# **Pressure Sores – Clinical Practice and Scientific Approach**

To my daughter Laetitia

# PRESSURE SORES – Clinical Practice and Scientific Approach

Edited by

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### Foreword

#### Robert B. Duthie, CBE, MA, ChM, FRCS

This is a first. This textbook deals with one of the major scourges of mankind, namely the pressure sore.

All aspects – whether in the physical and mental suffering of the involved individual, or in the economics, or in the understanding of the basic phenomena behind the lesion, or in its causation, recognition of presentation and improved treatment modalities – are examined critically and commented upon authoritatively by many experts.

Five per cent of all hospital inpatients, i.e. 30 000 per year, have developed a pressure sore either just before, during or after admission. There are probably even greater numbers in the community.

Twenty-one variables are described which can now be recognised to identify, with a 98 per cent accuracy, those at risk. All health care staff must be taught to distinguish as many of these variables as possible, for example general and systemic conditions of the patient, local conditions of malnutrition, blood supply, abnormal pressures and lack of ability to shift pressures when required. Once these factors have been discerned, steps should be taken to prevent or improve them.

In addition there are several excellent scientific chapters describing known sensors of measurement, techniques of nursing, positioning and splinting.

However, the field of pathophysiology behind the pressure sore is extraordinary complex and diverse and this too has been brought out clearly by several authors.

An excellent chapter for nurses is included which should however also be required reading for all medical students, housemen and indeed consultants. With such a galaxy of authors, including clinicians, epidemiologists and scientists, there must always be some overlap in data and in expression. But this is a multi-disciplinary subject, each discipline with its own language, stretching from a list of homeopathy lotions to the hard science of measuring tissue oxygen levels – for such measurements in absolute terms are required to delineate when cell necrosis occurs at the various anatomical sites.

The fashion of medicine, with all its financial support, rushes on and leaves in its wake the hard core of clinical conditions, e.g. pain, fractures and pressure sores, all producing long-drawn-out and chronic morbidities. This book brings a new look at the field of pressure sores, and highlights

#### Foreword

how much more research is required and how badly it is needed. I recommend it most seriously to all members of the health care team.

## Preface

It was with great enthusiasm but not a little trepidation that I embarked on this project. Its major appeal was in its opportunity to develop a structure for a book on pressure sores and select those authors whom I considered most appropriate for the task. This involved lengthy telephone calls with proven experts on both sides of the Atlantic.

There have been several excellent volumes covering the subject area. One such book, *Bed Sore Biomechanics*, published in 1976 by Macmillan, was based on a meeting held at Strathclyde University. Its influence on both the clinical and the scientific understanding of the problem can not be underestimated and is reflected in its many citations in the current volume. My brief permitted me to extend the discussion to include disciplines that have not always been considered important in previous treatises on the subject.

The book has been conveniently divided into four parts involving the clinical, scientific and technological aspects of the problem. The first five chapters consider the general and practical aspects of the subject, with topics ranging from incidence and economics to predictive scales for identifying subjects at risk. These are followed by a series of chapters (6–10) where clinical specialists describe the problems of pressure sores as related to critical groups within the hospital population. Chapters 11–16 discuss the understanding of the normal and pathological processes in the light of basic biological and physical sciences. The last four chapters describe technological solutions to assess subject performance on existing support systems.

In editing this book, I have attempted to avoid unnecessary repetition. However, in some instances certain messages have been retained between chapters. These include the importance of preventive measures and pressure relief for those subjects at risk of developing pressure sores.

The format of the book has been designed to accommodate a wide readership. This will range from individuals involved directly with patient care and clinicians prescribing prophylactic measures to laboratory-based scientists interested in biological control mechanisms. The clinical problem, being ubiquitous in nature, crosses international boundaries and I hope that overseas readers will be able to convert the UK incidences and costs to their own experiences.

My interest in the subject was initiated at postgraduate level under the supervision of Dr Peter Bowker and blossomed during my eight years at the Oxford Orthopaedic Engineering Centre. I am particularly grateful to its director, Mr Derek Harris, for his continued support during this period. Finally I must acknowledge the contributions of Ms Jan Knight and Mr David Grist, who provided the assistance and necessary drive when deadlines had to be kept.

London, April 1989

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