The literature

Scanning the journals

Practice Guidelines for Prevention of Musculoskeletal Disorders in Obstetric Sonography
Rousseau T, Mottet N, Mace G, Franceschini C, Sagot P
Journal of Ultrasound in Medicine 2013; 32: 157–164
It is important that all sonographers know the different musculoskeletal disorders related to their work. Their prevalence is five times higher amongst sonographers than in the general population. It is likely we all know someone in the profession, who has had to have time off, had remedial therapy, including surgery, or, in the worst case, has had to quit sonography altogether because of musculoskeletal problems.

It makes sense that his article should be read by us all. It shows how to work appropriately to reduce risk and emphasises the ergonomics of work station and posture.

The French authors from Dijon believe that ultrasound equipment manufacturers and sonographers should cooperate to develop better ergonomically designed ultrasound units. Tom Brown, now approaching 80, the designer of the original ultrasound static B scanning machine in Glasgow in the 50s believes that a robotic aid could help reduce the problem and eliminate the ‘ergonomic absurdities’ of the machines we use today.

Guidelines and good clinical practice recommendations for contrast enhanced ultrasound (CEUS) in the liver – update 2012. A WFUMB-EFSUMB initiative in cooperation with representative of AFSUMB, AIUM, ASUM, FLAUS and ICS
Claudon M, Dietrich CF, Choi BI, Cosgrove DO, Kudo M, Nolsøe CP, Piscaglia F, Wilson SR, Barr RG, Chammas MC, Chaubal NG, Chen MH, Clevert DA, Correas JM, Ding H, Forsberg F, Fowlkes JB, Gibson RN, Goldberg BB, Lassau N, Leen ELS, Mattrey RF, Moriyasu F, Solbiati L, Weskott H-F, Xu HX
Ultrasound in Medicine and Biology 2013; 39 (2): 187–210
More guidelines. This massive international effort provides general advice on the use of all currently clinically available ultrasound contrast agents. It is intended to create global standard protocols for the use and administration of contrast agents in the liver and so improve patient management.

Prof Robert N Gibson from Melbourne, a stalwart of ASUM is one of the 26 international experts who authored this paper. While CEUS is not widely used in Australia these up to date practice recommendations are now available for us.

Rapid calculation of standardized placental volume at 11 to 13 weeks and the prediction of small for gestational age babies
Collins SL, Stevenson GN, Noble JA, Impey L
Ultrasound in Medicine and Biology 2013; 39 (2): 253–60
It would be useful to have tests to predict small for gestational age. This study from Oxford is a step in that direction. Because of the problems associated with ultrasound placental volume estimation of repeatability and reproducibility, these researchers developed a segmentation technique to calculate three-dimensional placental volumes.

Data from 143 women were analysed of which 20 were small for dates. The study confirmed the value of their technique and shows that it may be used to predict growth restriction. Larger studies are needed so guarded optimism is the order of the day.

Lung sonography
Volpicelli G
Journal of Ultrasound in Medicine 2013; 32: 165–71
I was not aware till reading this review article that ultrasound has a place in the study of many lung diseases particularly in emergency settings.

The author considers the limitations of lung sonography (alveolar air and thoracic bones) but makes a convincing argument for bedside ultrasound being superior to chest x-ray in trauma patients and after invasive procedures. Yet another case for non-ionising radiation techniques.

Efficacy of thyroid ultrasound elastography in differential diagnosis of small thyroid nodules
Dighe M Luo S, Cuevas C, Kim Y
European Journal of Radiology 2–13 Feb 11 (E-pub ahead of print)
Thirty five patients with 38 small thyroid nodules had ultrasound and elastography examinations to see how efficient the techniques were in diagnosis. Non invasive evaluation is possible using elastography with in vivo compression to find the most suspicious thyroid lesions for fine needle aspiration and avoid it in benign nodules.

Is ultrasound diagnosis reliable in acute extensor tendon injuries of the knee?
Swamy GN, Nanjayan SK, Yallappa S, Bishnoi A, Pickering SAW
Acta Orthop Belg 2012; 78 (6): 764–70
Unfortunately the answer from this study is an unequivocal “No”. MRI diagnosed all cases. There was a 33.3% false positive diagnosis rate using ultrasound and a 7.4% false positive rate with clinical examination and x-ray only. So if there is clinical doubt and an acute injury to the extensor knee mechanism, especially the quadriceps tendon rupture is suspected, get an MRI before surgery.

The Gleaner