Appendix 1: Effectiveness of modalities used to identify kidney stones and the resultant radiation exposure[1–6]

Modality	Adult		Pediatric	Radiation exposure	
	Sensitivity	Specificity	Accuracy, %	Effective dose in an adult, 95% CI, mSv	Absorbed dose in a fetus, min–max, mGy*
Ultrasonography	13–100†	97–100	Stone location • 90 in kidney • 75 in kidney + ureter • 38 in ureter	–	–
Plain radiography	45–59	71–77	Sensitivity 30–60	0.5–0.9	1.4–4.2
Ultrasonography and plain radiography	94–97	90	NA	0.5–0.9	1.4–4.2
Intravenous urography	64–97	92–94	NA	1.3–3.5	1.7–10
Non–contrast-enhanced computed tomography					
Standard dose	95–100	94–100	89–100	8–16	8.0–49
Reduced dose	98	95	89–100‡	0.5–2.0	4

Note: NA = not available.
*Exposure < 50 mGy in a fetus has not been shown to be associated with an increased risk of fetal anomalies or loss of pregnancy.[3]
†Sensitivity 13% with kidney stones < 3 mm, 96%–100% with stones > 5mm.
‡Computed tomography performed with a reduced tube current resulted in a dose reduction of 25%–90% without a significant change in accuracy. The amount of reduction depends on patient size and habitus.

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Appendix to: Yen P, Baerlocher MO. [Five things to know about ...] Imaging in urolithiasis. *CMAJ* 2011.
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