

Simultaneous biplane: the urologist's gold standard for prostate biopsy

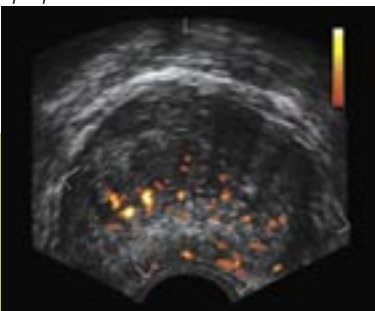
Type 8808

The world's best-selling prostate transducer

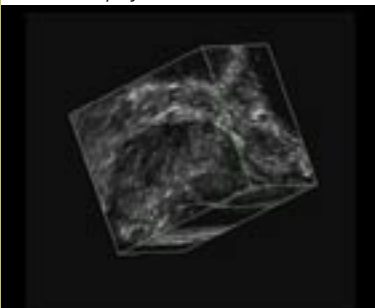
Urology 

- High frequencies for excellent near field scanning
- Simultaneous biplane feature invaluable for orientation
- 3-D and harmonic imaging for easier identification of lesions

57Y male. Power Doppler image of the prostate. Moderate BPH can be seen together with flow mainly around the peripheral zone.



72Y male. Left lateral prostatic lesion. The 3-D image shows the lesion in the transverse and coronal P-A projection.



Types 8808

Accurate staging is critical to the management of prostate cancer, particularly when selecting candidates for either a radical prostatectomy or low-dose brachytherapy. The 8808 is the prostate biopsy gold standard, with features like simultaneous biplane, high-frequency, 3-D and harmonic imaging capabilities, to help with more effective staging.

Specifications

Frequency range

6 - 10 MHz

Focal range (typical)

5-50 mm

Sector angle

127°

Contact surface

5 x 19.6 mm

Disinfection

Immersion

Physical data

Length: 320 mm

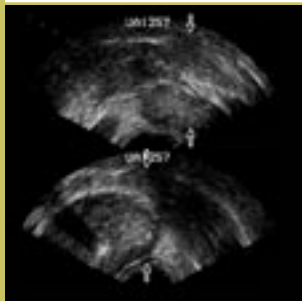
Width: 32 mm

Weight (approx.)

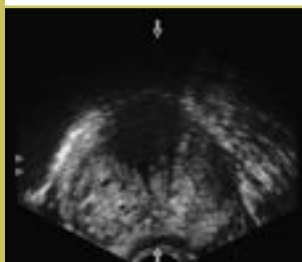
250g

1. Garg S, Fortling B, Chadwick D, Robinson M, Hamdy F: Staging of prostate cancer using 3-dimensional transrectal ultrasound images. J. Urol. 1999; 162:1318

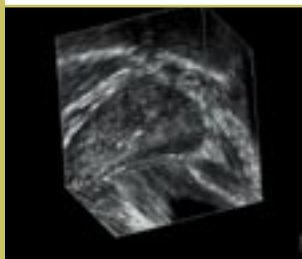
2. Mehta S, Barber DC, van Beek E, Wild JM, Hamdy FC: Delineation of the prostate capsule in 3D Trans Rectal Ultrasound images using image registration. Oral presentation. Euroson 2003



Lateral posterior biopsy of the left peripheral zone (note the advantage of simultaneous biplane imaging, clearly indicating needle location).



Harmonic imaging provides better definition of both hypo- and hyperechoic structures.



64Y male. P-A coronal projection shows a hypoechoic lesion in the left lateral peripheral zone, which almost extends over the entire proximal-distal direction.



Ensuring appropriate spacing during prostate biopsy procedures is difficult

By far the most common method of detecting prostate tumors is trans-rectal ultrasound combined with random multiple biopsies. Single plane imaging does not provide a sense of depth and space, often making it quite difficult to target key areas and to know exactly where the biopsy is taken from.

Unique simultaneous biplane imaging is invaluable for orientation and correct biopsy spacing

The 8808's simultaneous biplane capabilities generate real-time images of both the sagittal and transverse planes, which are invaluable for orientation. The transverse image provides a clear indication that the needle is in the correct area, for quicker biopsies and added security.



Understaging of prostate cancer occurs up to 50% of the time¹

All conventional staging methods lack sensitivity, and understaging of up to 50% of cancers has been reported¹.

The 8808's harmonic imaging feature enhances tissue differentiation

Harmonic imaging appears to be a promising way of improving the diagnostic yield of prostate TRUS, possibly resulting in earlier diagnosis and better staging. The True Echo Harmonics feature on the 8808 enhances any hypoechoic structures and suppresses hyperechoic phenomena, providing better visualization of hypoechoic lesions.



The extent of capsular disruption can be difficult to assess using 2-dimensional imaging

A key requirement of staging is to identify if the disease has penetrated what is known on ultrasound as the prostatic capsule. Using 2-dimensional imaging to visualize a 3-D anatomy and disease process has certain spatial limitations and therefore limited success in staging prostate cancer².

Accurate detection of capsular disruption could help to stage disease more accurately and prevent ineffective surgery²

Visualization of lesions in 3 planes appears to allow improved assessment of capsular disruption, because it overcomes spatial limitations by obtaining images in a controlled and precise manner. Furthermore, the 8808's prostate 3-D imaging is the best means of identifying peripheral and central zones and enlargement of the transition zone, and provides clearer visualization of lesions which may have gone undetected in other modes.