Imaging of the Genitourinary Tract

Title: IMAGING OF THE GENITOURINARY TRACT

<table>
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<tr>
<th>Category: Clinical Programs, Trauma Program</th>
<th>Type Of Policy: Operational</th>
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<tbody>
<tr>
<td>Authorizing Title: Medical Director, Trauma Program</td>
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<tr>
<td>Primary Document Author: Division Head, General Surgery and Director of Trauma General Surgery</td>
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<td>Effective Date: 03/01/2010</td>
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<tr>
<td>Areas Consulted: Trauma Team Leaders, Trauma Services</td>
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<tr>
<td>Next Review: 03/01/2013</td>
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<tr>
<td>Committee Approved: Trauma Care Committee</td>
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<td>Associated Emergency Code: N/A</td>
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<td>Reference: 1204-011-01.doc</td>
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Blunt Trauma

- Gross hematuria (visibly blood tinged urine)
- Adult with microhematuria (defined as ≥1+ RBC on dipstick or >3 rbc/hpf) with a period of hypotension (systolic <90 mm Hg).
- Child (<15 yrs) with >50 rbc/hpf
- Flank hemATOMA irrespective of the presence of hematuria

Penetrating Trauma

- Stable patient with any degree of hematuria and injury near the urinary tract.

Imaging protocol

CT abdomen (early venous) and CT cystogram

If evidence of renal injury on initial CT abdomen then delayed (10 min) cuts are necessary to rule out urinary extravasation

In addition, a CT cystogram should be performed in all patients with:

- Pelvic ring fracture with 3+ (>30RBC/HPF) or gross hematuria on either ED dipstick or laboratory urinalysis.
- Gross hematuria in the presence of free intraperitoneal low density fluid (<25HU) within the first 24 hours post injury without other explanation-i.e. prior DPL or other intraperitoneal injury by CT.

Note: Fractures limited to the acetabulum without obturator ring involvement do not need cystography in the absence of other indications.
**Retrograde urethrography**

Following blunt injury, a retrograde urethrogram should be performed in any patient with

- Blood at the meatus
- High riding prostate
- Significant perineal hematoma
- Straddle fracture (bilateral superior and inferior rami fractures) with SI joint involvement
- Penile fracture

In penetrating trauma, any injury in proximity to the urethra requires urethrography.

If a urinary catheter is already in place, a pericatheter urethrogram should be performed. Successful passage of urinary catheter does not preclude there being a small urethral injury.