PHYSIOTHERAPY IN THE MANAGEMENT OF ARTHRITIS AND MUSCULOSKELETAL CONDITIONS

Introduction

‘Arthritis’ is a general term given to a group of conditions that affect the joints in the body. Arthritis-related problems include pain, stiffness, inflammation and damage to joint cartilage.

The Australian Physiotherapy Association (APA) contends that physiotherapy is an essential discipline in the prevention and management of arthritis and musculoskeletal conditions. The APA supports a multidisciplinary approach to the management of arthritis and musculoskeletal conditions, to which physiotherapy is integral. Numerous physiotherapy interventions utilised in the management of arthritis and musculoskeletal conditions are supported by a strong evidence base.

The APA argues that the current Medicare Benefits Schedule (MBS) arrangements should be extended to allow universal access for treatment of conditions where there is research evidence in the peer-reviewed literature, such as knee osteoarthritis.

In July 2002 the Commonwealth Government identified arthritis and musculoskeletal conditions as the seventh National Health Priority Area (NHPA), with the initial focus on osteoarthritis (OA), rheumatoid arthritis, and osteoporosis. The APA strongly supports these conditions as a National Health Priority Area.

The APA contends that back pain represents a significant burden and also deserves special attention in this priority area. In 2000–01, back pain contributed almost 19 per cent of the total health expenditure on arthritis and musculoskeletal conditions (AIHW 2005). In comparison, rheumatoid arthritis and osteoporosis accounted for only 5.3 per cent and 4.8 percent respectively of this expenditure (AIHW 2005).

Role of physiotherapy

The APA welcomes the development of the National Action Plan for Osteoarthritis, Rheumatoid Arthritis and Osteoporosis 2004–2006. The plan was developed in response to the NHPA and provides a national blueprint for reducing the burden of these conditions and improving the health related quality of life of those affected. Specifically, it outlines that initial efforts should be focused on promoting healthy lifestyles and self-management, promoting best practice, providing timely access to joint replacements for those with osteoarthritis and rheumatoid arthritis, and developing, prioritising and progressing a research agenda to support this national health priority.
The APA contends that physiotherapy plays a key role in achieving these goals. The treatment of arthritis and musculoskeletal conditions is a core function of physiotherapy practice. Physiotherapy has been recommended in a number of international guidelines (American College of Rheumatology 2000, Jordan et al 2003) for the management of knee osteoarthritis. Intensive rehabilitation programs led by physiotherapists have also been shown to be as effective as spinal surgery in improving outcomes for patients with chronic low back pain (LBP) and are associated with lower costs (Fairbank et al 2005, Rivero-Arias et al 2005).

The APA supports the delivery of physiotherapy management within an evidence based framework and has been active in exploring the efficacy of physiotherapy management in a variety of arthritic and musculoskeletal conditions. The APA has produced a number of position and evidence-based clinical statements on various arthritis and musculoskeletal disorders (Neck Pain Position Statement 2002, Shoulder Pain Position Statement 2002, Low Back Pain Position Statement 2002, Falls Prevention Position Statement 2004, Knee Joint Osteoarthritis Evidence-based Clinical Statement 2005). Position statements related to best practice of certain treatment modalities have also been produced (APA Guidelines for the Clinical Use of Electrophysical Agents 2001, Clinical Guidelines for PreManipulative Testing of the Cervical Spine 2000). These documents are reviewed regularly and new documents are in production for other diagnoses.

The APA embraces an opportunity to collaborate with government agencies and other organisations to drive improvements in health services which will achieve better health outcomes for those affected by arthritis and musculoskeletal disorders. Physiotherapy has the capacity to improve health outcomes at key points along the continuum of care (from prevention through to treatment and management) for people with arthritis and musculoskeletal conditions. This can be delivered in a variety of settings.

**PRIMARY AND COMMUNITY HEALTH CARE**

Primary health and community care encompasses a broad array of services and interventions spanning the disease continuum, from prevention through to management, rehabilitation and maintenance.

The APA contends that the primary health care system should not be focused solely on access to medical care. A well-functioning primary health care system relies on a range of health professionals, of which physiotherapy is an essential element. Primary care is most effective when clients receive timely treatment or management from the most appropriate health professional. Delays in the provision of primary care can lead to exacerbation of conditions, causing problems at all other points of the health care system (Duckett 2004). Older people with multiple chronic conditions are likely to have more hospital admissions and are at greater risk of incurring complications during their inpatient stay (Wolff et al 2002). Better primary care, particularly co-ordination of care,
could reduce hospitalisation rates, especially for individuals with multiple chronic conditions (Wolff et al 2002).

Effective chronic illness interventions rely on multidisciplinary care teams. The Commonwealth Government has recognised the importance of a multidisciplinary team approach to care. It has funded the Medicare Enhanced Primary Care Package within the MBS system, which allows patients with chronic conditions and complex care needs to access allied health services. The APA recommends that MBS coverage be extended to provide treatments by specified practitioners, where there is evidence of the effectiveness and cost effectiveness of the intervention in the management of conditions, such as knee OA.

Physiotherapists are highly qualified in the assessment and diagnosis of musculoskeletal disorders, including arthritis and back pain. These skills are frequently provided as first contact practitioners. Hence, the profession also plays an invaluable role in implementing public health strategies for arthritis and musculoskeletal conditions. This includes educating individuals and community groups about healthy lifestyle behaviours, promoting self management practices, and advocating for interventions which will prevent illness and promote the health of individuals and communities.

HOSPITALS

Patients with arthritis and musculoskeletal conditions are often admitted to hospital following an exacerbation of their disease or due to a need for surgery. In conjunction with other team members, the role of physiotherapy is to facilitate safe and effective discharge from hospital. This may be achieved by restoring functional independence in ambulation and transfers, improving muscle strength and range of movement, and providing symptom relief.

As part of a multidisciplinary team, physiotherapists can play a key role in minimising the use of acute health services (hospitals and emergency departments). The APA contends that the role of the Extended Scope Physiotherapist, such as in screening clinics, can assist in managing wait lists and hospital demand for musculoskeletal/orthopaedic services.

Physiotherapy Interventions

Physiotherapy is a health profession concerned with maximising mobility and quality of life by using clinical reasoning to select and apply the appropriate treatment. All physiotherapy interventions are provided on the basis of scientific knowledge, evidence and clinical expert opinion, thorough assessment, diagnosis, and ongoing evaluation. The management of the multitude of diagnostic entities under the banner of arthritis and musculoskeletal conditions falls squarely within the scope of physiotherapy practice.
Physiotherapy can be used to alleviate the symptoms associated with these conditions such as pain, stiffness and muscle weakness. This is achieved by drawing upon a range of non-pharmacological modalities, including exercise therapy (land and water based), self management and education, joint mobilisation, electrotherapy, and provision of joint protection devices.

**Exercise Therapy**

Physical activity is important for maintenance of healthy weight and decreasing overall morbidity from a number of conditions, including cardiovascular disease and diabetes. Muscle weakness, pain, and joint stiffness associated with arthritis can often limit the choices of physical activity (American College of Sports Medicine 2000, 2001). Physiotherapists are highly skilled in exercise prescription and as such, play a key role in the design, delivery and implementation of exercise programs for the management of these disorders. Physiotherapists can design appropriate modifications so that the benefit of increased physical activity is achieved without aggravating the coexisting musculoskeletal problems of arthritis. Appropriate exercise also plays a vital role in prevention and early intervention.

A range of studies have demonstrated the importance of therapeutic exercise in managing arthritis and musculoskeletal conditions. A number of systematic reviews have supported the use of land based exercise therapy as a treatment modality for people affected by knee osteoarthritis (Fransen et al 2001, Smidt et al 2005). There is also evidence to support the effectiveness of exercise therapy for patients with hip osteoarthritis (Smidt et al 2005). Exercise therapy has also shown to be effective for patients with sub-acute (6–12 weeks) and chronic (> 12 weeks) low back pain (Smidt et al 2005). Exercise therapy is considered to be an important cornerstone of the treatment of rheumatoid arthritis in all stages of the disease (Van den Ende et al 2000). Dynamic exercise therapy for rheumatoid arthritis is effective in improving aerobic capacity, muscle strength and joint mobility and does not increase disease activity or pain (Van den Ende et al 2000). Individually tailored exercise programs incorporating muscle strengthening and balance retraining have shown to be effective in reducing falls in older people (Chang et al 2004, Gillespie et al 2003).

Physiotherapists are also core members in the delivery of multidisciplinary pain management programs. A systematic review investigating the effectiveness of physical conditioning programs on work and functional outcomes demonstrated that intensive training programs accompanied with a cognitive-behavioural approach (addressing attitudes and behaviours such as fear of movement) can be effective in reducing the number of sick days for workers with chronic back pain, when compared to usual care or advice (Schonstein et al 2003). It was concluded that such intensive physical training programs should be given and supervised by a physiotherapist or a multidisciplinary team.
Aquatic Physiotherapy/Hydrotherapy

Aquatic Physiotherapy is a form of physiotherapy treatment conducted in a heated pool. Physiotherapists undergo specific training in aquatic physiotherapy and utilise their knowledge of the properties of water to design individually tailored programs. Exercising in water provides an ideal environment for those with arthritis and musculoskeletal conditions. The warmth of the water can alleviate pain and stiffness, while the effects of buoyancy can relieve stress on joints. Hydrotherapy is also widely used for the rehabilitation process after back injuries and following total knee or hip replacement surgery.

There is high to moderate quality evidence to support the benefit from hydrotherapy in pain, function, self-efficacy, joint mobility, strength, and balance, particularly among older adults, and those with rheumatic conditions and chronic low back pain (Geytenbeek 2002).

Self management and education

Self management education programs have been advocated as an integral component of the management of chronic disease. Physiotherapists can provide informal and formal programs to promote and encourage self management. This could include addressing lifestyle changes and facilitating skills and confidence to make daily decisions to cope with the disease.

Chronic disease self management programs have been shown to improve health status and reduce health care utilisation (Lorig et al 1999). Physiotherapy treatment consisting of manual therapy, specific exercise training, and education focusing on the neurophysiology of pain has shown to be effective in producing functional and symptomatic improvement in patients with chronic low back pain (Moseley 2002).

Manual therapy/mobilisation techniques

Physiotherapists use specific mobilisation techniques to increase range of movement in joints and to provide pain relief. The majority of guidelines and systematic reviews suggest there is sufficient evidence for spinal manipulative therapy (SMT) improving clinical outcomes for acute low back pain, particularly in comparison to treatments such as heat, exercise, massage and placebo (APA Low Back Pain Position Statement 2002). SMT is not recommended as a first line treatment for chronic LBP. There has been limited research regarding the effectiveness of manual therapy on osteoarthritis.

Joint protection and provision of walking aids and splints/braces

Walking aids (sticks, crutches and frames) are used to reduce loading forces on the joint and hence provide pain relief and improve mobility. Various braces and splints can
provide stability by reducing excessive joint mobility, resulting in improved function. A number of international guidelines recommend the prescription of gait aids for knee OA, based on the assessment of individual patient’s needs (American College of Rheumatology 2000, Jordan et al 2003).

Electrophysical agents (e.g. thermotherapy, ultrasound, laser)

Modalities such as ultrasound, transcutaneous electrical nerve stimulation (TENS) and thermotherapy (heat and cold therapy) are used occasionally as an adjunct in the treatment of symptoms associated with arthritis and musculoskeletal conditions.

There are a limited number of high quality published studies evaluating the use of electrophysical agents in clinical practice. Systematic reviews have supported the use of TENS for the treatment of pain in knee OA (Osiri et al 2005). Another systematic review of three randomised controlled trials has shown that cold packs are effective in reducing swelling in knee osteoarthritis (Brosseau et al 2003).

Gaps in research

The APA strongly supports government funding of Australian clinical and academic health research (APA Platform 2004). The APA supports the ongoing conduct of physiotherapy-related research to achieve better outcomes for those with arthritis and musculoskeletal disorders.

The APA recommends that further research include:

- The development of clinical guidelines to outline the optimal exercise delivery mode, content and dosage for OA.
- Economic evaluations to establish the most and least cost-effective treatment options available for the management of OA and back pain.

Conclusion

The APA contends that physiotherapy is an essential discipline in the prevention and management of arthritis and musculoskeletal conditions. Physiotherapists are major providers of health services and play an active role in the community, hospital sector and private practice. There is strong evidence, in the form of randomised controlled trials and systematic reviews, to support a number of physiotherapy modalities used to treat these disorders. The current MBS should be extended to allow management of specified conditions by specified practitioners, where there is evidence of the effectiveness and cost effectiveness of the intervention. Timely access to physiotherapy services can assist in musculoskeletal disease prevention, delay disease progression, and reduce relapse and disease severity.
References


rehabilitation for the management of patients with chronic low back pain: cost utility analysis based on a randomised controlled trial. *British Medical Journal* 330: 1239.


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