Book reviews


Computed tomography fundamentally displays the patterns of absorption of X-rays by matter, so that despite the fact that it is a fairly complex imaging method, no new basic concepts were necessary for understanding the principles of interpretations of the images. Magnetic resonance is a much more complicated phenomenon in which image patterns of magnetised tissues can be produced by subjecting it to various types of radio frequency pulse sequences. The method has enormous potential for imaging brain and spinal cord and not only for displaying the gross anatomy and some of the internal structure but also for revealing certain aspects of biochemistry and pathophysiology and for measuring blood flow. To achieve anything more than an empirical approach to diagnosis one should seek to understand how the components of the magnetic resonance signal are generated; how each affects imaged contrast and how they are influenced by disease processes. However, one should bear in mind that the evolution of the method has been incredibly rapid and some aspects of the subjects are incompletely understood even by experts.

This book considers in a simple manner the potential of magnetic resonance and discusses the interaction between radio waves and spinning particles in a strong magnetic field and how spatial encoding is achieved to form images. Analogies with more familiar physical phenomena are presented to facilitate the learning phase. The author also uses analogies from everyday life, some of which are very helpful; others will probably be more useful to American readers. The currently available imaging systems and possibilities of using paramagnetic substances for enhancing the images and the potential hazards of magnetic resonance are also discussed.

The book fulfils its brief as a simple introduction or guide. It commences slowly and simply, explaining every step but even so it soon becomes quite complex enough for the average neuroscientist. It certainly provides the basic background for logical attempts at analysis of magnetic resonance images and gives a good basis on which to build further knowledge. It is recommended to radiologists and other physicians commencing study of the field.

Brian Kendall


This is designed for the specialist spinal surgeon. The principal author is an orthopaedic surgeon at the University of Southern California and his contributors include two professors of neurosurgery. They have provided a thorough guide to the full range of methods of surgical exposure of the vertebral column throughout its length. It should be stressed that this is a manual of surgical exposures alone. With the exception of lumbar discectomy and cervical foraminotomy, the procedures that the surgeon may carry out once the spine has been exposed are not described. Each surgical route is described step by step. Points of difficulty or risk are emphasised and for each section of the spine the relevant aspects of normal anatomy are thoroughly described. References have been deliberately confined to key papers only.

A technical surgical work of this type stands or falls by the quality of its illustrations. The numerous plates in this book, all coloured, can hardly be faulted. Most are photographs of cadaver dissection. Usually this type of illustration is less satisfactory than one might suppose but these beautifully photographed dissections are helpful and instructive. There can be few neurosurgeons who will not find this book useful. Even those with large spinal practices will from time to time require a detailed guide to some unusual approach and its problems. For this purpose this volume can be thoroughly recommended. The price is high but it can be justified in view of the very high quality of production and illustration.

RS Maurice-Williams


Since the discovery in 1964 of particles resembling papovaviruses in the brains of PML patients, evidence has been methodically accumulated that members of this subgroup of polyomaviruses (e.g. JC and BK viruses) cause PML in man and glial tumours in primates. SV 40 and polyoma, well characterised viruses with known oncogenic potential, belong to the same...