

Clinical and Experimental Neurology: Proceedings of the Australian Association of Neurologists

John Tyre and Mervyn Eadie (Editors)

Baltimore: University Park Press, Volume 14 (1977), Volume 15 (1978), and Volume 16 (1979).

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This three volume series, the latest in a longer series, sets forth the papers presented by an extremely diverse group of researchers and practitioners. The papers range from epidemiological studies and case studies to some basic and clinical research. So many authors and papers are presented that no attempt will be made to review them separately except when a paper illustrates a particularly interesting point.

In Volume 14 there is a range from single case reports to several cases and some epidemiological studies. The methods used are highly variable and not always clearly specified. In most of them, the literature is well researched and the patients are generally adequately described, although the criteria for groupings were not always clear.

The disorders covered by this group of papers include TIA's, alcoholism, epilepsy, multiple sclerosis, motor neuron disorders, myopathy, neuropathy, myasthenia gravis and cerebral atrophy. There are some new diagnostic and prognostic methods that are investigated. Most of the studies involve adults. Some of the case studies are immensely fascinating. One example is the case presented by Pollard and Selby (14: pp. 133-136) of a 14-year intermittent episode of allergic neuritis—here we see the development of a serendipitous experiment involving a tetanus allergy that evoked three episodes of polyneuropathy. This made for an interesting design: three experimental conditions with recovery periods in between.

The studies in general use traditional laboratory and histological techniques, with the addition of some of the newer nerve conduction studies, evoked potential and CAT scans and occasional psychological testing. Included was one study of acupuncture for chronic back pain. The paper by Mendelson, Dranz, et al., (14: pp. 154-161) was quite confusing. They surveyed the use of acupuncture and conducted some psychological testing of the patients, supposedly to see if personality variables influenced the response to treatment, but no such results were

presented—only the comparison of test results of the patients with an unspecified control group.

In Volume 15 the emphasis was upon pharmacological studies, particularly relating to epilepsy and Parkinson's disease. Most of these studies tested plasma levels, dose frequencies and so forth, with minimal attention to the corresponding clinical or behavioral effect. Also in Volume 15 was a historical review and theoretical discussion of psychopharmacology. Several of the papers tended to be much longer and more in the nature of review articles in this volume than in Volume 14. In other respects it was like the companion volumes. Some different topics covered in this volume were causalgia, use of radionuclides in diagnostics and the effects of radiation, Guillain-Barre syndrome and some of the neurological complications of leukemia. There were two neuropsychological studies in this volume, one on memory and one involving visual-spatial functions.

Volume 16 covered many more studies of pediatric neurology, exploring the range of techniques and pharmacology. Once again, the pharmacology focused almost exclusively on epilepsy and Parkinson's. The range of disorders and techniques is basically similar to the other two volumes with a few more unusual disorders including atrial myxoma, cerebellar malfunctions, hypoglycemia and a classic study of CNS lymphoma.

There was one interesting study of visual evoked potentials which was very careful and elaborate, utilizing normal control groups, adult and child patients. In this study the norms were obtained before they were applied to the clinical population.

Overall this series is very applied: the data presented are related very carefully (in most cases) to the clinical picture and frequently are derived from the clinical observation. The studies are not really experimental in the classic sense of manipulating independent variables and then measuring the effects. By far the most typical paper represents a quasi-experimental design or most frequently a review of several cases from which a theoretical generalization or a clinical inference or recommendation can be made.

These volumes represent a good reference source for practicing neurologists since the papers review recent research and present recent data that relate to clinical practice. Unfortunately the papers are not organized in any topical way and one has to go through the volumes paper by paper in order to gather together research on similar topics or similar techniques. The information to be found is *good* information, but organization is difficult. It certainly reminds one of going to a conference and sitting through a long series of loosely related papers.

UV-A: Biological Effects of Ultraviolet Radiation with Emphasis on Human Responses to Longwave Ultraviolet

John A. Parrish, R. Rox Anderson, Frederick Urbach and Donald Pitts
New York: Plenum Press, 1978, 262 pp.

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This book provides a review of current knowledge about longwave ultraviolet radiation with particular emphasis on human biological responses and criteria for human exposure. The emphasis in the book is on effects from the longer wavelength UV-A (320-400 nm) while comparisons are made to effects of other wavelengths (UV-B and C) in order to place these in perspective. This emphasis is particularly important because of the need for greater understanding of effects from this spectral region. The amount of UV-A reaching the earth's surface is much greater than that of shorter wavelengths—photosensitive reactions are mostly mediated by UV-A and it can potentiate effects of other wavelengths. In addition, UV-A is transmitted by most window glass and plastics that do not transmit the shorter wavelengths.

The book begins with a brief review and discussion of the basic physics associated with electromagnetic radiation including its production, absorption, detection and dosimetry. This section represents about one fifth of the book and as with any review is concise. Some background in either chemistry or physics is assumed but a careful reader needs no other material. Other books such as *Introduction to Research in Ultraviolet Photobiology* by John Jagger are available to provide additional background material.

The topic of dosimetry is justly addressed in some detail. Much of the literature in photobiology, as well as other discussions concerning the effects of physical agents, lacks adequate measurement of radiation parameters. Various optical systems including detectors and filters are discussed. Of particular use are descriptions of advantages, disadvantages and potential problem areas associated with the different types of equipment and procedures. As mentioned, this introduction is useful but brief. Details on physical characteristics of sources and particulars of dosimetry can be found in such sources as *Ultraviolet Radiation* by L.R.

Koller. The inclusion by the authors of a list of U.S. manufacturers of UV-related instrumentation and accessories is particularly helpful.

The major portion of the book is a discussion of bioeffects of UV-A. The authors examine the effects of UV-A on the skin and the eyes, as well as the relation of UV-A to the processes of aging and carcinogenesis. The authors include a timely discussion of standards of exposure. Throughout these discussions, the authors provide necessary introductory and background materials. However, when the subject is truly beyond the scope of the book—such as the detailed anatomy and structure of skin—many references to appropriate resources are given. Liberal use of well-captioned figures strengthens their explanations. The inclusion of definitions of medical terms not familiar to many readers is certainly helpful.

The discussion of bioeffects is accomplished by presentation of details of a few selected experiments to emphasize vital points; both U.S. and foreign journals are cited. These sections are strengthened by the authors' comments on both the strong and weak points of the various experiments. The inclusion of summaries of effects proves to be useful.

In summary, readers or researchers in the fields of photobiology and the medical and environmental sciences will find this to be a useful compilation of information in the field of ultraviolet radiation. The many references provided make the book a useful resource for the field.