Evidence-Based Management Of Pediatric Genitourinary Tract Injuries In The ED

Arpilleda J. May 2010; Volume 7, Number 5

In the ED, 10% of patients who present with abdominal trauma may have genitourinary injuries. Injuries to the urinary tract can involve (in order of frequency) the kidneys, bladder, urethra, and ureter. Trauma to the back, flank, lower thorax, or upper abdomen can cause renal injuries, 80% to 95% of which are due to blunt trauma. This article focuses on possible causes of pediatric genitourinary emergencies and the appropriate ED evaluation tactics, diagnostic studies, and treatments. For a more detailed and systematic look at pediatric genitourinary tract injuries, see the full text article at www.ebmedicine.net.

### Evidence-Based Practice Recommendations

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<th>Key Points</th>
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<td>Perform a urinalysis on all major trauma patients and those with minor genitourinary injury.</td>
<td>Hematuria is the hallmark of genitourinary trauma.</td>
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<td>The majority of renal injuries can be managed conservatively.</td>
<td>The genitourinary tract has heals itself amazingly if the flow of urine is maintained without obstruction.</td>
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<td>Order abdominal CT with contrast for patients with genitourinary injuries with hematuria, abdominal or flank pain, hematoma, mass, flank ecchymosis, periumbilical ecchymosis, penetrating abdominal trauma, hypotension SBP &lt; 90 mm HG, intraabdominal injuries from blunt trauma, or deceleration injury.</td>
<td>It is important to diagnose the extent and type of renal injury accurately to ensure adequate treatment. CT with contrast is the best initial imaging study to provide accurate American Association for the Surgery of Trauma grading by demonstrating the depth of injury and involvement of vessels or the collecting system. It offers a quick and accurate way of demonstrating injury to the renal parenchyma, renal pedicles, and associated abdominal or retroperitoneal organs. If CT scanning is not an available mode for evaluating stable patients, an intravenous pyelogram is an alternative. Though renal ultrasound is increasing in popularity, its efficacy has not yet been proven and reliability and reproducibility depend on the operator and interpreter of the images.</td>
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<td>Order a retrograde urethrogram for patients with urethra injuries with gross hematuria, blood at urethral meatus, inability to urinate, perineal or scrotal swelling, ecchymosis, inability to insert urethral catheter, or an unstable pelvic fracture.</td>
<td>Traumatic urethral injuries occur in about 10% of patients with pelvic fractures and are more common when the fractures are bilateral. Urethral disruption may require insertion of a suprapubic tube.</td>
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<td>Before inserting a urinary catheter when an injury is suspected, it is important to confirm that the urethra is intact by means of retrograde urethrography. A disrupted urethra may require placement of a suprapubic tube.</td>
<td>Significant straddle injuries are screened with pelvic radiography to detect fracture of the pelvic ramus. Vulvar injuries are usually minor and can be treated with rest and cold packs. Large or expanding vulvar hematomas may require surgical drainage and are susceptible to secondary infection.</td>
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<td>Consider retrograde urethrography for penile fractures that include gross hematuria, blood at the meatus, or the inability to void. Consider a scrotal ultrasound or cavernosography as an adjunct to the physical examination in cases of penile fractures.</td>
<td>Scrotal exploration is recommended with the presence of a large hematocoele or rupture of the tunica albuginea. Urologic consultation is recommended in corpus cavernosal ruptures. Penile fractures can be treated conservatively except when there is penile deformity or urethral involvement. Urethral injuries occur in about one-third of patients with penile fractures. Tourniquet injuries usually involve removal of the band of hair and the treatment of any infection. If deeper injury is suspected, follow-up with a urologist is recommended.</td>
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<td>Child abuse should be considered when the history or reported mechanism of injury does not match the injuries identified.</td>
<td>Accidental genital trauma may be confused with injuries due to sexual abuse. In most cases, accidental genital trauma is the result of straddle injuries, which typically include lysis of labial adhesions, lacerations in the gutter between the labia minora and the labia majora, labial contusions or hematomas, and injuries to the skin overlying the perineal body. Lysis of adhesions and small abrasions may also result from sexual abuse. Injuries to the hymen or vagina are unusual in accidental genital trauma.</td>
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See reverse side for reference citations.
REFERENCES


These references are excerpted from the original manuscript. For additional references and information on this topic, see the full text article at ebmedicine.net.

CLINICAL RECOMMENDATIONS

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Phone: 1-800-249-5770 or 678-366-7933
Fax: 1-770-500-1316
Address: 5550 Triangle Parkway, Suite 150 / Norcross, GA 30092
E-mail: ebn@ebmedicine.net
Web Site: www.EBMedicine.net

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