

# Preface

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The clinical neurophysiologist is primarily concerned with being able to provide an accurate diagnosis. Defining the location and extent of a lesion is achieved through a detailed clinical examination with judicious application of additional tests of nervous function. The role of nerve conduction studies and the related techniques of EMG evoked potentials in providing further functional information has been well established. Recently, however, technical advances in imaging techniques have enhanced the scope for providing the clinician with much-improved anatomical information regarding disorders of the peripheral nervous system. The technical advances of high resolution ultrasonography (HRU) have been nothing less than spectacular, enabling hugely improved depiction of peripheral nervous structures in a three-dimensional setting. This technique is set to progress rapidly and become an established adjunct of the clinical neurophysiologist. Combination with color Doppler allows integration of additional information on the vascular supply of the peripheral nerves.

However, the main advance brought about by HRU is that it enables accurate localization of peripheral nerve disorders. In addition, it is cheap and readily available, in contradistinction to the costly MRI techniques. A further advantage is that it allows dynamic, real time injections of nerves, which are frequently performed by anesthetists.

In this book we aim primarily to provide hands-on information for clinicians involved in peripheral nerve diagnostics, who are often clinical neurophysiologists. We have thus selected topics for which HRU is of particular help in achieving a diagnosis. We are confident that in the near future HRU will become a valuable if not indispensable companion technique for the clinical neurophysiologist. We hope that this book will help provide the user with a crucial, practical link between the anatomy of the peripheral nerves and the use of HRU in the identification of peripheral nerve disease.

**EP Wilder-Smith, K Rajendran & AK Therimadasamy**  
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