



## **GUIDELINES FOR THE USE OF HYDROTHERAPY FOR PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS**

### **What is Hydrotherapy?**

“Hydrotherapy is a therapy programme utilising the properties of water, designed by a suitably qualified Physiotherapist specifically for an individual to improve function, carried out by appropriately trained personnel, ideally in a purpose built, and suitably heated hydrotherapy pool (HACP, 2006).”

### **Indications for the use of hydrotherapy in the management of Juvenile Idiopathic Arthritis (JIA)**

Hydrotherapy has been commonly used in the management of JIA for many years (Hackett et al, 1996), but is possibly used less at present due to improvements in medical treatments and financial constraints resulting in reduced availability of hydrotherapy pools. Further, there is little conclusive evidence to support hydrotherapy either in conjunction with or in preference to other forms of physical rehabilitation (Epps et al, 2005).

However, hydrotherapy has been reported as the treatment of choice by physiotherapists, parents and children in preference to land-based therapy alone (Scott, 2000 and Epps, 2005). It is perceived as an enjoyable mode of therapy and adherence is good. Furthermore, there is little evidence of exacerbated disease activity during intervention, indicating that hydrotherapy treatment is safe and for patients with unremitting active disease, hydrotherapy may be an essential part of management (Epps, 2005).

***Following a specific and detailed therapy assessment, hydrotherapy may be considered a valuable component of the management programme for an individual patient. This should be reviewed regularly.***

The physical properties of water are used to reduce the effects of gravity and provide assistance, support and resistance for exercises. (Harrison & Bulstrode 1986, Reid-Campion, 1998).

### **Why is hydrotherapy beneficial for patients with JIA?**

Children and young people with JIA may develop the following problems which can be addressed by the use of hydrotherapy:

**Pain.** The temperature of water in a hydrotherapy pool (34 – 35.5 degrees Celsius) helps to reduce pain and aid relaxation. (Franchimont et al, 1983, O'Hare et al, 1985, Weston et al, 1987, Linneker et al, 2000 and Templeton et al 1996)

**Decreased range of joint movement.** Mobilising exercises in a heated pool will improve range of movement due to reduction in pain and weight bearing. (Bacon et al, 1991)

**Decreased muscle power.** Water may be used as optimal resistance to increase muscle power. (Oberg et al, 1994 and Epps, 2005)

**Reduced weight bearing and adapted gait patterns.** Gait re-education will be facilitated by the support of the water (Harrison et al, 1992).

**Reduced cardiovascular fitness** (Bacon et al, 1991) Reduced loading on lower limb joints during immersion in water may enable strenuous activity during hydrotherapy which is not possible on land (Harrison & Bulstrode, 1986 and Harrison et al, 1992)

**Impaired function and independence.** Hydrotherapy may help improve function and independence (Hall et al, 1996)

**Reduced quality of life and social interaction** (Takken, 2001 and Hall et al, 1996). Water may be the only medium where some patients feel on an equal footing with their peers (Reid-Campion, 1998)

### **Physiotherapy Standards**

Physiotherapists must work within the Rules of Professional Conduct (CSP, 2002), the Core Standards of Physiotherapy Practice (CSP, 2005) and the Service Standards of physiotherapy practice (CSP, 2005).

### **Physiotherapy Competency**

Rule 1 of the Rules of Professional Conduct (CSP) states that “chartered physiotherapists shall only practice to the extent that they have established, maintained and developed their ability to work safely and competently and

shall ensure that they have appropriate professional liability cover for that practice”.

The hydrotherapy management of a patient with JIA should be carried out by a therapist competent in the management of paediatric rheumatological conditions and hydrotherapy. A Foundation or Level 1 course in hydrotherapy or its equivalent is recommended (HACP 2006).

### **Hydrotherapy Pool**

A hydrotherapy pool requires a policy to ensure both its smooth running and to maintain legally required Health and Safety standards (HACP, 2005 and CSP 2001). CSP Service Standards 17 & 18 relate to the Management of a Hydrotherapy Pool (CSP, 2005). The use of pools in schools and other settings is governed by their local policies.

### **Hydrotherapy Management Approaches**

All patients should have an individual detailed assessment by a physiotherapist, taking into account contraindications to hydrotherapy (HACP, 2006 and APA, 2002) and any other special needs. The hydrotherapy management of patients with JIA may take a variety of forms:

- **1:1 treatment:** with an individual programme for each patient
- **Group sessions:** a number of other similar patients each benefiting from the same exercise programme and the group experience.
- **Advice on self-management:** may include a programme for a patient to carry out in a local pool independently or recommendation to attend a self-help group.

### **Abbreviations**

APA	Australian Physiotherapy Association	
CSP	Chartered Society of Physiotherapy	
HACP	Hydrotherapy Association of Chartered	Physiotherapists
JIA	Juvenile Idiopathic Arthritis	

## References

Australian Physiotherapy Association (2002) Guidelines for physiotherapists working in and/or managing hydrotherapy pools.

Bacon M, Nicholson C, Binder H, White P (1991) Juvenile Rheumatoid Arthritis – aquatic exercise and lower extremity function. Arthritis Care Res. **4**:102-5.

Chartered Society of Physiotherapy (2001) Health and Safety Briefing Pack No 12: Hazards in Hydrotherapy Pools

Chartered Society of Physiotherapy (2002) Rules of professional conduct, 2<sup>nd</sup> edition

Chartered Society of Physiotherapy (2005) Service Standards of Physiotherapy Practice

Chartered Society of Physiotherapy (2005) Core Standards of Physiotherapy Practice

Epps H E, Ginnelly L, Utley M, Southwood T, Gallivan S, Sculpher M and Woo P. (2005) Is hydrotherapy cost effective? A randomised controlled trial of combined hydrotherapy programmes compared with physiotherapy land techniques in children with juvenile idiopathic arthritis. Health Technol Assess 2005; **9**(39).

Franchimont P, Juchmest J, Lecomte J (1983) Hydrotherapy – mechanisms and indications. Pharmacol Ther **20**: 79-93

Hackett J, Johnson B, Parkin A, Southwood T. (1996) Physiotherapy and occupational therapy for juvenile chronic arthritis: custom and practice in five centres in the UK, USA and Canada. Br J Rheumatol **35**: 695-9.

Hall J, Skevington S M, Madison P J Chapman K (1996) A randomized and controlled trial of hydrotherapy in rheumatoid arthritis. Arthritis Care Res **9**:206-15.

Harrison R, Bulstrode S (1986) Percentage weight-bearing during partial immersion in the hydrotherapy pool. Physiother Pract 1986. 1-4.

Harrison R A, Hillman M, Bulstrode S (1992) Loading of the lower limb when walking partially immersed: implications for clinical practice. Physiotherapy **78**:164-6

Hydrotherapy Association of Chartered Physiotherapists (2006) Guidance on Good Practice in Hydrotherapy. CSP (

Kinneker S C, Bradley E M, Hawker G, Wilkins A (2000) Determining sensitivity to change in outcome measures used to evaluate hydrotherapy exercise programmes for people with rheumatic diseases. Arthritis Care Res **13**:62-5.

Oberg T, Kasznia A, Gare B A, Lagerstrand A (1994) Physical training of children with juvenile chronic arthritis. Scand J Rheumatol **23**:92-5.

O'Hare J, Heywood A, Summerhayes C, Lunn G, et al. Observations on the effects of immersion in Bath spa water. BMJ **291**: 1747-51.

Reid-Campion M (1998) Techniques of exercise in water and therapeutic swimming. Hydrotherapy Principles and Practice, Chapter 8. Oxford: Butterworth Heinemann. pp 177-86.

Scott J M (2000) Hydrotherapy or land-based exercises: a patient satisfaction survey. Annals of the Rheumatic Diseases, 59.9. (abstr)

Takken T, van der Net J, Helder PP M (2001) Do juvenile idiopathic arthritis patients benefit from an exercise programme? A pilot study. Arthritis Care Res **45**:81-5.

Templeton M, Booth D, Kelly W O (1996) Effects of aquatic therapy on joint flexibility and functional ability in subjects with rheumatic diseases. J Orthop Sports Phys Ther **23**:376-81.

Weston C F M, Hare J P O, Evans J M, Corral R J M (1987) Haemodynamic changes in man during immersion in water at different temperatures. Clin Sci **73**:613-16.