

## Contrast-Enhanced Ultrasound (CEUS) in Urology

Contrast-enhanced ultrasound (CEUS) enables real-time evaluation of tissue vascularity without exposure to ionising radiation or nephrotoxic contrast agents, offering a safe and versatile imaging modality in urological practice.

This lecture will cover the fundamental methodology of CEUS, encompassing both intravascular and extravascular applications.

The clinical utility of CEUS across a broad spectrum of urological pathologies will be discussed, including the characterisation of solid renal lesions, evaluation of complex renal cysts (Bosniak classification), assessment of renal infections, and detection of ureteric and bladder tumours. Applications in scrotal imaging — including testicular lesions and testicular torsion — as well as the role of CEUS in prostate ultrasound will also be addressed.

In addition, non-vascular applications of CEUS will be explored, including its use in the diagnosis of vesicoureteric reflux and contrast-enhanced voiding urethrography.

By the conclusion of this lecture, attendees will have a comprehensive understanding of the indications, technique, and diagnostic value of CEUS in contemporary urological imaging.