



# ORTHOPAEDIC NURSING AND REHABILITATION

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# **ORTHOPAEDIC NURSING AND REHABILITATION**



*Despite a life-long physical handicap, Dame Agnes Hunt (1867–1948), seen here with Sir Robert Jones, became a trained nurse, and founded at Baschurch what was to become, under the influence of Robert Jones and herself, the first orthopaedic hospital. Later, they founded the first training college for the disabled in this country.*

*From her remarkable vision, energy, and love for suffering humanity was born our present service for orthopaedic patients, and with it, the principles of nursing care which are the heritage of orthopaedic nurses today.*

# Foreword

Three years have passed since the last edition of this outstanding contribution to orthopaedic nursing and it is a great pleasure to welcome this new one. Miss Powell has obviously improved several parts of the text by rewriting and indeed by expanding certain sections. Her distinguished contributors have written well and maintained a uniformity of language which makes reading so pleasing and comprehensible. There is a constant and important emphasis upon caring for the orthopaedic patient—indeed the titles or headings for each of the chapters are entitled 'care' of the injured patient, 'care' of the paralysed patient etc. This to me epitomised Miss Powell's contribution to her profession—it always has been directly concerned with the

patient and the quality of nursing care. Not for Miss Powell has been the increasingly non-concerned, professional administrative nurse of modern times who is more concerned with the administrative role or the nursing process. The emphasis throughout this most important book is how to manage and care for the orthopaedic patient totally.

In the introduction there is given a well accepted explanation about the derivation of the word 'orthopaedic'. 'Paedios' meaning the child but a further origin could easily be from the Greek word 'paedeau' which Sayre explained many years ago as being 'to teach'. Miss Powell has been an outstanding teacher and this new edition will sustain this reputation for many years to come.

R. B. D.

*Dedicated to  
the orthopaedic team—  
everywhere*

# Preface to the ninth edition

The eighth edition of this book was a major revision, so that the ninth, following closely on its heels, is not so much a re-write as an update. Nevertheless, some important items have been added. The section on passive movements of joints in Chapter 1 is included because in some parts of the world physiotherapists are not available for this essential treatment and it must be carried out by nurses. A new chapter (Ch. 2) deals with aspects of infection control, of special significance in orthopaedic surgery and, therefore, in orthopaedic nursing. Chapter 8, which deals with operating theatre technique has been completely rewritten, as has Chapter 23 dealing with spinal injuries.

I am most grateful to my contributors and to other people for advice and help, notably Professor Brian T. O'Connor and Mr G. K. Rose. Mr Gwyn Evans has given me valuable assistance with Chapters 14

and 15 and Mr John Patrick also assisted me with a section in Chapter 14. My erstwhile colleagues at Oswestry have, as always, given me their loyal support—Marion Tidswell, Gérald Briffett, Pat McNulty, Gwilym Jones, Sydna Colbert, Jill Jones, Marie Carter and David and Joyce Jones have been most helpful.

Finally, I would like to thank Professor Robert Duthie for writing the Foreword, the publisher, editor and staff at Churchill Livingstone for their kind efficiency and the printers for their important contribution.

In conclusion, I must mention my family and friends, whose loud groans and cries of 'What, again?' accompany the production of each new edition.

Castle Pulverbatch, 1986

M. P.



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# Contents

<b>SECTION ONE</b>	<b>Comprehensive care of the orthopaedic patient</b>	<b>1</b>
	Introduction <i>Mary Powell</i>	3
	1. Principles of treatment of orthopaedic patients <i>Mary Powell R. Kershaw</i>	9
	2. Aspects of infection control in orthopaedic nursing <i>Elizabeth A. Jenner</i>	49
	3. General management of orthopaedic patients <i>Mary Powell</i>	68
	4. Investigations in orthopaedics <i>J. L. Brennan Ian William McCall</i>	92
	5. Basic principles of nursing care applied to orthopaedic patients <i>Mary Powell</i>	104
	6. Plaster of Paris technique <i>Mary Powell Eryl Thomas</i>	132
	7. Splints and appliances (orthotics) <i>Mary Powell</i>	148
	8. The orthopaedic operating theatre and care of the patient undergoing surgery <i>Christine Davies</i>	162
	9. The spine: immobilisation and nursing care <i>Mary Powell John P. O'Brien</i>	188
	10. The hip and knee: immobilisation and nursing care <i>Mary Powell</i>	199
<b>SECTION TWO</b>	<b>Paediatric orthopaedics</b>	<b>219</b>
	11. Paediatric orthopaedics 1: general considerations <i>E. G. Gerald Roberts R. Geoffrey Burwell</i>	221
	12. Paediatric orthopaedics 2: special considerations <i>Myra Christine Peacock</i>	244
	13. The principles of genetics <i>Michael W. Elves</i>	263
	14. Congenital anomalies <i>Mary Powell Barbara Goff E. G. Gerald Roberts</i>	279
	15. Growth disorders <i>Mary Powell E. G. Gerald Roberts John P. O'Brien</i>	319
	16. Pyogenic infections of bones and joints <i>Mary Powell</i>	354
	17. Tuberculosis of bones and joints <i>Mary Powell</i>	360
	18. Acute anterior poliomyelitis <i>Mary Powell</i>	375

<b>SECTION THREE</b>	<b>Care of the injured patient</b>	<b>391</b>
19.	General principles of trauma Mary Powell Michael Frederick Highfield	393
20.	Injuries of the upper limb Mary Powell Michael Frederick Highfield	437
21.	Injuries of the lower limb Mary Powell Michael Frederick Highfield	453
22.	Peripheral nerve lesions Mary Powell	480
<b>SECTION FOUR</b>	<b>Care of the paralysed patient</b>	<b>491</b>
23.	Spinal cord injuries Mary Powell John Rodney Hughes	493
24.	Adult hemiplegia—the 'stroke' patient Mary Powell	529
<b>SECTION FIVE</b>	<b>Care of the patient with non-specific and degenerative bone and joint disease</b>	<b>537</b>
25.	Rheumatoid arthritis A. K. Clarke Mary Powell	539
26.	Ankylosing spondylitis A. K. Clarke Mary Powell	566
27.	Osteoarthritis B. P. Wordsworth Mary Powell J. B. D. Rogers J. A. Bentley	571
28.	Spinal disorders Mary Powell Patricia M. Wood John P. O'Brien	593
29.	Other rheumatic diseases A. K. Clarke Mary Powell	613
<b>SECTION SIX</b>	<b>Care of the patient with a condition associated with orthopaedic practice</b>	<b>623</b>
30.	Metabolic bone disease Michael W. J. Davie Mary Powell	625
31.	Tumours of bone Mary Powell	636
32.	Peripheral vascular disorders Mary Powell	641
33.	Amputations Mary Powell Patricia M. Wood	646
<b>SECTION SEVEN</b>	<b>Rehabilitation of the orthopaedic patient</b>	<b>659</b>
34.	Rehabilitation 1: general considerations Mary Powell	661
35.	Rehabilitation 2: special considerations Vivien Lawson Stephen Clarke J. G. Kendall	670
<b>INDEX</b>		<b>685</b>

# SECTION ONE

Comprehensive care  
of the orthopaedic  
patient



Comprehensive patient care  
The orthopaedic team  
Orthopaedic nursing

## Introduction

The word 'orthopaedic' was coined by a French Surgeon, Nicholas Andry in 1741. It is derived from two Greek words: *orthos* meaning 'straight', and *paedios*, meaning 'of a child', and has therefore been taken to mean 'the rearing of straight children'. In modern times, it means much more. Roaf and Hodgkinson in their book *A Textbook of Orthopaedic Nursing* give a historical survey of the development of orthopaedic surgery and interesting speculations on the future of this speciality. Noon (1984) writing in the *Nursing Mirror* discusses modern advances in orthopaedic treatment and care. Many readers will be familiar with Dame Agnes Hunt's book, (1983) *This is my life* in which she describes the birth of orthopaedic nursing as a speciality and the founding of the centre which bears her name.

Orthopaedic surgery has been defined as 'concerning the study of the form and function of the human frame; its attack is directed against those affections that deform the architecture or arrest the balanced mechanism of mans body and injuries of bones, muscles, nerves and soft structures which result in loss of form or function are thus its legitimate objective' (Sir Walter Mercer).

When these words were written the 'legitimate objective' included large numbers of patients suffering from those great scourges of yesteryear, skeletal tuberculosis, osteomyelitis and poliomyelitis, and at that time these cases formed the bulk of what is spoken of as 'cold' orthopaedics (a loose term used to describe 'chronic' conditions, as opposed to recent injuries). The attack on these 'affections that deform the architecture' has largely

succeeded, due mainly to major advances in surgery, in drug therapy and in vaccines but also to social and economic advances with improved standards of living, not to mention the introduction of that great piece of social legislation the National Health Service, now reorganised with the object of integrating hospital services with preventive and social services in the community, together with a shift of emphasis from the treatment of hospital-centred illness to preventive measures. There is also emphasis on treating patients in their own homes whenever possible, because, it is said, care in the community is better than in an institution unless very special circumstances are present—e.g. nobody available at home to care for the patient—or very special treatment techniques are required which are available only in a hospital; moreover, people prefer to be in their own homes rather than in an institution, and when cared for in the community do not run the risk of being institutionalised, i.e. depressed, apathetic, and unnecessarily dependent upon others for the ordinary acts of daily living. Finally, community care is said to be cheaper than maintaining patients in a hospital setting.

But as old enemies retreat, new ones emerge; the 'affluent society' brings its own problems, associated with the life style of the people; economic advance does not necessarily mean a healthy way of life despite the wide publicity given to health education; for example, many people eat more food than they need and 'dig their graves with their teeth', (Baly, 1973) take insufficient exercise and suffer from psychological problems due to the stress of their way of life, not to mention the high incidence of addiction to tobacco, alcohol and drugs. Moreover, although medical advance and social change has eliminated many of the infectious diseases of the past, there are increasing hazards due to noise, violence, vandalism, road accidents and pollution of the environment by chemicals and other substances. In recent times, unemployment has given rise to new problems.

Social change, improved medical care and economic advance has, however, ensured longer expectation of life, so that we are now faced with increasing numbers of aged patients suffering from degenerative conditions of bones and joints which become the 'objective' seen all too often in ortho-

paedic practice. Another important development of modern times is the large number of patients who in the past would not have survived but who now do so because of advances in medicine and surgery. Many of these patients cannot look for 'cure' but will need 'care' for the rest of their lives. This in turn led to new legislation and to the development of social services for disabled people and to improvements in the design and manufacture of equipment to assist nurses and others in the care of patient both in the hospital and in the home. Notable advances have also been made in aids to daily living and in means of transportation for disabled people. Indeed, there is new emphasis on their rights, benefits and services. Other important developments are the establishment of day-centres and the proliferation of self-help groups representing almost every disabling condition from birth to old age. Most of these groups produce their own literature, often written by members themselves and who describe their own experiences. For example *So you're paralysed*, by Bernadette Fallon (Spinal Injuries Association), and *Patient's Prospect*, by Ann Armstrong (Invalids at Home).

Orthopaedic surgery, in common with other specialised forms of surgery has been immeasurably strengthened, not only by the advances in drug therapy mentioned earlier, but by advances in anaesthesia, in radiography and other investigations, in bio-engineering, in methods of resuscitation and in the medical management of patients who sustain multiple injuries and of those undergoing major operations. Moreover, the patient is not only treated for his orthopaedic condition, as a 'body', but as a person with emotional, psychological, spiritual, social and economic needs. Further, his family and his place in the community are considered as part and parcel of his total care. Patients both in hospital and in the community are encouraged to become involved in their own care more freely than in the past. For example, a method of reporting and 'handing over' at the bedside has been reported (Rowe & Perry, 1984) with patient participation. There has been a great advance in the care and welfare of vulnerable groups, including children and the aged. Smith (1984) writes on the ailments and management of the latter group in relation to orthopaedics.

As for children, they not only receive special



consideration, including immigrant children (Ford, 1979; Aslam & Healy, 1982), but their parents also, especially in relation to admission to hospital (Glen, 1982). It is interesting to note here, however, that despite great improvements in maternal and child care, infant mortality in the United Kingdom (11.7 per 1000 live births) is greater than all but one other advanced country. (WHO Annual Statistical Report).

It should also be noted that immigrants to Britain have posed new problems for nurses, who, in order to give appropriate total care must learn about cultures other than their own.

Important developments in nursing also influence patient care, including introduction of the Nursing Process.

This has important implications for nursing despite the fact that one writer (Jayrain, 1984) expresses his 'despair at the confusion and uncertainty that exists about the nursing process' and suggests that 'the people who are expected to teach it to learners sometimes do not understand it themselves'. This writer goes on to suggest 'radical treatment' to tackle this problem and so put an end to the 'prevailing state of confusion'.

There is new emphasis on research in nursing (Hunt, 1984) and it has been reported that nurses are becoming familiar with computers. Watt & Kenny (1984) quote Professor Ronald of New York State University as saying 'Learning about computers and their use in nursing is a significant challenge for nurses throughout the world'.

There are also new challenges because of advances in organ transplantation and in genetic engineering.

For the purpose of this book, we will define orthopaedic practice as including the following:

1. 'Cold' orthopaedics, a term used to describe chronic, congenital, degenerative and non-traumatic disorders, as opposed to acute conditions due to
2. Trauma, which includes all injuries to the neuro-musculo-skeletal system. In this connection however, it is important to remember that concomitant injuries to other body structures may threaten life and require treatment which takes precedence over those with which we are directly concerned.

3. Rehabilitation. This is not a treatment in itself and indeed it is true to say that all medical, surgical, nursing and para-medical activities are part of rehabilitation; it is a process aimed at the preservation or restoration of independence, which begins with promotion of positive health and prevention of disease and injury at community level, and continues in hospital by means of prompt and effective treatment and nursing care. It is complete only when the patient is restored to the maximum physical, psychological, social and economic independence commensurate with his condition.

In this connection, this book shows many 'aids to function'. It should be stressed that aids and adaptations are advised only when the patient cannot use normal everyday equipment, e.g. feeding utensils, or toilet fixtures.

## COMPREHENSIVE PATIENT CARE

This describes a concept, already referred to in a previous paragraph, of the care of the patient as a whole person rather than as a 'case'. It arises from the fact that treatment of the physical condition is not enough; social problems are equally important. Preservation or restoration of social and economic independence is not only good medicine but good sense, since such independence means fewer claims on scarce and expensive national health and welfare resources.

## THE ORTHOPAEDIC TEAM

For the nurse an outstanding facet of caring for orthopaedic patients is the recognition of the work of other team members; in many instances, comprehensive care may be difficult to attain without their expertise. In most situations this team is led by the doctor, whether orthopaedic surgeon, accident surgeon, orthopaedic physician, rheumatologist, or rehabilitation specialist. On the other hand, we know that there are shifts of leadership according to the situation; indeed, nursing leadership has assumed new importance in modern times because direct patient care is so often given by