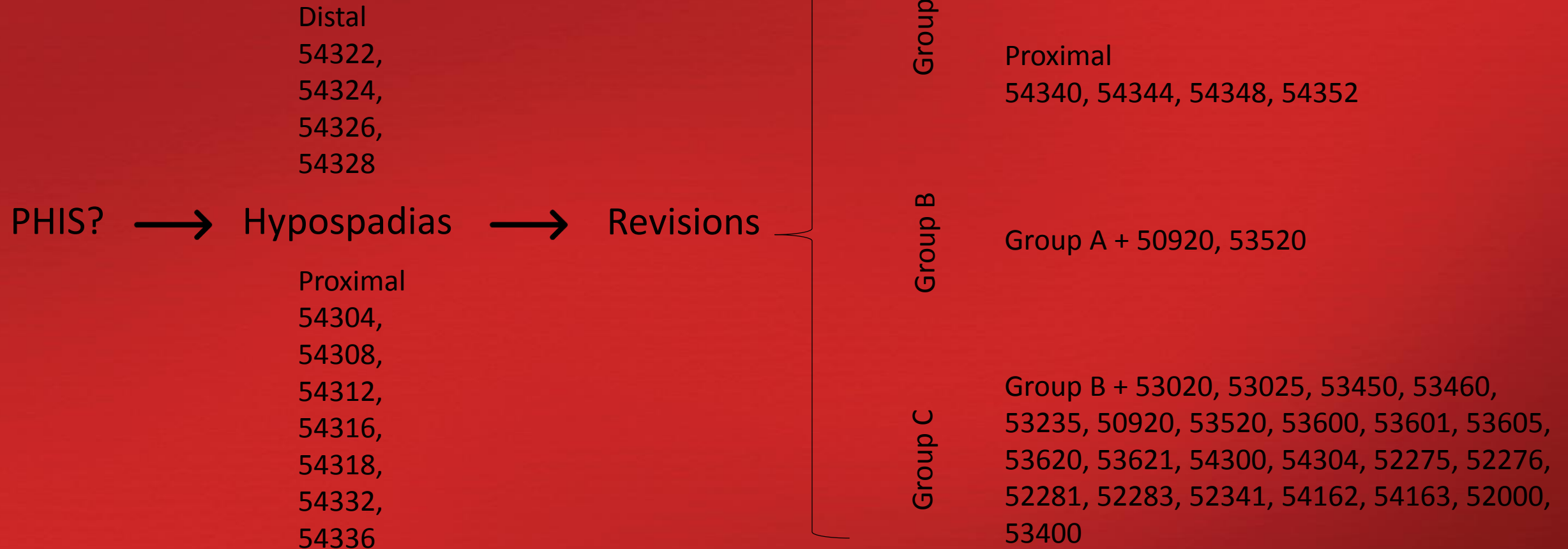
8) McNamara ER, Schaeffer AJ, Logvinenko T, et al. Management of Proximal Hypospadias with 2-stage Repair: 20-year Experience. J Urol. 2015. 194:1080-1085.

9) Stanasel I, Le HK, Bilgutay A. Complications following Staged Hypospadias Repair Using Transposed Preputial Skin Flaps. J Urol. 2015. 194:512-516.

Aim

- Could data from PHIS corroborate the hypospadias complication rates reconcile the differences between rates reported in the literature and the expectations established by USNWR as quality metrics?

Methods



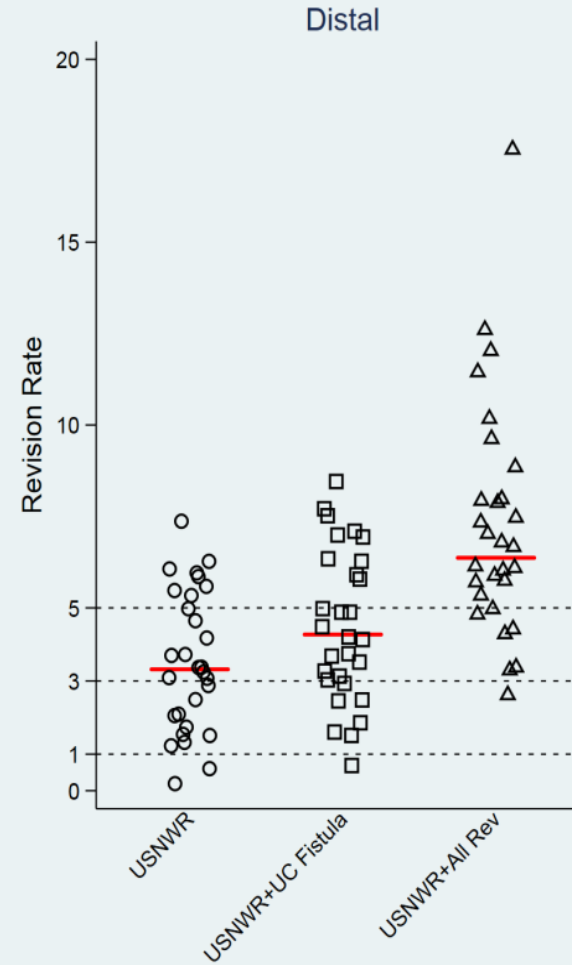
Methods

Distal revision rate:

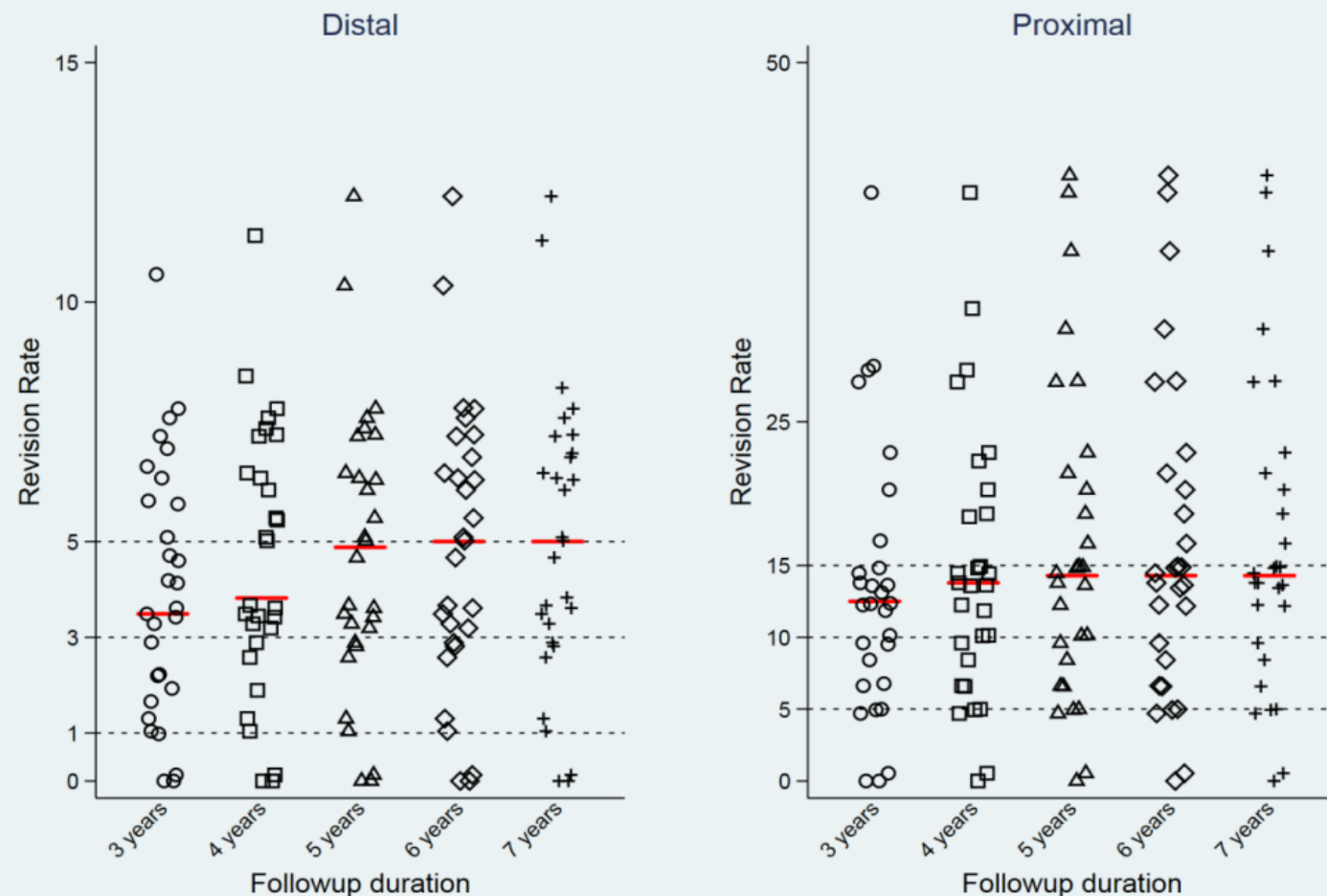
- 3.32% (range: 0.48 – 7.36%)
- increased significantly from the USNWR (group A) by inclusion of a more expansive list of CPT codes (group B and C)

Proximal revision rate:

- 12.29% (range: 3.48 – 36.36%)
- difference is not significant when comparing group A vs. B, but it is significant when comparing group A vs. C.



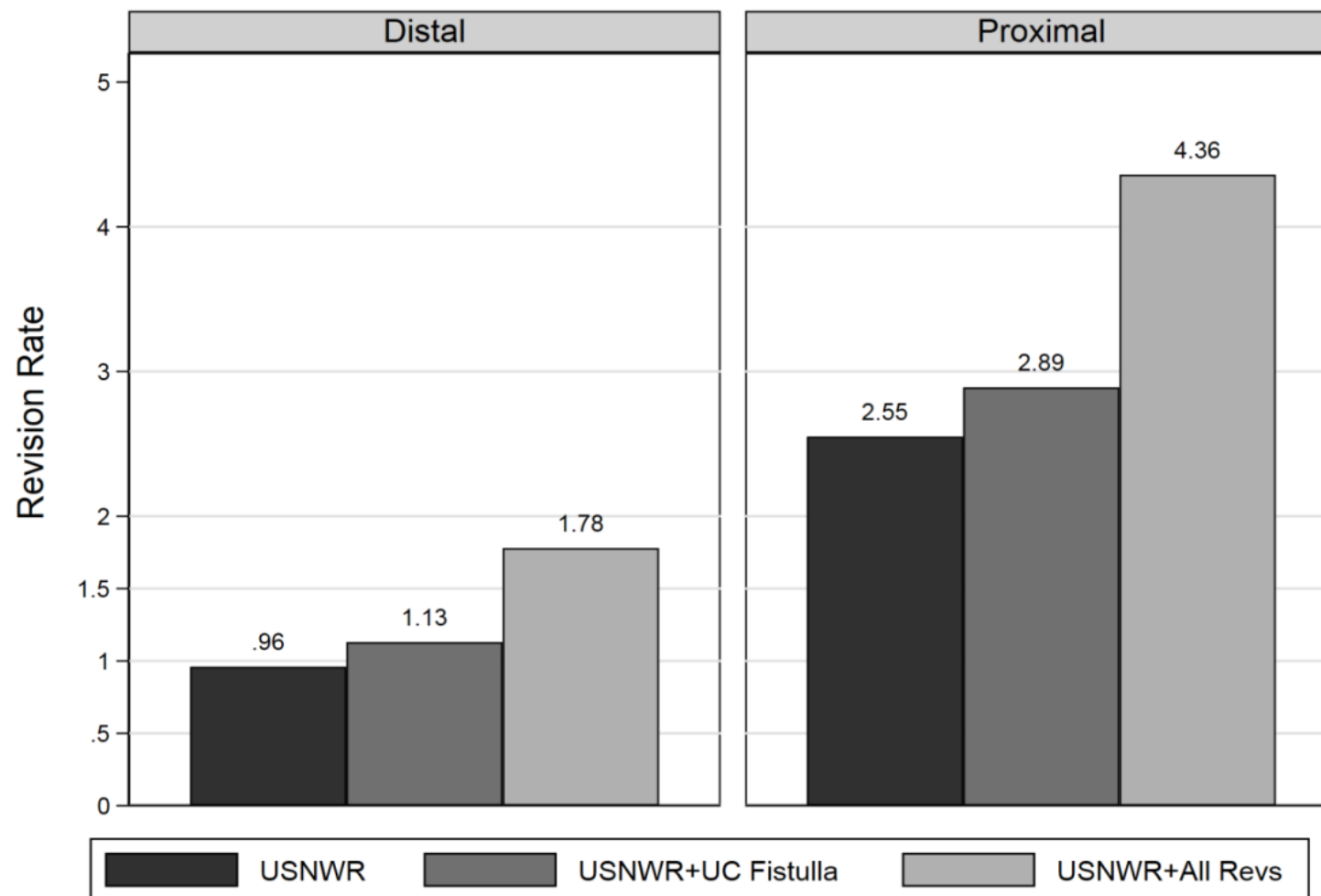
For both distal and proximal hypospadias, the median revision rates increase with longer follow-up from 3 years to 7 years. This is true for all three code sorts; however, the upward trend is not statistically significant.



Coding: USNews Report

From 2010-2016 there were 19,931 distal hypospadias and 5,840 proximal hypospadias repairs with 786 distal revisions (median time to revision, 1 year; range 0.75 - 1.91 years) and 590 proximal revisions (median time to revision, 1.08 years; range, 0.88 - 1.67 years).

Adjusting for varying length of follow-up, revision rate increased statistically significantly from the USNWR (group A) by inclusion of additional CPT codes associated with revision procedures (group B and C) in distal and proximal hypospadias.



Conclusions

- Depending on one's definition and follow-up interval, none of the 29 hospitals studied met the USNWR metrics; the revisions rates following both distal and proximal repairs being higher.