A practical guide to ultrasound imaging


This very practical guide to the use of ultrasound imaging in the rehabilitation of the lumbopelvic region has been written by Jackie L Whittacker, a Canadian physiotherapist and an instructor in the Orthopaedic Division of the Canadian Physiotherapy Association.

The text has been structured to guide the clinician step by step through the stages of ultrasound image generation, recognition and interpretation of the two-dimensional image, then integration into the clinical context as an educational tool for the patient and an effective biofeedback instrument. Whittacker draws together much of the relevant literature published on lumbopelvic rehabilitation, synthesising it effectively into an informative and easy to read reference.

The book begins with a clearly presented description of ultrasound imaging principles that will be readily comprehended by readers seeking a working knowledge of ultrasound in biofeedback and a discussion of safety and clinical standards applying to the application of diagnostic ultrasound.

The chapter describing image generation provides a ‘handbook’ to producing images of the abdominal muscles, lumbar multifidus, and the pelvic floor. Discussing instrumentation and transducer frequency selection, patient positioning, and probe placement, the author has produced a structured guide to imaging these muscles. Accompanying the descriptions are many photographs and ultrasound images. Interpretation of the greyscale images is assisted by the inclusion of clear line drawings highlighting the essential features of the accompanying image.

Both descriptive and quantitative interpretation of static and dynamic ultrasound images are discussed in depth, with consideration being given to resting muscle state and to the response of each muscle under load. Maladaptive strategies are also presented, again accompanied by ultrasound images to complement each description.

The final chapter deals with the role of ultrasound in patient management, emphasising its use as a biofeedback tool and the potential for imaging as a useful adjunct in the stages of relearning motor control in the lumbopelvic region.

Whilst not introducing new knowledge regarding the use of ultrasound imaging in assessment and biofeedback, this book is the first to draw together much of the previously published literature and combine it into a useful reference with a strong clinical focus. This small volume would be a useful addition to the library of any clinician utilising real-time ultrasound in the clinical setting or anyone requiring a ‘ready reference’ for ultrasound imaging of the lumbopelvic region in the clinic.

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