

Augmentation cystoplasty protects the kidneys. Ileal conduit morbidity keeps climbing with time

Augmentation Cystoplasty Versus Incontinent Ileal Conduit Diversion for End-Stage Neurogenic Lower Urinary Tract Dysfunction: A Systematic Review and Single-Arm Meta-Analysis

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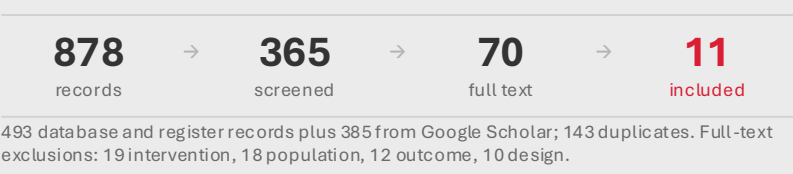
Background

End-stage NLUTD keeps bladder pressure high and puts the kidneys at risk. When nothing else works, two operations remain: augmentation cystoplasty or an incontinent ileal conduit. Nobody has compared them in a randomised trial.

Methods

- PRISMA; PROSPERO-registered. PubMed, Scopus, ProQuest, Cochrane, MedRxiv and Google Scholar to March 2026.
- Observational studies of children or adults with NLUTD reporting urodynamic or renal outcomes after either operation.

Study selection



Included studies

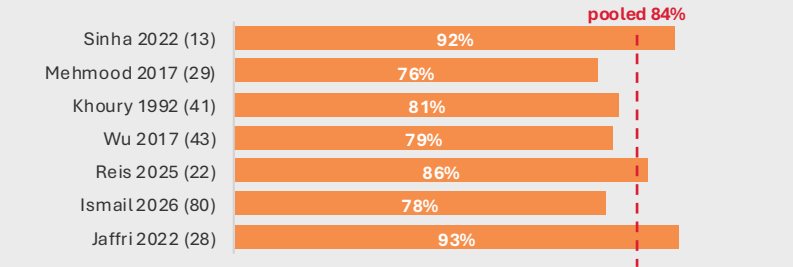
Arm 1: seven AC studies, 256 patients, from children to adults w/ SCI and CKD. **Arm 2: four IC cohorts**, mostly patients unable to perform CIC.

Limitations

All retrospective or observational, no RCTs. Ages, aetiologies and CKD stages all mixed. Ileal conduit follow-up from under 2 to over 15 years. English only; eleven studies are too few for subgroups.

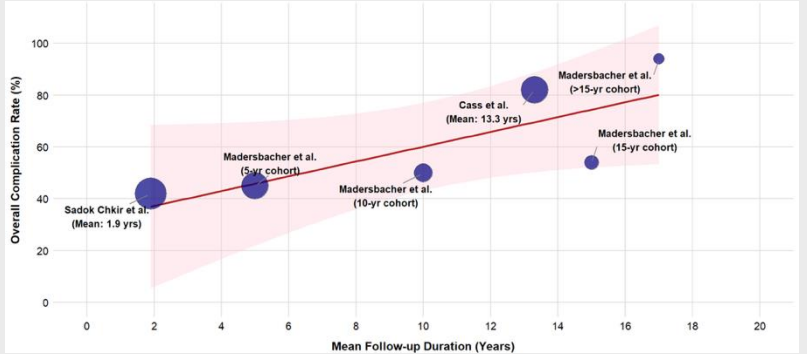
Results

1 Augmentation cystoplasty. 84% of patients (95% CI 74 to 91%, $I^2 = 0.0\%$) kept stable or improved renal function, and **no single study fell below 75%**. Bladder capacity grew by **up to 400 mL** and end-filling pressure dropped **below 40 cmH₂O**. The catch: **CIC for life, without exception**.



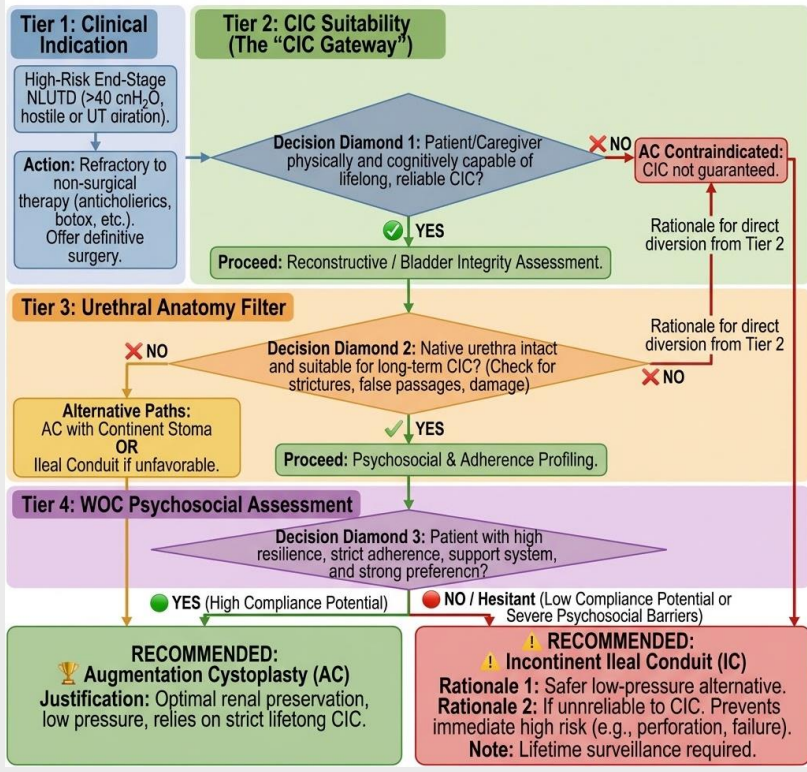
Stable or improved renal function after augmentation, per study (n).

2 Incontinent ileal conduit. No CIC needed, but complications, mostly ureteroenteric strictures, kept climbing the longer patients were followed: **about 42% at a mean of 1.9 years, 82% at 13.3 years, over 94% past 15 years**.



Meta-regression of overall complication rate on mean follow-up after ileal conduit; bubble size = sample size.

Conclusion



In practice

- Individualize decisions:** Assess each patient's lifelong CIC capacity and anatomical risk tolerance.
- IC follow-up:** Mandate annual upper-tract imaging and stoma nurse care to prevent complications.