

# МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ: ТЕОРИЯ И ПРАКТИКА

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### ANTIREFLUX OPERATIONS IN BLADDER-URETER REFLUX IN CHILDREN.

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**Abstract:** Vesicoureteral reflux (VUR) is a significant urological condition in children, characterized by the retrograde flow of urine from the bladder into the ureters and kidneys. This condition can lead to severe complications such as recurrent urinary tract infections (UTIs) and potential kidney damage. This study investigates the effectiveness and safety of anti-reflux surgical interventions in children diagnosed with VUR, specifically comparing ureteral reimplantation and endoscopic treatments. The study includes a retrospective analysis of 100 pediatric patients with grade III-IV VUR who underwent surgical treatment between 2018 and 2023. The findings indicate that while ureteral reimplantation offers a higher success rate in resolving VUR, endoscopic treatments are less invasive and associated with fewer complications, albeit with a slightly higher recurrence rate of reflux. The study concludes that the choice of surgical treatment should be individualized based on the patient's specific condition and overall health.





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**Keywords:** Vesicoureteral reflux, VUR, anti-reflux surgery, ureteral reimplantation, endoscopic treatment, pediatric urology, urinary tract infection, renal function.

#### Introduction

Vesicoureteral reflux (VUR) is a common urological condition in children, characterized by the abnormal backflow of urine from the bladder into the ureters and kidneys. This condition can lead to significant complications, including recurrent urinary tract infections (UTIs) and kidney damage, potentially resulting in renal failure. VUR is often associated with congenital anatomical abnormalities or functional deficiencies in the urinary tract. This article examines the efficacy and safety of anti-reflux surgeries in children with VUR, focusing on the two main surgical approaches: ureteral reimplantation and endoscopic treatments.

Methods: When the kidneys make urine (pee), it leaves through urine tubes (called ureters) and goes down to the bladder. In a normal urinary system, the urine tubes enter the bladder at a slant or angle. This angle gives muscle support from the bladder to hold the tubes shut when the bladder squeezes to go pee. In many children with reflux, the urine tubes meet up with the bladder with minimal muscle support. Thus pee goes back up the urine tubes to the kidney when the bladder squeezes to go pee. Anti-urinary reflux surgery helps stop this backward flow. This retrospective study analyzed data from 100 children diagnosed with VUR, who underwent surgical treatment between 2018 and 2023. The participants, aged 5 to 12 years, were diagnosed with grade III-IV reflux. The children were treated using either ureteral reimplantation or endoscopic injection. Postoperative follow-up was conducted for 12 months, assessing outcomes such as the frequency of urinary tract infections, resolution of reflux, preservation of renal function, and any surgery-related



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complications. Statistical analysis was performed using t-tests and chi-square tests to evaluate the significance of the findings.

Results : Following surgery, there was a significant reduction in the frequency of urinary tract infections among the patients. Complete resolution of VUR was observed in 85% of children who underwent ureteral reimplantation, compared to 70% in the endoscopic treatment group. Additionally, renal function showed marked improvement, particularly in the ureteral reimplantation group. The rate of complications was lower in the endoscopic treatment group, although the recurrence rate of reflux was higher compared to the reimplantation group. Improvements in overall health and quality of life were also noted in both groups.

Discussion : The results indicate that anti-reflux surgeries are highly effective in treating children with vesicoureteral reflux. Ureteral reimplantation, despite being more invasive, proved to be more effective in achieving complete resolution of reflux and improving renal function. Endoscopic treatments, while less invasive and associated with fewer complications, showed a higher rate of reflux recurrence. Therefore, the choice of treatment should be individualized based on the severity of reflux, renal function, and the overall health condition of the child. The surgeon makes an opening in the bladder and reaches inside where the urine tube meets the bladder. He or she then carefully disconnects the urine tube from where it meets up with the bladder and pulls it further down into the bladder. The tube is then reattached at an angle, with part of the bladder surrounding the outside of the tube to support it. By giving the urine tube more muscular support and having it enter the bladder at an angle, the surgery will stop the reflux.

Conclusion: Anti-reflux surgeries are a safe and effective treatment option for children with vesicoureteral reflux. Ureteral reimplantation offers higher success rates in terms of reflux resolution, while endoscopic treatments provide advantages



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due to their less invasive nature. Individualized treatment strategies are essential, considering the child's reflux grade, renal function, and general health. Future studies are necessary to evaluate the long-term outcomes of these surgical interventions and to determine the most optimal treatment approach for each patient.

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