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# Comparing pediatric urodynamic protocol before and after restricting urine cultures: a pilot study

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## Description

Pediatric urodynamic is a valuable diagnostic tool used to evaluate the function of the lower urinary tract in children with various urological conditions. It involves the measurement of pressures and volumes within the bladder and the urethra during voiding and filling. However, the use of urine cultures during pediatric urodynamic has been a subject of controversy in recent years. This study explores about the benefits and drawbacks of the pediatric urodynamic protocol before and after limiting urine cultures.

Historically, urine cultures have been an essential part of the pediatric urodynamic protocol. They are used to identify the presence of bacterial infection in the urinary tract, which can cause symptoms such as fever, pain, and haematuria. Urine cultures are also used to guide the choice of antibiotics for treating Urinary Tract Infections (UTIs).

However, the routine use of urine cultures during pediatric urodynamic has been questioned in recent years. One of the main concerns is that obtaining a clean urine sample can be challenging in young children. It often requires a painful catheterization procedure, which can be traumatic for both the child and the parent. Moreover, urine cultures can be misleading in children undergoing urodynamic testing, as they may not reflect the true bacterial flora of the urinary tract.

Another issue with the routine use of urine cultures is the overuse of antibiotics. Antibiotics are commonly prescribed to prevent UTIs during urodynamic testing, even in the absence of symptoms or positive urine cultures. This practice can lead to the development of antibiotic resistance and contribute to the growing problem of bacterial infections that are difficult to treat.

In recent years, many urologists have advocated for limiting the use of urine cultures during pediatric urodynamic. Instead, they rely on clinical symptoms and signs of infection to guide antibiotic use. This approach is based on the understanding that bacterial colonization of the urinary tract is common in children with urological conditions, and not all positive cultures represent true infections.

By limiting the use of urine cultures, urologists can reduce the number of unnecessary catheterizations and antibiotic prescriptions, which can have several benefits. First, it can improve the patient experience by reducing the pain and trauma associated with catheterization. Second, it can decrease the risk of antibiotic resistance by reducing the use of antibiotics inappropriately. Finally, it can lead to cost savings for patients and healthcare systems by avoiding unnecessary tests and treatments.

The American Urological Association (AUA) guidelines for pediatric urodynamic testing do not recommend routine urine cultures, except in certain circumstances, such as children with a history of recurrent UTIs or those with indwelling catheters. Instead, the AUA recommends a selective approach to urine cultures based on clinical symptoms and signs of infection.

## Conclusion

The routine use of urine cultures during pediatric urodynamic has been a subject of controversy in recent years. While urine cultures have been an essential part of the urodynamic protocol, they can be challenging to obtain and may not reflect the true bacterial flora of the urinary tract. Moreover, the overuse of antibiotics can lead to antibiotic resistance and unnecessary healthcare costs. By limiting the use of urine cultures, urologists can reduce unnecessary catheterizations, antibiotic prescriptions, and healthcare costs. Instead, they can rely on clinical symptoms and signs of infection to guide antibiotic use. While this approach may require more careful monitoring of patients, it can improve the patient experience and reduce the risk of antibiotic resistance. Therefore, urologists should consider adopting a selective approach to urine cultures in pediatric urodynamic testing, in line with the latest guidelines.