Imaging algorithm in mild pediatric urinary tract trauma

**minor trauma** (= low pretest probability)

- **US + (a)CDS** *¹*

  **inconclusive US**
  high probability of additional injury,
  clinical discordance &/or deterioration,
  no reliable US available + no clinical observation planned

  **ce-CT** *²,*³

  surgery, interventional angiography *⁴...*

**severely abnormal** *³*

  if therapeutic impact &/or high
  probability of associated injuries

follow-up US +(a)CDS *⁵*
  in 6-24h, potentially clinical observation?
  additional imaging as needed
  MR, angiography, ce-CT, (DMSA)

**minor pathology**

  Conservative treatment, low
  suspicion of other injuries...

**normal**

Stop

Note:
renal trauma more common in children
degree of hematuria not reliable
hypotension = late sign

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*¹ examination of entire abdomen & pelvis, if available potentially ce-US
*² see previous procedural recommendations
*³ for bladder injury query: VCGU
  late phase ce-CT/CT-CG only if CT done for other reasons
*⁴ for vascular injury with therapeutic options...
*⁵ US + (a)CDS (+ ce-US) = first choice for follow-up
  if vascular complications suspected ⇒ angiography & embolization
  potentially MR - especially for late presentation &/follow-up
  ⇒ avoid repeated unnecessary CT’s!

Abbreviations:
(a)CDS = (amplitude-coded) colour Doppler sonography, ce-CT= contrast-enhanced computed tomography; ce-US = contrast-enhanced ultrasound; CT-CG = CT-cystography; FAST = focused assessment with sonography for trauma; MR = magnetic resonance; US = ultrasound; VCGU = voiding cystourethrogram

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