

## Ultrasound Detects Distal Ureteral Calculi

*Ultrasound was highly accurate in this follow-up study of patients with documented stones.*

Noncontrast computed tomography (CT) is the usual first-line imaging procedure for patients with suspected ureteral stones. Follow-up imaging is sometimes required for patients who are managed noninvasively — for example, when we're unsure whether the stone has passed. In this study, New Zealand radiologists assessed whether follow-up ultrasound can detect distal ureteral stones accurately.

The cohort consisted of 152 adults with acute ureteral colic who underwent CT and had stones near the ureterovesical junction (UVJ). One month later, all patients underwent both ultrasound of the distal ureter and either CT (in 92 patients) or plain radiography (in 60 patients). Ultrasound examinations were technically adequate in 143 cases and identified stones in all 33 patients in whom stones were detected by CT or x-ray follow-up (sensitivity, 100%). Mean stone size was 7 mm, and mean distance from the UVJ was 13 mm (ultrasound examples can be viewed on the *Radiology* website: [normal distal ureter](#) and [distal ureteral stone](#)). Ultrasound was falsely positive in 1 of 110 patients without stones on CT or x-ray (specificity, 99.1%).

**Comment:** In this follow-up study, ultrasound accurately detected the presence or absence of retained distal ureteral stones (within 35 mm of the ureterovesical junction). Ultrasound is an attractive alternative to CT, because patients can avoid additional radiation exposure. However, before ordering ultrasound for this purpose, clinicians should confer with their radiologist colleagues to ensure that local ultrasound expertise is adequate.

— [Allan S. Brett, MD](#)

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