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Editorial

Sounds with frequencies greater than 20 kilohertz; to steer away from infirmity

In scientific enquiry, *Homo sapiens* uses his/her sense organs, sensory extensions or simulated models for observations. Sensory extensions include telescopes, microscopes, endoscopes that extend the sensation of vision; stethoscope that extends the sensation of hearing. Examples are too numerous to enumerate, and they encompass disciplines beyond medicine.

Sound waves with a frequency of more than 20 kHz are used as a sensory extension in diagnostic imaging. Such waves are commonly known as **ultrasound**. Ultrasound has broad applications in medicine and has revolutionised management of disease. *Diagnostic ultrasound* image internal organs in a non-invasive manner, however, its applications go well beyond mere diagnosis.

Functional ultrasound encompasses Doppler ultrasound to measure and visualize blood flow within the vasculature or in the heart. Colour Doppler measures the speed of blood flow and direction of movement. Ultrasound imaging helps radiologists and other clinicians to guide a needle to a target in biopsy or in interventions.

Therapeutic applications of ultrasound include high intensity focused ultrasound (HIFU) to modify or destroy abnormal tissue, endoscopic fragmentation of urinary tract stones etc. More practical applications are evolving.

It is imperative for end users of ultrasound to have a knowledge on physical principles, the image acquisition process and its optimization. In this issue of the *GMJ*, Goonewardene *et al.*, focus related knowledge among postgraduate trainees in emergency medicine and they call for urgent changes in training in Point of Care Ultrasound (PoCUS). Their paper emphasizes importance of continuous 'checks' on the efficacy and the relevance of clinical training at all levels.

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