Imaging algorithm in severe pediatric urinary tract trauma

**major trauma***1 (= high pretest probability) & polytrauma

unstable

"FAST"

surgery

stable (direct impact only to kidney & high quality US available)

US + (a)CDS*2

("FAST")

ce-CT *3,4

interventional/angiography for vascular injury with therapeutic options ...

Follow-up US + (a)CDS *5 additional imaging as needed MR, angiography, ce-CT, (DMSA)

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*1 rapid deceleration injury, direct flank injury, fall from height

*2 examination of entire abdomen & pelvis, if available potentially ce-US

*3 see previous procedural recommendation

*4 for bladder injury query : VCUlate phase ce-CT/CT-CG only, if CT done for other reasons

*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!

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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; VCU = voiding cystourethrogram

*Pediatr Radiol 2011; 41*