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BOOK REVIEW

Title: PHYSICAL AGENTS FOR PHYSICAL THERAPISTS. 3rd EDITION
Authors: J. E. Griffin and T. Karsalis
Publisher: Charles C. Thomas, Illinois, 1988
Price: £ 445 pages Hard cover ISBN 0 398 05384 7

The preface describes the book as being aimed at physiotherapy students, to be supplemented with lectures and practical work. The range of modalities covered sounds impressive and the authors boast of an up-dated and expanded chapter on nerve and muscle stimulating currents. The first chapter on pain is easy to read and gives a clear description of pain theory, classification and causes. Clear diagrams assist in understanding some of the concepts discussed. Overall it gives a good grounding in pain theory for students as well as revision for qualified physiotherapists. The book then gives an overview of the physical agents at the physiotherapist's disposal i.e. heat, cold, U/S, nerve and muscle stimulating currents, UVL and water. Included is an introduction to the physics of the electromagnetic and acoustic spectrum, the most useful section being a comparison of their properties.

Chapter 3 is the up-dated section on nerve and muscle stimulating currents (NMSC). It sets out the physiology of stimulating nerve and muscle with the effects of altering stimulation parameters, e.g. waveform. However, it is not well set out and makes for heavy reading; it would be difficult to quickly check up on facts here. The bulk of the chapter is given over to various clinical applications of NMSC. The author seems to view NMSC as the great panacea for all ills by advocating its use in conditions from upper motor neurone lesions (to prevent muscle atrophy), spinal cord injury to peripheral vascular disease where "the patient will not engage in sufficient activity to make enough use of the calf muscles to keep circulatory insufficiency within tolerable limits". Passive treatment at its height? Disappointingly, no mention is made of recent advances in muscle stimulation e.g. eutrophic stimulation, rather the author still advocates the use of time consuming IDC. There is a good, well referenced section on TENS, describing possible pain relief mechanisms and details of TENS techniques. However, the range of machines described is not readily available in this country. Interestingly, interferential therapy is classed as a form of TENS (high frequency type), but very sparse information on this technique is provided. Finally there is a section covering electrophysiological testing which is well set out and easy to read and a good section on bio-feed-back covering its clinical application e.g. muscle re-education.

Chapter 4 covers the diathermics. It starts with shortwave describing the electrodes (air plate, drum and cable) and the physics and heating mechanism of each. This is a well written section which has important clinical implications as regards choice of electrode for depth of heat and type of tissue heated and would provide a good revision for qualified physiotherapists as well as students. Unfortunately, there is nothing written about pulsed electromagnetic energy which is now widely used. The section on infra-red covers lamps, hot packs and wax and provides a good basic introduction to those techniques. Cold therapy is included here but is very poorly covered in terms of physiological and therapeutic effects.

Ultra-violet light is covered in depth but it is difficult to relate the USA machines to those used in this country. Much of the treatment techniques discussed relate to skin disorders e.g. Psoriasis, with a disappointingly small amount on treatment of wounds. The chapter on ultrasound is disappointing, being based mainly on its use for pain relief by virtue of its heating effect. There is only a short section covering its mechanical effects and use to aid healing. Various treatment techniques are discussed but little emphasis is placed on the possible dangers of ultrasound. I would be dubious about using the stationary technique described because of the danger of standing wave formation and possible stasis of blood flow. The final chapter is on instrumentation and starts with basic laws of electricity which provides a good introduction for students. However the author rapidly gets onto detailed descriptions of individual machine circuits with circuit diagrams which is not necessary for clinical practice.

Overall I found the book hard to read and felt it was not up-to-date with techniques such as Pulsed Electromagnetic Energy, U/S, Interferential: Also many of the techniques are not set in context of being an adjunct to overall patient management which should be made clear, especially for students. I would not advocate buying this book, its useful sections being outweighed by poor, out-dated, difficult to read sections.

R. Smith