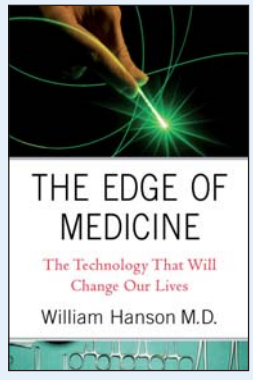
The Edge Of Medicine – The Technology That Will Change Our Lives

William Hanson
Palgrave Macmillan 2008
Price £14.99. Pp 248
ISBN 9780230605756

The author is an American doctor trained in internal medicine. He writes with personal experience of many of the situations he discusses in a clear and imaginative way which will appeal both to those in the profession and to others.

The basic tenet is that advances in technology will in the not-too-distant future have significant effects on the practice of medicine and surgery. For example, robotic-controlled operations, including laparoscopic techniques, may well be managed by computer technology. The need for sensory feedback is currently being solved by so-called 'haptics', the science of engineering tactile sensation into computerized applications.

Stephen Hawking uses a finger-activated voice synthesizer, but related technology now extends into devices to control the movement of artificial limbs and even one day to cochlear and optical prostheses.



The construction of artificial organs, such as the automatic implantable cardioverter defibrillator, is developing at a pace, and nanotechnology seems likely to develop considerably, especially in delivering therapeutic agents directly to affected tissues. Stem cell therapy will probably provide important approaches to managing myocardial and spinal cord damage and perhaps one day brain disorders.

But most hopes are currently pinned on the field of genetics for detecting susceptibilities to common diseases and individually designed personalized treatments. For example in current approaches to breast cancer, tumours which express HER2 antigen benefit from Herceptin treatment, and the response to clopidogrel after myocardial infarction is determined by the individual's CYP2 genotype. Neither of these important examples is mentioned in the text, however.

Much of this may seem interesting but purely speculative. But as Hawking's mother commented in the film of her son's life: 'Why shouldn't you go on thinking about the unthinkable'. So many things were unthinkable just a few years ago, such as transistor radios and mobile phones, that are now in everyday use. Unfortunately the author provides no references for further reading and study.

There are other questions which these developments raise: the high and probably prohibitive costs of much of this technology, matters of patient confidentiality and perhaps of most concern in certain applications, the possible erosion of the doctor–patient relationship. To many, including this reviewer, the latter is the most important aspect of the practice of medicine which no technology can ever replace.

Alan Emery, Green College, Oxford

Oxford Handbook of Clinical Surgery (3rd edn)

Edited by Greg McLatchie, Neil Borley, Joanna Chikwe
Oxford University Press 2008
Price £24.95. Pp 682
ISBN 978 0 19 856825 4

A marked improvement on the second edition, this book is marketed as the indispensible surgical handbook for surgical trainees, junior doctors and medical students. It covers the breadth of surgical specialties with even a chapter on surgery in tropical diseases, useful reading for the adventurous elective student. A handy index to emergency topics and laboratory reference ranges are also included on the inside cover.

I especially appreciated the content of the first four chapters: good surgical practice, principles of surgery, surgical pathology and practical procedures. These give the student an essential grounding in the basics of surgery. The surgical specialty chapters are very thorough, laid out in usual Oxford Handbook style and importantly include revision boxes on relevant anatomy and physiology. However, this is a dry way to revise anatomy and the book would be improved with the inclusion of more anatomical diagrams. Management plans are helpfully included for each topic but there are no operative techniques discussed, making this book unsuitable for sole use as a surgical handbook for a surgical trainee.

I would, however, highly recommend this handbook to medical students and foundation year doctors for use as a revision aid and while on the wards.

Sarita V Vamadeva, East Surrey Hospital, Redhill

Clinical Tests of Respiratory Function (3rd edn)

GJ Gibson
Hodder Education 2009
Price £85.00. Pp 431
ISBN 978 0 3409 2561 4

This is the third edition of this textbook, the last edition being in 1996. The author's preface states that the accounts of sleep disordered breathing and exercise testing have been expanded in the current edition. The book's title is slightly misleading, in that it does not confine itself to lung function testing: a considerable amount of pulmonary physiology is incorporated in the first part of the book. Tests such as plethysmography and transfer factor are dealt with in detail and with full rigour. The second and third parts of the book deal with the application of respiratory tests in respiratory and non-respiratory disease respectively. There is a short final section on how respiratory function tests should be used and reported.

Much of this book deals with its subject matter at length and in depth, but there are curious variations, where coverage ranges from expansive to epigrammatic. Pulse oximetry is dealt with in one paragraph, while a method of estimating mixed venous PCO_2 which is not used in clinical practice immediately follows and is given the same prominence. A tantalisingly brief account of the strong ion approach to acid–base balance whets the appetite, but would benefit from exposition.

Respiratory physicians interested in the background to the major lung function tests and disease-specific abnormalities will find this a useful source of reference. Those with little prior knowledge of pulmonary physiology who wish to obtain a working knowledge of lung function testing will find this a demanding read.

JP Finnerty, Countess of Chester Hospital NHS Foundation Trust, Chester