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SUMMARY

Myofascial pain syndrome is pain and/or autonomic phenomena referred from active myofascial trigger points with associated dysfunction.

It has been said to affect human well-being and productivity even to the extent of driving some people to suicide.

A literature review of myofascial pain is presented. An interesting historical view of muscular pain is discussed.

PART ONE: HISTORICAL OVERVIEW

INTRODUCTION

Since ancient times pain, in particular muscular pain, has provided clinicians with one challenge after the next. Over the centuries muscular pain and its treatment has been described and documented and theories have been both devised and rejected time and again. In a quest for understanding and managing this pain clinicians have documented their clinical work and researched this subject extensively over the years. So today, the quest continues for perfect understanding and the revelation of new knowledge in this field. Myofascial pain has only in the past few decades begun drawing attention worldwide. This review aims to consolidate some of the literature on myofascial pain as we continue to strive for excellence in the field of muscular pain.

Sheon (1986)¹ emphasised that this "soft tissue rheumatism" resulted in significant disability costs and that it remains poorly recognised by practitioners and researchers because the objective findings of the disorder are few.

About ten years ago Anders² maintained that the most common problem faced by most physicians is that of myofascial pain. It was stressed that this may present as a primary complaint or as a crippling adjunct to any number of other problems.

Voluntary (skeletal) muscle is the largest single organ in the body comprising approximately 40% of the body weight. This contractile tissue is extremely subject to wear and tear. This is the major cause of muscular pain including myofascial pain. As a result the importance of myofascial trigger points has been described in the literature on acupuncture, anaesthesiology, dentistry, general practice, orthopaedics, paediatrics, physiotherapy, rehabilitation medicine and rheumatology.

BRIEF HISTORICAL VIEW OF MUSCULAR PAIN

Of the earliest literature relating to trigger points Froriep³ (1843) used the term "muskelschwiele" meaning "muscle callouses" which was obviously describing the palpable bands of trigger points. By 1898 Strauss³ concluded that no anatomical study had succeeded in finding a "callus" of deposited connective tissue which would account for the hard cords palpable in hard muscles. At this time Helleday³ (Sweden) was emphasising the importance of tender points in muscles.

In 1904 Gowers³ introduced the term "fibrositis" attributing the local tenderness and palpable hardness to inflammation of fibrous tissue because of sensitivity to cold, the sensation of stiffness and circulatory disturbances³. On the other hand Stockman³ (1904) attributed these symptoms to connective tissue hyperplasia and illustrated this histologically.

The book "Fibrositis" was published by Llewellyn and Jones³ in 1915. It combined the theories of Gowers and Stockman and included descriptions of gout, rheumatoid arthritis and myofascial pain syndromes. But in subsequent biopsy studies, it was established that not all of these conditions show inflammatory pathology of the connective tissue.

In Germany Schade³ (1919) reported persistent muscle hardening during deep anaesthesia and after death and he described this as an increase in muscle colloid viscosity and introduced the term "myogelosis". F Lange and Everbush³ in the same year described these palpable hardenings as "muskelharten". M Lange³ (1931) later used the ideas of "muskelharten" and "myogelosis" to treat his patients using fingers, knuckles or a blunt wood probe to apply forceful massage which was therapeutically effective. In 1931 his book⁴ presented the history and concept of myogelosis and described many pain syndromes associated with specific tender points.

In 1939 Kellgren³ reported that many of his patients experienced referred pain in areas remote from the tender points. Until then, few clinicians recognised this and subsequently this has become an important basic characteristic of trigger points. He demonstrated this by injecting an irritant into the muscle which caused pain not only locally but also resulted in referred pain at a distance.

Three authors, from different continents identified a specific muscle with a patient's pain, rather than a group of muscles. Each author reported specific muscle syndromes of the body in a number of patients. Amongst these authors Gutstein,³ (Polish), described the tender points as "myalgic spots". He also described the referred pain patterns of muscles and the patient's reaction to palpation of the tender point which was later termed the "jump sign". In all his subsequent papers up until 1957 he attributed the myalgic spots to local constriction of blood vessels due to overactivity of the sympathetic fibres supplying the vessels.

Michael Kelly, an Australian, wrote a series of papers between 1941 and 1963³. He persistently described the "nodule" and the distant referral of pain from the affected muscle. His concept was that fibrositis was a functional, neurological disturbance originating at the myalgic lesion, which was due to a local rheumatic process. He envisioned no pathology, but rather that a central nervous system reflex disturbance caused the referred pain.

In 1942 Travell and co-authors³ proposed that any fibroblastic proliferation was secondary to a functional disorder and that pathological changes occurred only if the condition was chronic. In 1976 Travell summarised her concept³ as follows: A feedback mechanism between the trigger point and central nervous system was responsible for the self-sustaining characteristic of the trigger points.

In 1934 and 1941 Kraus³ promoted vapocoolant spray as a treatment for trigger points. In 1970 he wrote a book⁵ which emphasised the importance of exercise in the treatment of patients with back pain due to trigger points.

Regarding the pathophysiology of trigger points, Awad (1973, America) and Fassbender and Wegner (Germany)³ reported ultra-microscopic findings in biopsies of muscles. These included abnormalities of the contractile elements in muscle.

Russian authors, Popelianski *et al.*,³ have recently described a two-stage process causing myofascial trigger points: an initial neuromuscular dysfunctional stage and a subsequent dystrophic pathological stage. These hypothesis remain largely untested.

Today the term "fibrositis" has been replaced to a large extent in the literature by the term "fibromyalgia" and Junus *et al.*⁶ in 1982

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described the most common symptoms in patients with primary fibromyalgia. Travell and Simons³ define myofascial pain as "pain and/or autonomic phenomena referred from active myofascial trigger points with associated dysfunction". In the Dictionary of Rheumatic Diseases⁷, myofascial pain is defined as follows: "Musculoskeletal pain or aching, diffuse or local, felt anywhere in the body. It is typically deep in character with boundaries that have no anatomical basis, and is often aggravated by movement" A myofascial trigger point is defined by Travel and Simons³ as "a hyperirritable spot, usually within a taut band of skeletal muscle or in the muscle's fascia, that is painful on compression and that can give rise to characteristic referred pain, tenderness and autonomic phenomena". Types of trigger points include active, latent, primary, secondary, associated and satellite. Travell and Simons³ also stress that myofascial trigger points should be distinguished from cutaneous, ligamen-

tous, periosteal and non-muscular fascial trigger points.

(In Part II concepts and management of fibromyalgia and myofascial pain will be discussed)

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BOOK REVIEWS

REHABILITATION OF THE OLDER ADULT

by Keith Andrews

Reviewed by J C Beenhakker

This book, reprinted in paperback in 1991, is written by a physician who believes that effective rehabilitation requires a well integrated, multi professional team. According to the author the main functions of the book is to provide some practical ideas for management of specific disorders as well as to encourage further research into rehabilitation. The latter is facilitated by long reference lists at the end of each chapter.

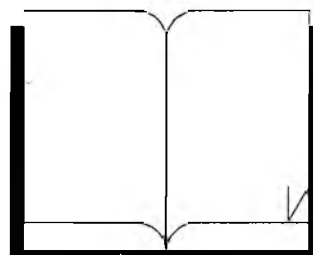
A good introductory chapter is given explaining what is meant by rehabilitation, the prevalence of handicap and disability related to age in Great Britain, the need to set goals and involvement of the carers.

Chapter two briefly covers the physical modalities used in rehabilitation including heat, cold, ultrasound, ultraviolet radiations etc. This is superficially covered and many of the references are old (only seven of the 132 references are later than 1984). In the following chapters specific conditions are briefly discussed followed by some of the modalities which could be used in the management of these conditions. Again some of this is out of date and later research in these areas is not given.

It is not clear at whom this book is aimed as it is very basic but it does give some practical ideas of how to adapt treatment to the individual both in hospital as well as at home.

rehabilitation in the complete sense of the word and then explores elements such as service design, resources, staffing, time management and service evaluation.

Much is to be learned from this book by physiotherapists in South Africa currently searching for a way to offer a much needed, comprehensive rehabilitation service in partnership with the disabled community.



STROKE AND HEAD INJURIES: A GUIDE FOR PATIENTS, FAMILIES, FRIENDS AND CARERS

by Mary Lynch and Vivian Grisogno

Johan Murray (Publishers) Ltd. 1st Edition 1991 soft, 175 pp, illustrated.

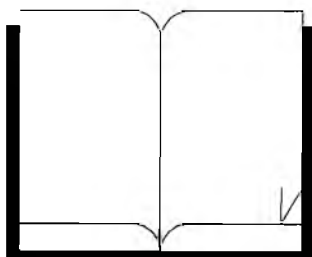
Reviewed by Leigh Hale

An extremely comprehensive guide to anyone faced with the daunting task of caring for a stroke or head-injured person at home. Subjects covered vary from washing and dressing the person, to ideas for mealtimes. The principle of minimising spasticity is emphasised.

The book covers the pathology of stroke and head-injury, prevention and first aid, hospital care (tests and procedures), the patient at home and at physiotherapy. It ends with seven case studies.

The text is detailed but simply written. However, it would have benefited from more explanatory diagrams.

It is best to bear in mind that the book was written in Britain, around their health care system, much of which is unavailable in this country. The useful addresses at the end are all British.



FOUNDATIONS OF PHYSICAL REHABILITATION

A MANAGEMENT APPROACH

by Doreen Bauer

Reviewed by Trish Wallner

This is a most enlightening approach to the difficult task of organising an effective and efficient rehabilitation service. It offers broad principles of the management of such a service that can be adapted to most situations.

An up to date account of current thinking in the broad field of rehabilitation is presented in a refreshing and clear manner. This book offers an opportunity of understanding the foundations of

