

**ASSOCIATION OF  
PAEDIATRIC  
CHARTERED  
PHYSIOTHERAPISTS**

**JOURNAL**



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SPORT AND RECREATION

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The Editorial Board does not necessarily agree with opinions expressed in articles and correspondence,  
and does not necessarily endorse courses advertised.

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# EDITORIAL

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LIN WAKLEY

EDITOR

The main topic for this issue is **Sport and Recreation** and I must thank the five members who have sent me articles about their involvement in various clubs and groups throughout the country. My thanks also to all the other contributors.

I was so pleased when I realised that all the articles in this issue of the Journal have been written by members of the A.P.C.P. This is not always possible as sometimes our topic requires us to look for articles from other professionals. One of my aims however is to ensure that there will be some contributions from members in every Journal.

For this to happen I need your help. Any article submitted will be considered for publication. It does not have to be a research paper. It can be a news item about what you are doing in your area or perhaps you've been on a visit, home or abroad, like Rachel Evans who visited the Arthritis Centre in Vancouver or you may have a handy hint or idea for the Here and There section.

The LETTERS to the EDITOR section is another way for you to communicate with each other, through questions or comments. If used properly it could become a forum for debate.

If you do submit anything please send it printed with double spacing, including your name and current post (or a mini CV if you wish) and possibly a small passport photo. Photos and diagrams can also be used to illustrate or add interest to an article and break up pages of text.

At the Editorial Board meeting in June we discussed ways of streamlining the collection of material for the Journal and two members have volunteered to receive items for the HERE and THERE and COURSES sections (names and addresses after copy date).

You may have realised that I have divided the Course section into REGIONAL STUDY DATES and OTHER COURSES. I hope you find this helpful. If you have any ideas how I may further improve the format of the Journal do write and tell me.

Finally I must thank all the Regional Representatives for sending their regional reports and course information to me, on time and in the correct format.

COPY FOR THE NOVEMBER 1995 JOURNAL  
MUST BE WITH THE EDITOR BY  
1ST OCTOBER 1995

The Board reserves the right to edit material submitted.

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Copy should be sent to:

HERE and THERE - Mrs B. Bowen, 6 Maes-Yr-Awel, Radyr, Cardiff CF3 8AN

COURSES - Mrs J. Reynolds, Lark Cottage, Catfield, Nr. Halesworth, Suffolk IP19 0BN

ARTICLES etc and rest - To the Editor

ARTICLES WANTED

**Have you treated a child with a rare syndrome?**

**Would you be prepared to write a case study?**

The topic of the May 1996 Journal is **SYNDROMES**. We hope to feature a series of case studies from Paediatric Physiotherapists backed up by an article from a Paediatrician specialising in syndromes.

If you are prepared to write a case study please let me know as soon as possible. I will not require the completed article until March 1996 but need to know which syndromes will be featured as I also hope to include further information about each one e.g. parent support groups etc.

## LETTERS TO THE EDITOR

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Kim Peacock  
Senior I Paediatric  
Physiotherapist  
Pendower Hall School  
Bertram Crescent  
Benwell,  
Newcastle-upon-Tyne  
NE15 8PY

Dear Miss Wakley

I am interested to hear from anyone using Bio feed back equipment for use in Cerebral Palsy gait training.

Whilst visiting a world congress for Orthotics and Prosthetics I came across a small system using a pressure heel pad and a small battery powered audible signal to be worn on the belt. This was advertised for use to gain heel strike in amputees. However I feel it would be very useful to do the equivalent job for Cerebral Palsy children.

Do any of your readers have any experiences in this field and if so can they recommend any manufacturer or equipment.

Yours Sincerely

Kim Peacock

Gill Jones (Mrs)  
Acting Superintendent  
Physiotherapist (Paediatrics)

Paediatric Development Unit,  
District General Hospital,  
Kings Drive, Eastbourne,  
East Sussex BN21 2UD,  
Tel. (01323) 417400 Ext. 4819

Dear Lin

We are experiencing difficulties at present with special schools wanting the Health Trust to pay for separate telephone lines into their schools.

The physiotherapists are employed by the Health Trust but are working part-time in the schools.

The schools state that their incoming calls are blocked by therapists either making calls or receiving them from parents. The physiotherapists have been asked by myself as far as possible to only make and receive calls about children at that school.

I would be grateful to hear from anybody who has had similar problems and how they have been resolved.

With best wishes

Your sincerely,

G. A. Jones



## HIPPOTHERAPY - A THERAPEUTIC OPTION

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**MRS ALYS M.  
WATSON**

**Paediatric Experience -**

Worked in South Africa and for 22 years in Edinburgh with Scottish Council for Spastics and Royal Hospital for Sick Children.

**A.C.P.R.D.** - Group Therapist at the Drum R.D.A. Group.

Regional Therapist, Edinburgh and Borders Region.

Member of A.C.P.R.D.

Executive Committee.

**Orthopaedic Experience -**

Passed membership examinations for the Society of Orthopaedic Medicine.

Physiotherapists have long recognised the value of horses in rehabilitation. Miss Olive Sands, M.C.S.P., used them during and after the 1914-18 war. Physiotherapists were amongst the early pioneers forming the Advisory Council on Riding for the Disabled in 1964, later to become the Riding for the Disabled Association (R.D.A.).

Initially, the role of the physiotherapist, working as part of an R.D.A. group, was to provide support for the instructor and voluntary helpers. Assessment of the riders, advice on the suitability of the pony and his equipment and the setting and achievement of realistic goals were her remit. Now, with the advent and expansion of the Association of Chartered Physiotherapists in Riding for the Disabled (A.C.P.R.D.) and the emergence of Hippotherapy, this role has been enlarged.

**A.C.P.R.D.**

Formed in 1970 the Association is recognised as a C.I.G. of the C.S.P. With Miss Rosemary Lane, F.C.S.P., as Course Co-Ordinator, a two part training programme has been developed to qualify physiotherapists to work with the R.D.A. at Group, County and Regional levels. These Part I and II Courses entitled "The Horse in Rehabilitation" are Accredited at level II of the C.S.P. P.A.C.E. scheme. Plans are now under way for a Part III course in Hippotherapy. This will enable physiotherapists to fulfil the requirements to practice Hippotherapy in the U.K. A.C.P.R.D. has close links with physiotherapists working throughout the world, with International Courses being run in U.K. and A.C.P.R.D. physiotherapists visiting groups abroad to teach and advise.

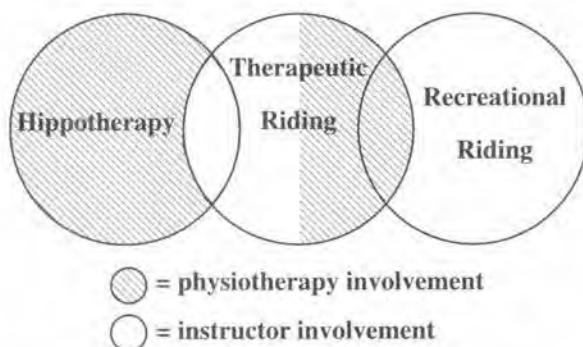
The R.D.A. recognises three main classifications:

1. **Hippotherapy** - a treatment session using the horse and conducted by a physiotherapist.
2. **Therapeutic Riding** - Riding techniques are taught by the instructor with the physiotherapist assessing the rider and advising on the rehabilitation element of the programme.
3. **Recreational Riding** - Here, less physiotherapy input is needed, with some riders progressing to compete internationally in Dressage and Equitation.

All three classifications are interlinked, with riders being encouraged to develop their full potential and progress through the classifications as far as their disability allows. All make use of the team work of Physiotherapist and instructor, the difference being in the shift of emphasis of responsibility within the team.

# HIPPOTHERAPY - A THERAPEUTIC OPTION

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To take a closer look at Hippotherapy, we must first define it:-

## Definition

Hippotherapy is defined as "Treatment with the aid of a horse". The patient or rider is placed on the led horse, not attempting to influence or control it any way, but using its therapeutic potential as part of a rehabilitation programme. Hippotherapy is therefore regarded as a therapy session rather than a riding lesson. The therapist is responsible for the patient, carrying out assessments, analysing his or her responses to the horse and his movement and setting treatment goals.

## Indications

Hippotherapy is used primarily for neurological disorders resulting in motor dysfunction.

## The Therapist

At present, the physiotherapist practising hippotherapy should:

- i) have successfully completed Parts I and II of the A.C.P.R.D. Course "The Horse in Rehabilitation", with the proposed Part III in hippotherapy as an option for the future.
- ii) have experience of the neurodevelopmental approach to C.P. (Bobath).
- iii) have appropriate riding competence to allow her to back ride.

## The Horse

The hippotherapy horse is chosen for his conformation, temperament and his movement. Most hippotherapy is done bareback or on a sheepskin allowing maximum transference of movement from the horse, along with warmth and softness. The horse's movement at the walk is the key factor in hippotherapy. At the walk, a horse's back produces a three dimensional movement consisting of antero-posterior and lateral tilt and rotation. These movements, when transmitted to the rider's low back and pelvis, in turn produce movement similar to that of a human walking gait and require from the patient a response to stay in balance with this moving base. This continuum of movement in three dimensions, occurring at the rate



# HIPPOTHERAPY - A THERAPEUTIC OPTION

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of approximately one thousand displacements every ten minutes, provides a significant input to the Vestibular System.

## Aims of Hippotherapy

These include the normalisation of muscle tone, stimulation of correct alignment of head and trunk, facilitation of normal righting and equilibrium responses, increased sensory input and mobilisation of hips and lumbar spine - aims all similar to those of treatment in a conventional clinical setting.

## Techniques

Techniques used in hippotherapy include:

1. **Back Riding** - By sitting behind a patient with little or no sitting balance or head control, the therapist can give correction, stabilisation or stimulation to pelvic and shoulder girdles, spine and head. By combining the movement of the horse with facilitation techniques she is ideally placed to stimulate postural responses.
2. **Sitting Astride** - Ensuring the patient's pelvis is centred with symmetrical weight bearing, variations in the horse's stride length, speed and direction are used to enhance therapeutic aims.
3. **Prone** - Prone lying along the horse's back facing the tail stimulates head raise and hold and weight bearing through the upper limbs.

Hippotherapy should always complement existing treatment programmes and therefore there should be liaison between hospital or school therapists and the Hippotherapist.

There has been recently an encouraging increase of interest in Hippotherapy among physiotherapists, and those practising it report good results. Some research has already been undertaken, but more is needed if we are to establish its credentials among fellow professionals. As for the patients, their response is very positive. There is no disguising their pleasure in working with this friendly, responsive, if sometimes unpredictable, new therapy aid ... The Horse.

# SPECIAL NEEDS GYMNASTICS

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## HAZEL COATES

Senior Physiotherapist  
Oakwood School and  
Assessment Centre '88 to-date  
Orchardville S.E.C. '81 to '88  
Belfast City Hospital '80 to '81  
Trained University of Ulster  
(Jordanstown) '77 to '80  
Level 4 Gymnastics Coach  
(Special Needs)

### The Gym

Salto Gymnastics Centre is situated in Dunmurry on the outskirts of Belfast. It is a permanent gymnasium in a converted warehouse and caters for Elite, Recreational and Special Needs gymnasts.

The Gymnasium is fully equipped with a sprung floor, beam (high, floor and vari-height), asymmetric bars, parallel bars, vault, pommels and rings. In addition, there is a trampoline and a foam filled landing pit.

Classes for gymnasts with a special need were first started in 1981 when a few people from a local Social Education Centre used the facilities during the day and expressed a wish to improve their skills.

As with most new ventures, we started on a small scale with one evening class a week. We had a regular attendance of six to eight gymnasts.

Since those early days we have added a second training night with up to fifteen gymnasts attending each evening. There are two senior coaches, one of whom is a Paediatric Physiotherapist, and several assistants to instruct the gymnasts.

The Special Needs Classes are held at the same time as the Northern Ireland Elite Squad are using the gym and the integration has been very smooth. Occasionally we have a "runaway gymnast" but, on the whole, our gymnasts behave very well.

### The Gymnasts

We cater for children and adults with learning difficulties (mild, moderate or severe), physical disabilities or behavioural problems.

Our aim is to offer the experience of movement in a different environment, discipline (of mind and body), an improvement in co-ordination and perceptual skills as well as an improvement in listening skills and decision making ability.

Our gymnasts get one small concession over Recreational Classes - they have 15 minutes longer in the gym! This time is used to encourage them to change their clothes, unaided as far as possible. Otherwise there is no distinction made between gymnasts using the gym.

### Class Structure

Once the gymnasts are changed and ready to start we have a WARM UP. This includes gross body movements as well as fine movements to loosen up the body. Also included are STOP-START activities to promote listening skills (and the ability to STILL). Naming of body parts is often reinforced here.

## SPECIAL NEEDS GYMNASTICS

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Perceptual games are a great favourite at this time ... stand in-front/ behind ... lie beside ... crawl under etc. Unknown to the gymnast we try to promote decision making at the same time by giving no physical or verbal prompts (which is often more difficult for the coach than the gymnast)!

Once everyone is well warmed up the group is split for ACTIVITIES on the different pieces of equipment. We work on balance, strength, co-ordination and control as well as promoting improved timing and rhythm. The gymnasts also prepare for competitions and we have a budding Display Team who travel to Gymfests throughout Ireland. Some gymnasts also participate in the BAGA Awards Scheme. (British Amateur Gymnastics Association).

The main activities are followed by CONDITIONING and then a WARM-DOWN session where relaxation (and CALMING DOWN) are encouraged.

With the class nearly over, the gymnasts line up to PRESENT to the coaches. Each gymnast, in turn, steps forward and raises their arm as if presenting to the judges in a competition. This requires them to remain still until their turn (something our gymnasts find requires a great degree of self-discipline)!

The class is then dismissed and the gymnasts prepare for home.

During the class time the parents take advantage of the (relative) peace to chat or organise one of their many fund-raising ventures (for which we are forever grateful). Their efforts have enabled us to take the gymnasts to major competitions in England for the past three years.

We are privileged to be hosts to the British Special Needs Gymnastics Championships in November 1995 and look forward to a spectacular event in the Centenary Year of the Northern Ireland Amateur Gymnastics Association.

If you happen to be around, please come and join us.

## FITNESS FOR LIFE

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### **Blackfriars Further Education Unit, Stoke-on-Trent, Staffordshire Department of Health Funding for Transitional Services for Disabled School Leavers**



**JEAN M.  
JOHNSON (Mrs.)**  
Superintendent Physiotherapist  
Paediatric Physiotherapy  
Service

In September 1992 two of the Special Schools for children with Physical Disabilities were restructured to provide Primary and Secondary Education for pupils up to 16 and a Further Education Unit for 16-19 year olds.

The policy was to adopt a vocational approach for each student in the F.E. Unit, integrating their Educational, Social and Physical needs, encouraging them towards independence, self reliance, and responsibility. The majority of the F.E. students had attended the P.H. School and had been involved in Physiotherapy programmes for most of their lives.

For some, encouraging independence meant they made the choice to opt out of their Physiotherapy programmes. This trend raised concerns by Physiotherapists, Education staff and parents, who all recognised that by not attending for therapy the students may well be storing up problems likely to affect their Physical and Social abilities in adult life. Discussions took place about ways to resolve the problems. The students wanted physical activity that was fun, appealing to both sexes, and levelled at their individual abilities. Various excursions to leisure and recreational facilities in the area were arranged, and the students completed a questionnaire.

The visit to a multi-gym proved highly popular, with swimming a fairly close second. This led to the formulation of a proposal to change the Physiotherapy Department into a modern multi-gym facility.

A successful application for Central Funding in 1994 made it all possible.



The transformation:  
Physio Dept. to Modern Multi-Gym Facility

# FITNESS FOR LIFE

## SOME OF THE STUDENTS USING THE MULTI-GYM



## FITNESS FOR LIFE

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By the Autumn Term the Department had been cleared, and fitted with a variety of equipment. Increased staffing levels were also funded in order to implement the changes. When the students returned for the Autumn Term they were all invited to attend the multi-gym - only one student declined the offer.

Following screening for basic fitness, weight and physical difficulties, individually tailored programmes were devised. Careful account was taken of their therapy needs which were integrated into the programmes. Training sessions were also held for students and Educational staff to raise the awareness of Physical Fitness and Well-being and encourage a commitment from the students to their own 'Fitness for Life'. They received instruction in the use of the equipment, preparation for exercise, how to progress programmes and safety precautions.

The students also contributed to the project by devising the documentation, Notices, Time-table and Record Books, and by choosing the music played during their training sessions - definitely not Classic FM.

There has been a significant reduction in the non-compliance levels. Parents have reported a reduction in frustration and a general improvement in attitude of their teenagers. Tutors have reported positive improvements in the academic work and attitudes.

Other medical benefits have been received, particularly in the case of a student suffering from Anorexia. Her interest in attending the multi-gym has been utilised to encourage her to return to a normal eating pattern.

The official opening was used as an occasion to publicise the project and highlight the needs of the school leavers. Professionals, parents and carers involved in supporting the students enter adult life have all been encouraged by the project.

A second year of funding will enable the Service to monitor the effectiveness and influence of the project on the students, compare the change in attitude of the students to their own physical well-being and identify how they use their experience in the multi-gym to become involved in leisure and recreational activities.

We recognise that the change in approach from Physiotherapy programmes to encouraging the students to accepting responsibility for their own Fitness for Life is only part of support and care that is needed from many professionals. We hope to show over a period of time that the students do take with them into their adult lives a more positive attitude to their physical well-being which in turn will be reflected in their independence and quality of life.



## THE UPSIDE DOWN SWIMMING AND SPORTS CLUB

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### MRS PAM WILKIE

Senior Paediatric  
Physiotherapist  
Hinchingbrooke Health Care  
NHS Trust (Community)  
Huntingdon  
Cambs

Having spent five years working in the North East in a physically handicapped school it was apparent that competitive sports was an important, certainly a vital, part of young children's life, particularly if they were disabled. It is essential for the social interaction between the participants, important for their self esteem and sense of achievement and, not least of all, imperative for their health and fitness.

On moving into Cambridgeshire in 1985 where all children, if at all possible, attend the local comprehensive school, it was evident that whilst academically this was the correct school placement, these children could not participate in most mainstream school sports. Instead they were often left to do extra studying whilst these sporting periods for their peers took place. This isolated the youngsters further, at the same time increasing their lack of fitness.

In 1986 an indoor swimming pool was being built in St Neots, alongside the comprehensive school. The pool was to be used as a community pool, shared between schools during term time and the community outside school time. Negotiations were started with the Leisure Services Officers requesting a set time to be allocated each week for a swimming group for young disabled school children. Immediately after school ended each Tuesday was deemed a suitable time, so the youngsters could come straight from school.

The club started modestly with 6 children, a physiotherapist and a PE Teacher qualified to teach swimming. Soon an ASA Swimming Instructor with a knowledge of disabilities was tracked down, as the PE Teacher became more involved with her own school sporting events after school. The club has thrived since then and has at present 36-40 young members. It is lucky enough to have 3 ASA instructors, with the chief instructor being the British Paralympic Swimming Coach. The main aim of the club is to get the members swimming independently, enjoying their swimming and eventually swimming competitively if they wish.

The club gained its distinctive name by holding a competition between the young members for a name, and the Upside Down Club was found to be the most attractive suggestion. To date we now have, after 9 years since its inception, 4 youngsters who have reached national competition level.

The Club is dependent on voluntary helpers for its success, particularly with the beginners and more severely disabled, when one-to-one assistance is offered.

The Club is completely self funding, having been allowed access to the pool free of charge, parents pay only for the instructions from the qualified staff.

In 1991 a Recreation Centre was built alongside the swimming pool and plans were made to see if the young disabled people would welcome the addition of a Sports Club to the Upside Down Swimming Club. These sessions were again planned immediately after school between

## THE UPSIDE DOWN SWIMMING AND SPORTS CLUB

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4.00 pm - 5.00 pm each Monday. 17 children are at present on the club register. These children are dependent on volunteers to help with their sport. Sports such as team games in basketball, wheelchair rugger, wheelchair hockey, volleyball and cricket, are enjoyed and are often adapted to suit own members' needs. Tennis, badminton, carpet-bowls, table tennis, bocchia-poly bat are all enjoyed, the last two being sports specially for the disabled.

The club has attracted much interest locally and generous donations have been received from local industry, local clubs and individuals. 8 sports wheelchairs have been donated to the club, which are fully adjustable and are loaned out to the members of the club.

Donations have allowed the club to participate each year in activity holidays, where the members and helpers experience such activities as abseiling, canoeing, rafting, rock climbing, trampolining, archery orientating, etc. This is thoroughly enjoyed by all and cements valuable friendships between the helpers and the participants.

Activities in the holidays are organised and events such as fishing, dry skiing, clay pigeon shooting, gliding and river boating have all been experienced and enjoyed. A Christmas outing is always a good day out with a visit to a sporting complex, a trip to the cinema and a visit to MacDonalds to round the day off.

The main aims of the club are to allow the members to participate and enjoy all sporting activities, to gain the fitness and health of all and to encourage any member who wishes to take up his/her particular sport at a higher level.

At present we have one young member who is doing well at wheelchair track and road racing. This encourages the younger members to set their sights on their chosen sporting activities. Attendance at local sporting coaching days and competitive days are encouraged and enjoyed and friendships have been made and cemented all over the county and country at these functions, not only by the athletes themselves, but also by the team supporters and helpers.

In 1992 the Upside Down Sports Club was awarded an Eastern Electricity Service to Sports Award from the Sports Council for the most outstanding contribution to sport by an organisation.

Sport for children with physical difficulties is most rewarding, particularly for the staff involved in running the club. Skills over the playing fields can be seen to have tremendous spin offs in the young people's lives, both in their achievements sportingly and their day to day skills and self esteem.

As the physiotherapist involved with the Sports Club, it can be seen that the youngsters general health and fitness improves paramountly and often boring physio sessions are forgotten and the physio seen in a different light!

## THE PENGUINS ASTHMA SWIMMING CLUB

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### CAROL TAMBLIN

Senior Paediatric Respiratory  
Physiotherapist  
Warrington Paediatric  
Respiratory Team

Carol Tamblin trained at Coventry School of Physiotherapy. After qualifying she worked at Warrington General Hospital, and then at Alder Hey Children's Hospital Liverpool, as a Senior I Respiratory Physiotherapist, before joining the Paediatric Respiratory Team in Warrington. She sees children with asthma, cystic fibrosis and other long term respiratory problems at home, in hospital and in school if necessary.

Her involvement with the swimming club is a voluntary activity she undertakes in her own time.



Star jumps as part of the exercise programme

The Penguins Asthmatic's Swimming Club was set up in 1983, as part of the Fisons initiative to start swimming clubs for children with asthma all over the country. I was approached to help run the club and to give advice about asthma and inhalers. As I was also a qualified ASA club instructor I was also able to teach swimming. There were also a number of parents of children with asthma who helped to run the club, two of whom still support the club as treasurer and supporter. Physiotherapists with an interest in asthma and children have helped through the years. There are now two Chartered Physiotherapists and an asthma specialist nurse who run the club together with the parents.

The club is open to children aged five to fifteen from the Warrington area, who have asthma. All children who attend must have a referral from their GP who is given an opportunity on the form to mention any other condition or circumstances that might affect the child during swimming. The form includes questions about medication, triggers, frequency, severity, and duration of attacks, and response to exercise. The range of asthma varies from children with one or two attacks a year to severe asthmatics who have needed hospital admissions.

Children are referred from GPs or hospital consultants and from the Warrington Paediatric Respiratory Team. We also have posters in GP surgeries and clinics. Many new members hear via word of mouth from current members' parents and come down to the club to find out more.

The sessions take place on Monday nights at the Penketh Parish Pool which is a small pool attached to a sports hall. We meet in the sports hall where initial peak flow readings are done. Then the children carry out a programme of exercises including star jumps, squat thrusts, sit ups and press ups. Peak flow readings are repeated after the exercise session. This is followed by a swimming session.

When the children first come they perform as many of each exercise as they can with a rest between each set of exercises. The following week the number is reduced to two thirds of the base number of exercises. This way the children are working below absolute maximum and can then build up over the weeks within safe limits. Exercises are increased only after two weeks at the previous level, and as long as the peak flow on the day is the same or better than the previous week. Using this system the children quickly build up stamina and soon overtake their baseline readings. The children are encouraged to improve their own exercise scores but not to compare them to others.

The peak flow readings are very important in order to identify those children who are not well and need to be "kept an eye on" in the pool on the night. They may also show a trend if their asthma is not being controlled with current medications, so advice can be given to the parents

## THE PENGUINS ASTHMA SWIMMING CLUB

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General view of swimming pool on club night.



Peak flow readings are done after the swimming session (as well as before and after exercise session)

about seeing the GP or Practice nurse. We give out peak flow diaries when appropriate so that a clear record can be shown to the doctor and possible changes in treatment can be discussed.

Each child is checked for good inhaler technique, and possible changes of device can be discussed if a child cannot manage their inhaler.

Leaflets and literature from the National Asthma Campaign are also available at each session. Parents are encouraged to ask the physiotherapist or nurse for advice if needed.

The swimming lesson follows the exercise session and lasts for 30 minutes. The more competent swimmers are taught by the pool instructor while the younger less confident non swimmers are taught by the physiotherapist. The emphasis is on fun rather than on pushing the children competitively, as many of the children are quite frightened to start with. The exercise and swimming in a warm atmosphere helps to increase the children's stamina and builds up confidence to take part in physical activities at home and at school. We do lose some children to competitive swimming clubs but this has to be seen as a success, in that they now feel able to compete with non asthmatic children at the same level. Peak flow readings are repeated after the swim. If the child consistently has a reduced peak flow after the swim, they are encouraged to take their reliever inhaler prior to the exercise session. If this does not improve things then a change in preventative treatment may be needed and can be discussed with the parents.

Once a month we have fun night for the whole family and friends, which is fun for the children and helps to raise funds to pay for the pool. The club is totally financed by voluntary contributions. Current fees are £5 per year and 75 pence per week. As the subscriptions and weekly fees do not cover the pool costs we have a sponsored swim each year. Other local organisations have also raised money for us. When funds are available the club also runs trips to the pantomime for the children with asthma and their families.

The club has a very friendly atmosphere and many of the children become friends. Parents are able to chat to other parents who have children with similar problems. The emphasis is on having fun, but with supervision and advice about asthma available, we think it provides a valuable service. The fact that we have now been running for twelve years must say something for the enthusiasm of the parents and children to keep coming.

There are many such swimming clubs throughout the country so it is worth finding out if you have a club in your area.

## JUVENILE CHRONIC ARTHRITIS - THE VANCOUVER EXPERIENCE

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RACHEL EVANS

MCSP

I am a Senior II Paediatric Physiotherapist working at the Royal Victoria Infirmary, Newcastle upon Tyne. Along with my general day to day work on the acute wards, I head the physiotherapy service to the paediatric rheumatology clinic for the children of the North East of England. Our clinics are held for an afternoon, twice monthly. Altogether, we have over one hundred patients passing through the clinic needing physiotherapy.

Wherever possible, local treatment is arranged (I provide this service for children in and around Newcastle), however, where the service available is limited in terms of time or facilities, children travel to Newcastle for hydrotherapy, splintage, reviews and whatever else is necessary. Parents are taught passive stretches and help the child through daily range of movement exercises. Where there is community physiotherapy, I liaise with the local therapist, keeping them up to date with any decisions or treatment changes made in clinic. As most of this work is carried out on an out-patient basis it has been proving difficult to spend a significant amount of time treating these children over a concentrated period of time, and thereby consolidate and expand my knowledge base.

I contacted the Arthritis and Rheumatism Council regarding educational grants and made plans to visit the Mary Pack Arthritis Society in Vancouver. This is a recognised centre of excellence for the treatment of children with juvenile chronic arthritis. The purpose built centre houses both adult and paediatric services, the paediatric service being the main centre for the whole of British Columbia and the Yukon (an area about five times the size of the U.K.).

All patient treatment areas are on the ground floor and include an occupational therapy workshop/kitchen for the patients, as well as a large



Waiting area for the patients



area devoted to the manufacturing of splints and orthoses. The physiotherapists have the use of a hydrotherapy pool, individual treatment cubicles, a small, well equipped exercise area and a wide array of electrotherapy modalities.

The paediatric unit is much smaller as there is only 1.2 W.T.E. physiotherapists and one occupational therapist working on this programme. Children have a separate waiting area with an enclosed play room. Though the treatment area is smaller, the other facilities in the centre are available for use.

Though physiotherapy and occupational therapy treatments took up the majority of my 6 day visit, I also had the opportunity to meet other members of the multi-disciplinary team and observe a clinic.

Dr Ross Petty heads the service which consists of two more paediatric rheumatologists; a dentist; physiotherapist, Karen Montizambert; occupational therapist Gay Kuchta; clinical nurse specialist and social worker (funding for the clinical psychologist was withdrawn after 2 years). As well as these permanent staff members, there are also 'fellows' - doctors from all over the world training to specialise in paediatric rheumatology. Other professionals visit the centre in an observational capacity as I was doing myself.

The clinical nurse role is one I feel is essential and sadly lacking in Newcastle. The nurse will see families at each clinic and get a general picture of how they are coping with the disease. If it is a first appointment, she will explain who the team members are and what they do. Once the doctors have seen the child and possible treatment discussed and planned, the nurse will see the family again, giving them a chance to ask further questions, and herself a chance to reinforce the doctors instructions.

If any X-rays, blood tests or follow up appointments with other team members are needed, the nurse arranges these. She also ensures that the results of any of these investigations are forwarded to the doctors and families. Follow up phone calls are made to check how treatment is progressing. Families are also provided with a large pack of written information, mostly similar to the ARC booklets available in this country, but also specific handouts regarding the medicines the child is being given. The nurse is a central contact point for all families and has an excellent overview of family circumstances and the treatment the child is undergoing.

Clinics for Juvenile Chronic Arthritis, in its various forms, are held every Tuesday and last a whole day. Initial examination is carried out by a 'fellow' who then discusses their findings and plan with one of the rheumatologists. The examination is then repeated by the rheumatologist before treatment options are discussed with the family and a plan formulated. There appears to be less of a "you're the doctor" attitude with Canadian families, and these discussions can be very frank indeed!



Whenever possible the physiotherapist and occupational therapist attend the clinic in person or see the child prior to their clinic appointment and send a report of their findings. This can make an appointment a very lengthy procedure. Indeed new patients may be in clinic for 2 hours. A more normal time is 45 minutes. This time element is a very precious facility lacking here, and allows thorough exploration of treatment options and the voicing of parental worries.

Team meetings are held weekly and patients from the previous clinic are discussed and any new developments picked up by any team member regarding a patient can be put forward.

As some children travel several hundred miles to the centre, they and their families may stay in a local hotel for up to a month, receiving intensive therapy, and undergoing any necessary investigations during this time. It is common for the child to receive one hour of physiotherapy twice a day in these circumstances, as well as whatever occupational therapy is required. Karen and Gay work very closely together, often carrying out joint assessments and reports, as well as keeping joint patient records. Like the service in Newcastle, whenever possible, local therapy is organised. Where this is not available though, parents take on a greater role and in some instances videotape is used to make a recording for the treatment required and used to back up the direct teaching.

The main difference I observed between physiotherapy regimes in Vancouver and Newcastle was the increased specificity of each treatment. Karen's approach has moved away from the generalised range of movement exercises with passive stretches and follows a 'muscle imbalance' approach developed by Shirley Sahrmann in the U.S.A. as a way of combating musculoskeletal pain syndromes. This involves very careful assessment of muscle length and tension; joint kinetics; patterns of movement both at a joint and of body segments relative to each other. In order to re-educate 'normal' movement, there is an increased emphasis on passive movements in the correct pattern, and specific muscle stretching and progressive strengthening exercises, before increasing the active movements.

For instance, most of us dealing with arthritic children will have seen a lack of hip range compensated for by increased lumbar spine mobility and faulty pelvic alignment. The result is that the spine and hip begin to move as a single unit and associated muscle synergies are shattered. Sahrmann has devised exercises to break this pattern facilitating independent use of hamstrings and gluteii; strengthening of the lower abdominals, again in a manner that isolates hip movement from pelvic or spine movement, and so re-educate 'normal' movement.

Exercises and stretching techniques used are on the whole simple and effective even for young children to cope with. Certainly this technique is far more specific than anything that we have tried so far in Newcastle



A patient carrying out exercise to improve the control and co-ordination of muscles around the pelvis.



and I am keen to complete a course for myself and start developing the approach in the North East. This emphasis on correct movement patterns and short (about 10 minutes) highly specific exercise sessions, until increased use of passive movement with active movement has normalised is also followed at Garmisch in Germany, another large and well recognised centre of expertise in paediatric rheumatology.

Gay, the occupational therapist, carries out more specific functional assessments of the hands and feet; school and home study area assessments; ergonomic assessments of activities of daily living as well

as making all splints and foot orthoses. There is a very strong emphasis on the importance of getting the foot positioned correctly to facilitate normal movement of the rest of the lower limb and spine. This is another area where Gay and Karen work very closely together. The big advantage of this collaboration and the orthoses being made on site, is that once fitted, any necessary changes can be made instantly.



A leather work splint

Splinting is carried out less aggressively than here, mainly due to a lack of compliance with 'too much treatment'! Work splints for wrists are made from leather, with children having a choice of colours and additional extras such as studs for a macho image! 'Night' resting splints, often made of hexalite or orthoplast, may only be worn for a few hours when the child first goes to bed, and removed by parents when they go to bed themselves. The other big difference on the splinting front is the use of the Garmisch ankle plantarflexion splint.

Traditionally, the position of choice for splintage of the ankle has been plantargrade.

However, clinical findings indicate that if the child is weight bearing during the day, plantarflexion is the movement more commonly lost. Consequently, the ankle is splinted into a plantarflexed position and 'wrapped' lateral to medial to discourage a supinated forefoot. Again, this splint is only worn for a couple of hours a day. If there are any other therapists who have first hand experience on the use of this splint, I would appreciate any information or advice they could give me regarding this matter.

My visit to Vancouver was most enlightening and my learning curve has received a significant boost. The muscle imbalance approach seems to make a great deal of sense in a disease whose very pathology creates such imbalances, and is something I am keen to investigate further. I feel that in Newcastle there is the need to develop the occupational therapy role and that of a clinical nurse specialist to glue the team approach together.

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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This article has been written to elaborate and clarify upon many points made in the article published in the APCP Journal in November 1993.

Many physiotherapists were telling me, at the time, that DAFOs did not work. Upon investigation I discovered that DAFOs were being made by some orthotists who had seen Nancy Hylton's articles and were using her theories, but a footboard was not being used. Instead, the underneath of the positive mould was being sculptured to what was thought would fit the child. Using a foot board plastered to fit each child individually, it can be seen when the tone is reduced and the footboard comfortable. The short article was written in an attempt to establish that DAFOs needed to be made using a footboard.

Nancy Hylton, a physical therapist from Seattle, USA, developed dynamic ankle foot orthosis (DAFOs) from tone inhibiting casts over a period of eighteen years. They are now used in parts of the USA, Canada, Mexico, Finland and Germany, in the treatment of children with increased tone due to cerebral palsy. Other paediatric conditions for which DAFOs are used include spina bifida, hypotonia, head injury and muscular dystrophy (Hylton 1990). They have also been used for adult hemiplegia and with multiple sclerosis patients.

Whilst searching for a 'permanent' Cheyney tone relieving plaster I read an article in *Developmental Medicine and Child Neurology* (Hinder et al 1988) in this I found my first reference to DAFOs accompanied by Nancy Hylton's address in Seattle. After a period of correspondence with Nancy, literature analysis and local enquiries, I eventually visited Seattle in February 1993 to learn DAFO fabrication.

A DAFO resembles a close fitting bootie. It is made from homopolymer, giving support under the foot by a series of raised areas that are tailored individually to each patient.

The upper is pulled very thin and meets across the dorsum of the foot at the mid line. The trim at the distal end is usually just above the toes and proximally to just above the ankle. Straps across the ankle, foot and first toe hold the DAFO firmly onto the foot (see plate 1).

The DAFO method of treatment is a radical departure from the ankle foot orthosis and supportive boots previously used with children who have increased tone. It is used in conjunction with the Neurodevelopmental method of treatment (Bobath), enabling patients to be further challenged during their treatment.

## **Fabrication**

### **Plan**

A drawing is made of the outline of the patients foot, with the foot in a neutral position. The medial arch, peroneal notch, first and fifth metatarsal heads are marked and a line drawn between each of the toes (see plate 2).

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING



PLATE 1

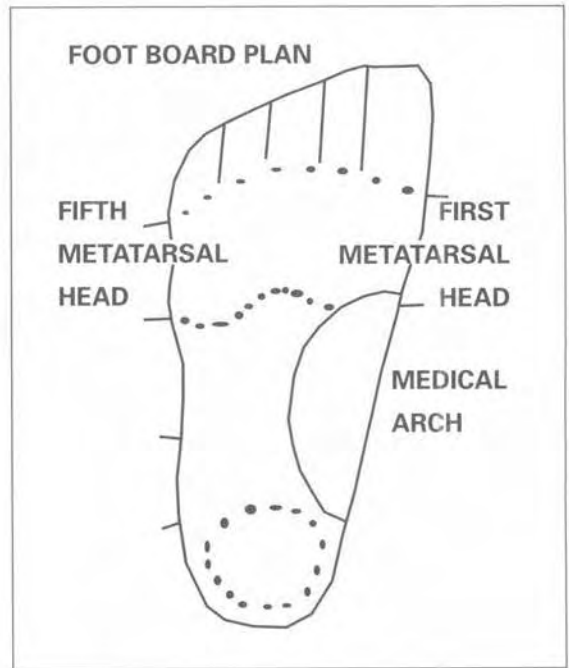


PLATE 2



PLATE 3



PLATE 4

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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PLATE 5



PLATE 6



PLATE 7



## **Footboard**

Using this plan a foot board is made from  $\frac{1}{4}$  or  $\frac{3}{8}$  inch plywood, with routed areas corresponding to the metatarsal heads and a circle to cup the heel (see plate 3).

## **Contouring**

Plaster of paris is used to build up the contours of the foot board. Support is given to the medial arch, the peroneal notch, a "button" behind the second, third and fourth metatarsal heads, and under the arch of the toes, especially the second and third. A ridge is then added to the outside of the heel cup to deepen it (see plate 3).

The contoured foot board is an essential part of the fabrication. When correctly contoured the patient's foot can be seen to relax on to it. The reduction in tone is normally observed to coincide with the patient indicating that 'the footboard feels right'. This phenomena has even been observed in small children.

## **Negative Mould**

A layer of stocking net extending from the toes to mid-calf is covered by a layer of tube gauze. A strip to aid in removal of the plaster is placed between them. The trim lines and padding are then marked. With the pelvis stabilised and the hip and knee in alignment, the foot is taped to the footboard. Ensuring that it is kept securely in this aligned position with the calcaneum in neutral, a plaster cast is applied extending from the toes to the lower third of the calf. This is subsequently removed from the patient and used to make the negative mould (see plate 4) from which a positive mould (see plate 5) is made.

## **Positive Mould**

Measurements are taken around the circumference of the dorsum of the ankle joint and the calcaneal tuberosity, and the forefoot. This is so the volume of the positive mould can be maintained if the cast has to be rectified, as DAFOs are volume critical. A  $\frac{3}{32}$  thickness of homopolymer is then stretched over the positive mould to make the DAFO (see plate 6). Over the dorsum of the foot the homopolymer is stretched as thinly as possible. This allows dynamic balance movements. The DAFO is then trimmed to expose the toes on the dorsal aspect and round the ankle. The ankle trim is usually as shown in plate 6, but can vary according to the effect required. For example, planter flexion stop or ground reaction trim, or for the amount of support required. It can be trimmed as a foot orthosis if less support is needed.

A strap with a D ring is placed at 45 degrees across the ankle joint to hold the heel securely in the DAFO. The DAFO also has a strap across the forefoot, another to stabilise the big toe and another as a proprioceptive

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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reminder to deter dorsiflexion. Large pads cover the malleoli to prevent rubbing and a tongue of pelite (North Sea foam) is used to prevent the edges of the opening rubbing. This can be exchanged for a mole skin tongue and the opening of the DAFO trimmed back to increase the volume as the child grows enabling the orthosis to continue to be worn for up to a year. This is a definite cost saving on other orthosis.

A thin skim of non slip material covers the bottom of the foot, to enable the DAFO to be worn without shoes during treatment. DAFOs can be worn inside trainers or light boots. However, an insole that can be removed or a wider fitting may be needed.

Supportive boots such as Pedro boots suppress the small dynamic balance movements that DAFOs allow.

## **Dynamic Insoles**

Using the same foot pattern, insoles (see plate 7) can be made of pelite (North Sea foam) instead of plywood, 3 ml density foam is used to make the equivalent of the upper part of the foot board. This is built up with 5 ml and 3 ml foam using the same technique as when contouring the footboard.

Dynamic insoles have proved useful to make before embarking on DAFOs. This allows you to become familiar with the configuration under the foot. Before making DAFOs, they can be used for problem solving with the patient. I have also used them for small hypotonic children just starting to stand to give support to the feet.

I have used them successfully for an older girl with painful feet and a colleague has started to make them for habitual toe walkers with encouraging results. They are used for the unaffected foot when a DAFO is made for a hemiplegic child to give symmetry.

## **Theory**

Support under the medial arch and the peroneal notch gives stability to the subtalar joint. This stabilises inversion and eversion. The 'button' behind the metatarsal heads stabilises the forefoot and the heel cup stabilises the calcaneum and the hindfoot. This improves postural control and, when combined with the slight dorsiflexion of the toes, also improves tone. The positive supporting reaction, which results in a total extensor pattern is reduced by the dorsiflexion of the toes. This relieves the pressure under the ball of the foot, which triggers the reflex (Lohman and Goldstein 1993). The reduction in spasticity by splinting may also be due, as theorised by King (1982) to "the autogenic inhibitory response of the 1b afferent fibres serving the Golgi tendon organs".

The thin flexible upper provides graded plantar and dorsiflexion, allowing balance reactions at the foot and ankle. Increased proprioceptive feedback when wearing the DAFO may also play a part in gait improvement.

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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From Hylton 1990 "If one part of the body is dysfunctional or unstable, it impacts the whole system. Compensatory abnormal stabilisation or tightness occurs to allow limited function. Compensations are never as ideal as normal uncompensated balance and movement. If we were able, therefore, to provide secure stability and control without interfering too much with movement, we should have a positive impact on total function and movement control."

## Results

In partnership with an orthotist DAFOs have been made for twelve children over the last eighteen months.

At Nancy Hylton's suggestion, the first child we made DAFOs for had hypotonia in the form of amyotonia congenita. Her feet were extremely everted and she was standing almost on her medial malleoli. Upon receiving her first pair of DAFOs, we were amazed to see her actively correcting the position of her feet.

DAFOs were made for five children with increased tone due to hemiplegia. Two of these children are now on their second DAFO.

One child now has pincer grip with his hemiplegic hand, which was only just starting to open before his DAFO was fitted. He had worn an AFO (Ankle Foot Orthosis) before. This had caused soreness due to rubbing, especially when first fitted and as he started to outgrow it. He has not had any rubbing problems with his DAFO.

The other child, also in his second pair, has a dense hemiplegia due to a hemispherectomy. He had severe hip retraction, and walked with a straight knee. This has improved considerably and his hand is now more open.

The third hemiplegic boy also had an AFO before his DAFO. His gait has improved and his fist hand has opened and is used more. The two boys had been wearing AFOs to correct varus feet and hyperextended knees. This was controlled by the AFO, but the foot and knee position has improved with a DAFO.

Since wearing a DAFO, a three year old girl has had a reduction in associated reactions. These were causing her arm to go into a pattern of flexion and abduction when she was walking. Her arm is more relaxed now, improving her balance and gait pattern.

The last hemiplegic child did not tolerate her DAFO. However, she has not tolerated the AFOs made for her before and after her DAFO.

Four children with diplegia have DAFOs. Two of these have their second pair.

The first child with diplegia improved, his toe walking decreased and his gait became steadier. He also had a dramatic increase in his hip abduction range of movement, from two thirds to full range.

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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The second child is steadier in his DAFOs, falling over less in the playground and he is now coping well with the four steps up to his classroom. Within four weeks of first wearing DAFOs, the number of seconds that he could stand on one leg, in his DAFOs, had doubled.

Both of these children have had approximately a month without DAFOs. The DAFOs having been mislaid or the child having grown out of them and awaiting new ones. During this time both children steadily deteriorated. The first child resumed toe walking and the second lost the balance ability gained. However, the first child continued to maintain his increased range of hip abduction without his DAFOs.

An increased walking speed and, again, improved balance with less falls has been noticed in the third child since she has had her DAFOs.

The fourth child had a typical diplegic gait, of toe walking with valgus feet, flexed hips and knees and internally rotated hips. She is now walking with heels down with a corrected foot position and extended hips and knees. The first and fourth diplegic children's DAFOs were trimmed to have a planterflexion stop, which has helped to control their toe walking.

DAFOs are lasting from nine to thirteen months, before being remade. A deterioration in gait and balance ability being the usual signs that the DAFOs need trimming, or that a new DAFO is needed.

A DAFO was successful with a little girl, who was referred as a left hemiparesis, which had improved, but suddenly she started to hold her right foot in inversion. This quickly became a problem, as she was walking and standing on the lateral border of her right foot. With a DAFO worn on her right foot, her foot was flat and she was taking weight through the right side again.

Lastly DAFOs were made for a hemiplegic boy with underlying low tone and proprioceptive problems. His DAFOs had the standard trim on his weaker side and a lower dynamic foot orthosis trim on the other side. The DAFOs resulted in decreased tone on his hemiplegic side. He was able to walk with his heel down and was taking more weight through this side. However, although his knees and hips were less flexed in standing he was still flexing them and sinking as he walked.

## Conclusion

DAFOs and dynamic insoles have proved useful tools over the past eighteen months. I have been pleased with the results so far. However, I would like to obtain some measurements to back up my clinical observations. Gait laboratory analysis has been undertaken in the USA with an adult hemiplegia. This showed significant results (Mueller et. al. 1992). However, no data is available for children. I have now initiated a research project with the Biomedical Engineering Department of the University of Surrey. From this I hope to obtain some scientific

# DYNAMIC ANKLE FOOT ORTHOSIS – TONE INHIBITING

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measurements to support my clinical observations.

The partnership between the physiotherapist and the orthotist is crucial in making the successful DAFO. I would like to thank Andrew Tagg and Tony Allen for their part in our encouraging results with DAFOs.

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## A VISIT TO THE CRAIGHALBERT CENTRE - MARCH 1995

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While in Edinburgh for the APCP Conference I was fortunate to be able to visit the Scottish Centre for Children with Motor Impairments with two colleagues. We were able to spend time observing the work and talking to Lillemor Jerqvist, the Director, and Lyn Campbell the Deputy Director.

The Craighalbert Centre in Cumbernauld was opened in 1992 in new purpose built accommodation and is grant aided and funded by LEAs and the Scottish Office Education Department. The Centre caters for children up to the age of 7 who have non progressive motor disorders of central origin such as cerebral palsy. The criteria for admission includes a wide range of abilities and problems but the ability to act in response to objects and/or people is an important pre-requisite.

The Centre's philosophy is based on conductive education influenced by the best of Scottish educational practice and demands a high level of parental involvement and staff commitment.

The building is attractively designed with a central 'arrival' area and various routes to classrooms down ramps or steps. This allows the children to travel together in the most appropriate way for individuals, either in trains pushed by staff allowing active sitting and holding on, riding trikes or walking with aids, all accompanied by songs, excitement and expectation.



Nursery class ready for children to arrive

There are at present 38 children in main groups, each in a very large bright and cheerful room with plenty of space for equipment and different activities. The Parent and Child Group has 8 children from 18 months to 3 years, each always with a parent or carer. This runs on 4 days from 9.00am to 12 noon and there are facilities for overnight accommodation if families need this.



## A VISIT TO THE CRAIGHALBERT CENTRE - MARCH 1995

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There are 2 nursery groups, one for 3 to 4 year olds and one for 4 to 5 year olds. Activities and groups may be planned across both groups according to need. The School group has 12 children aged 5 to 6 years and all 3 classes run on a daily basis from 10.00am to 4.00pm. As staff are employed from 8.30am to 4.00pm Monday to Friday this allows time for planning and preparation.

Each group has a leader who may be from any relevant discipline and a team of teachers, therapists and 'talented people', all with the same conditions and payscale. The Centre has an extended school year and provides home visits, liaison and outreach work with mainstream or special schools in addition to a highly structured staff training scheme.

The transition to mainstream school is planned well in advance and enables educational support staff to attend the Centre for training. A 10 hour course is available over a 5 week period and the Centre may be involved in an advisory capacity with staff appointments in mainstream schools.

Staff in service training includes modular courses on cerebral palsy, conductive education, family support, early education and musculo-skeletal and physiological bases for human movement. These are validated by St Andrews University, Glasgow, and may be taken at Certificate or Diploma level.

### **The Parent Child Group**

Parents help their child change into shorts and tee-shirt, use the potty and do any individual exercise including stretching with guidance from



Children from parent-child group on their way home in the train!

staff. Children then work together with parents through a range of activities on mat or plinth including transfers, sitting and hand tasks, play and a parents' break. The final activity is a goodbye song, dressing and 'train' to departure area. Staff are available to help and talk to individual parents and visitors during the morning and each activity is led by a different team member.

Records are detailed and done on a daily and weekly basis with aims and goals, progress and dates of assessment, photos, videos, home visits and updates for each child.

### **The Nursery Groups**

These have 9 and 11 children with 6 staff. More formal group work is planned for the morning while the afternoon is devoted to generalisation of skills involving play, craft and computer work. Childrens' notes include short term aims and progress in communication and language, self and environment, social/emotional development, life skills, functional movement - gross and fine, and aesthetic development. Each child's method of transfer is also detailed, including use of trike, wheelie stool, platform on ladder, walk with ladder, pull along bench and rolling. Every child participates actively in moving and is not simply carried or pushed in a buggy.

### **The School Group**

This has 12 children and 7 staff and due to the wide range of abilities there is a large degree of differentiation of work in the group. There are guidelines for the curriculum which are similar to the English National Curriculum but perhaps less prescriptive. Children are prepared for the transition to mainstream or special school including the more traditional 'educational' aspects of the day as well as mobility, communication and life skills.

Educational themes provide motivation and purpose for all the activities and clearly involve a great deal of imagination and preparation by staff. Songs, music and rhythm are used in many activities especially with the younger children.

Even though we were only able to spend a morning at the Centre we were warmly welcomed and encouraged to ask questions and see as much as possible. The happy atmosphere, busy children, hard working staff and smooth organisation were all most impressive, a model of excellence. We are particularly grateful to Lillemor and Lyn for their time and hospitality in showing us round and answering our many questions.

# EVALUATING THERAPY IN CEREBRAL PALSY

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## Summary

The optimal design for most clinical trials of treatment is the randomized controlled group trial. This methodology is not, however, uniformly applicable or appropriate. The evaluation of physiotherapy in the management of cerebral palsy in childhood is a good example of treatment for which modification of this trial design is needed. Some of the problems with eight studies in this field published between 1960 and 1993 are reviewed here and an alternative approach proposed. A representative series of single case studies with individual goal setting and a validated outcome measurement, using randomized treatment, would overcome many of the disadvantages of published studies at a greatly reduced cost. The results would enable more effective group trials to be mounted in due course to evaluate the probable impact of providing treatment to a defined population of subjects.

## Keywords

*Cerebral palsy, controlled group trial, physiotherapy, trial designs.*

## Introduction

The randomized controlled trial is rightly regarded as a powerful methodology for proving relationships between treatments and clinical outcomes. It requires subjects with similar problems who receive the same treatment, with the objective or restoring function to an agreed physiological norm, and the outcomes are measured by validated outcome measures.

In the classical randomized controlled drug trial the only difference between groups is whether the subjects are prescribed a treatment or not, and the only compliance requirement is to receive the treatment and participate in the assessment. Control groups who do not have the treatment are given an alternative therapy or placebo medication. Randomization into the groups needs to be carefully performed, allocation procedures may be necessary and fully informed consent must be obtained. The same methods for assessing the outcome are employed for all subjects and the objectives of treatment are the same. Provided that the variability of the measured outcomes and the size of the probable treatment effect is known, it is relatively easy to predict the number of subjects required to demonstrate a statistically valid result.

By comparison, the evaluation of the effectiveness of physiotherapy in the treatment of children with cerebral palsy is very complicated. There is no simple relevant physiological norm by which to define outcome that is optimal for all subjects. The treatment is crucially dependent upon personal interaction between the child and the therapist and unless there

is active collaboration no progress may be achieved by therapy. Outcome assessment is also a matter of contention and whatever measurements are performed are time-consuming. Since collaboration is necessary for these assessments and these will be affected by the relationship between the child and therapist it is often impossible for a therapist whom the child does not know to obtain the same result in an evaluation as would be obtained by the therapist with whom the child is familiar. Performance measured under stressed or artificial circumstances will give rise to misleading results. Finally, grouping subjects together carries the risk of obscuring changes in individuals that go against the trend for the group as a whole and these individual changes may be of considerable importance in identifying possibilities of change and factors influencing such changes that are shown only by a minority of subjects. To quote Gianutsos and Gianutsos (1988) 'individuals risk becoming stuck in the tails of groups research designs'.

Similar problems arise in the fields of behavioural and cognitive psychology where precise objectives are specific to each case. Furthermore, the treatment depends upon the personal interaction of therapist and subject. A range of different research methodologies has been developed to meet these particular needs, but they are rarely employed outside these specialized fields.

Eight major studies of physiotherapy have been undertaken between 1962 and 1993 on children with an established diagnosis of cerebral palsy, Paine (1962), Wright & Nicholson (1973), Carlsen (1975), Scherzer, Mike & Ilson (1976), Sparrow & Zigler (1978), Somerfeld *et al.* (1981), Palmer *et al.* (1988) and Bairstow, Cochrane & Hur (1993).

This paper reviews the trial designs employed, the successes and pitfalls that were encountered and suggests a strategy for future studies.

### Sample size

There is a large number of variables in cerebral palsy and it is not possible to mask the child from the treatment received nor the therapist from the treatment given. Thus, a large number of children in a group study is required to achieve a valid result. Neither consideration of power nor size of confidence range appears to have been considered when calculating sample size in at least three of the trials (Paine 1962, Carlsen 1975 and Bairstow *et al.* 1993).

Large subject numbers are difficult to recruit in cerebral palsy and the use of a widely dispersed population of children and therapists greatly increases the variability of both intervention and assessment making it virtually impossible to predict the power of a randomized trial of group design. One retrospective study started with a sample of 1821 patients but only 177 were included in the final analysis (Paine 1962). Similarly a prospective comparison of treatment regimes which began with a sample of 90 children enrolled 48 subjects (Palmer *et al.* 1988).

# EVALUATING THERAPY IN CEREBRAL PALSY

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## Heterogeneity of Samples

The subjects in these studies have been very mixed in their pattern of disability so that conclusions drawn about particular sub-groups of children have been based on very small numbers and may represent an over-interpretation of the results. In one randomized trial, 47 children were divided into 14 different sub-groups and the main conclusion drawn from that study was that children with quadriplegic cerebral palsy and a developmental age of under 6 months receiving physiotherapy treatment showed a greater mean change in functional abilities from head control to rolling during the first 6 months of the trial than those not receiving physiotherapy. This conclusion appears to have been based on the evidence of seven children with quadriplegic cerebral palsy in the treatment group only three of whom had a developmental age of under 6 months (Wright & Nicholson 1973). In another randomized trial, 22 children were divided into two age levels, three levels of physical disability, four intellectual levels and spastic, athetoid and mixed sub-categories. The principal trend identified in this trial was that children with a higher intellectual capacity, aged between 1 and 2 years and receiving less physiotherapy treatment displayed more improvement. This suggestion appears to have been made on the evidence of three children in the control group (Scherzer *et al.* 1976).

## Control groups

The effects of maturation, motivation and testing are all important considerations in the evaluation of therapy in children with cerebral palsy. The earliest retrospective study included the assessment of untreated patients as controls (Paine 1962). However, only three other studies included untreated controls (Wright & Nicholson 1973, Sparrow & Zigler 1978 and Somerfeld *et al.* 1981). One of these included both a non-treatment group and a group receiving motivational treatment. Ten psychological assessors and 762 treatment providers were involved in this study lasting one year of 45 children increasing both cost and complexity of the trial substantially (Sparrow & Zigler 1978). Two of the trials employed crossover study design, (i.e. Wright & Nicholson 1973 and Palmer *et al.* 1988). In one trial (Wright & Nicholson 1973) physiotherapy preceded a no treatment period for one of the treatment groups and in the other trial (Palmer *et al.* 1988) 'one type' of intervention preceded another type of intervention for one of the treatment groups. Neither trial, however, appears to have considered the problem of 'wash out', namely the possibility of a continuing effect from therapy given prior to or in an earlier phase of the trial.

## Control groups and 'drop outs'

It has become unacceptable to withhold or withdraw treatment especially in an environment where parents desire and expect it and therapists enthusiastically offer it (Paine 1962). Carlsen (1975) was not permitted to include a non-treatment group in her study. In one trial comparing early and delayed treatment there were many 'drop outs' from the delayed

# EVALUATING THERAPY IN CEREBRAL PALSY

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treatment arm and the planned second year of the trial was abandoned (Wright & Nicholson 1973). Two trials (Sparrow & Zigler 1978 and Somerfeld *et al.* 1981) documented no 'drop outs'. They were both undertaken in residential institutions for children with learning disabilities.

## Randomization

Many variables have been identified in children with cerebral palsy which influence progress including personality, severity and intellect making well matched paired controlled trials difficult (Paine 1962). Although three trials attempted to identify paired subjects and randomized at least some to different treatments, the individual pairs were not closely matched (Wright & Nicholson 1973, Carlsen 1975, Somerfeld *et al.* 1981). The most recently published trial compared children selected for treatment by Hungarian Peto conductors with matched controls enrolled from a larger population receiving standard, but undescribed, special education (Bairstow *et al.* 1993). Two trials (Paine 1962 and Bairstow *et al.* 1993) did not include any randomization procedures so that their results should only be considered suggestive.

## Assessment

Therapy is given for different reasons with different objectives to different children and their families and not all trials have measured the most appropriate objectives. The evaluation of the Doman Delacato method did not include a measure of muscle contracture, an aspect which might have been affected by an intervention with frequent passive limb movements (Sparrow & Zigler 1978). The evaluators of the Conductive Education approach suggested that an increase in abnormal physical movement might have led to an increase in joint deformity but did not include X-ray measurements in their assessments. Until the recent introduction of the Gross Motor Function Measure (Russell *et al.* 1989) there was no validated outcome measure to assess motor changes over time in children with cerebral palsy. These studies used discriminative measures such as the Bayley scales (Bayley 1969) screening assessments including the Denver Developmental Scales (Frankenburg, Dodds & Fandel 1970) or a mixed battery of norm referenced and criterion referenced tests (Bairstow *et al.* 1993). Norm referenced measures discriminate between subjects whilst criterion-referenced tests indicate whether a subject has learned a skill (Howland *et al.* 1991). Only the latter are appropriate for evaluating the effectiveness of an intervention over time. Moreover, some of the trials relied on parental assessments in part which are likely to be perceived as opposed to actual results (Palmer *et al.* 1988, Bairstow *et al.* 1993).

## Control of Bias

### *Measurement of bias*

Few of these trials attempted full masking or placebo treatments and in



one case both the treatments and assessments were undertaken by the author alone (Carlsen 1975). Another trial employed 10 trained psychologists who both supervised the therapists and assessed the subjects so that in addition to other biasing factors a practice effect might have to be included (Sparrow & Zigler 1978). The assessment of Conductive Education used assessors who could not have been masked to the intervention undertaken as the matched controls were not enrolled until a year after the initial assessment of the Conductive Education group (Bairstow *et al.* 1993).

One trial (Bairstow *et al.* 1993) used 47 different tests on the 36 children in their trial increasing the possibility of a chance result whilst another trial (Sommerfeld *et al.* 1981) did not control for a similar overlapping intervention (occupational therapy) occurring throughout the study period.

### *Sample and selection bias*

One study (Sommerfeld *et al.* 1981) used a pre-selected school class for their control group whilst another (Bairstow *et al.* 1993) used a pre-selected treatment group. All the study groups described in this paper except those in one trial (Palmer *et al.* 1988) consisted of children with very wide varieties of disability patterns.

### *Outcome of statistical testing*

Considering all the difficulties in withholding treatment, matching groups, uncertainty over the appropriateness of the outcome measures, and variable success in controlling biasing factors, the statistical evaluations that were done in these studies should be viewed with considerable circumspection. Two of the trials showed a significant difference ( $P < 0.05$ ) between groups. Facilitatory mat therapy based on Neuro-Developmental treatment (Ayres 1963, Bobath & Bobath 1972, Stockmeyer 1972) was superior to a functional approach (Carlsen 1975) whilst 'Learning games' (Sparling & Lewis 1979) or infant stimulation was superior to the neuro-developmental treatment (Bobath 1980) in a more recent study (Palmer *et al.* 1988). Three other studies showed trends that failed to achieve significance. Paine (1962) suggested that children with mild or athetoid cerebral palsy did not benefit from physiotherapy but those with more severe hemiplegia or quadriplegia might. Wright and Nicholson (1973) demonstrated that only children with quadriplegic cerebral palsy under the developmental motor age of 6 months or until they attained the ability to roll benefited. By contrast, Scherzer *et al.* (1976) observed the best progress in those children with a higher intellect who received therapy later and for less time. Selected children receiving standard special education performed better than a similar group of

## EVALUATING THERAPY IN CEREBRAL PALSY

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selected children receiving conductive education on five out of 47 tests, but no differences were found in the other 42 tests (Bairstow *et al.* 1993). The remaining two trials showed no differences between any groups although one failed to assess muscle contracture (Sparrow & Zigler 1978) and the other did not control for other interventions (in particular occupational therapy) occurring during the study period (Somerfeld *et al.* 1981).

### Conclusions to date

No consistent conclusions can be drawn from these studies. Not only is this scientifically disappointing but the results have in no way influenced parental demand for treatment, physicians prescription of therapy or indeed physiotherapists treatment rituals. Answers are required from both clinical and academic perspectives and a methodology to overcome at least some of the disadvantages of the previous studies is needed.

### *Use of single case experimental designs*

Behavioural and cognitive psychology research has developed single case experimental designs using outcome measures specific to the individuals under investigation (Wilson 1987, Gianutsos & Gianutsos 1988). The assessment criteria require careful planning supported by sophisticated statistical analysis in order to draw more general conclusions from several individual cases. For conditions in which the problem and its solution varies from case to case, a series of controlled single case studies in which intervention is randomized can establish effectiveness more rapidly and cheaply than the large group study design which has proved so valuable in defining the efficacy of drug interventions.

An instructive example of the value of the use of this approach is the report of the effect of cognitive training on people with impaired memory (Wilson 1987) using this controlled single case experimental design methodology (Hersen & Barlow 1976, Kazdin 1982). We suggest that the same strategy could be usefully employed for physiotherapy.

The first advantage of this approach is that smaller numbers of subjects are needed, though it is of course essential to study an appropriate number and range of individual cases and to establish by systematic replication from one individual to a number of similar individuals and from then on to examine for the effects of the secondary variables until the boundaries of the generalizations can be drawn. The problems associated with stratified randomization in a condition in which terminology is not standardized and even functional abilities need to be precisely documented are avoided. The principle of randomization is retained but applied to the timing or choice of treatment within each single case ensuring, however, that a steady state has been truly established before introducing the randomized treatment.

## EVALUATING THERAPY IN CEREBRAL PALSY

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Observations are meaningful in relation to the individual rather than having to be inferred from the effect shown by a group. Such studies can therefore, as a by-product, help the child, parent and therapist to recognize whether the intervention has been successful. The relationship between the researcher, child and parent can be preserved which is an important consideration for children with cerebral palsy and their families.

One challenge for this methodology is to control the circumstances and timing of the trial so that changes occurring in the natural history of the disorder can be distinguished from those due to treatment. Prolonged baseline periods may be necessary to establish the rate and direction of such changes before intervening. If different intensities of therapy are given and there is an identifiable acceleration in the acquisition of motor skills related to the more intense treatment periods, the changes may reasonably be attributed to the therapy, provided that other factors have been controlled. If in addition a number of separate but parallel outcomes are assessed only some of which have been targeted by intervention, the remaining parameters may act as an internal control.

A further complication is that interventions may influence each other if more than one is performed concurrently. Control over this problem may be exercised if secondary interventions are maintained uniformly throughout the entire study period so that their influence is present constantly and the only variable randomized is the intensity of treatment under test. The second advantage is that it does not require randomization into no treatment groups to eliminate the secondary variables so that there is rarely conflict with current clinical practice.

### Outcome measures

In practice it is important for therapy to be instituted and objectives set not only tailored to the child but also the child's different environments. This adds to the difficulty of finding a suitable matrix of biological outcome measures. One way of overcoming this difficulty is to set individual objectives. Goal setting involves identifying and formulating standards of motor activity which are in advance of the child's current capabilities or retard deterioration. Goals need to be formulated so that there is no doubt whether they have been achieved when assessed at performance review.

Previous studies have failed to use appropriately validated outcome measures. The Gross Motor Function Measure (Russell *et al.* 1989) has been validated for the evaluation of motor skill changes over time in children with cerebral palsy and it can be used in conjunction with motor skill goal setting. By dividing the assessment matrix into activities in which goals have and have not been set it is feasible to examine changes in overall motor skills in targeted and untargeted areas over time (Bower & McLellan 1994).

Using traditional medical research methodologies these studies have tried

## EVALUATING THERAPY IN CEREBRAL PALSY

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to prove the supremacy of one system over another and failed. We suggest that this was predictable given the important individual characteristics of each child which determine their response to therapy and to education.

The way forward is to establish the relationships between these individual characteristics and the specific ingredients in therapy to which these characteristics respond. In this way the principles of what 'works' can be established. Different educational and therapy establishments are bound to offer somewhat different mixes or packages of treatment for no two centres (or indeed therapists) are identical in their approach, skills, experience or resources. Once we know what principles govern success we can assess the individual child and family and make the appropriate choice of which of the available systems or approaches would be likely to suit them best.

At that stage a group study could be designed at reasonable cost which would have a reasonable chance of defining the outcome to be expected in a specified population of cerebral palsied children treated by a defined approach.

Although the methods outlined above will not provide immediate solutions to the problem of how much physiotherapy should be prescribed for children with cerebral palsy, they will identify to the child the parents and the therapist what is and what is not worth pursuing as a treatment goal. These methodological developments are important for rehabilitation medicine and could lay to rest once and for all the belief, which has always been suspect, that therapy cannot be validated scientifically.

### Correspondence

Mrs E. Bower, University of Southampton, Rehabilitation Research Unit, Southampton General Hospital, Southampton SO9 4XY, UK.

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## HERE AND THERE

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Material for the Here and There Section should be sent to :  
**Mrs B Bowen, Maes-Yr-Awel, Radyr, Cardiff CF4 8AN**

\* \* \* \* \*



### THE FIELDFARE TRUST

The Fieldfare Trust promotes access to the countryside and environmental education for people with disabilities. It is a Registered Charity which works in close partnership with corporate sponsors such as BT, British Gas, Theakstons, Conoco and Yorkshire Electricity.

It is a well established professional team made up of people with and without disabilities.

#### What Fieldfare Does

##### Marketing

This means working with people to find out what they need. Fieldfare is the bridge between people with disabilities who wish to enjoy the great outdoors and countryside managers who provide services.

##### Participation

Fieldfare runs activities and events which help to stimulate others into providing sustainable countryside opportunities for people with disabilities.

##### Development

Finding new ways to enable people with disabilities to gain access to the great outdoors is important. Fieldfare does this through events like the Coast to Coast horse ride and integrated offshore sailing schemes.

##### Advisory and Training Services

Fieldfare is a professional team with a rich mix of skills and knowledge. It is an advisor to the Countryside Commission and works closely with many public, private and voluntary sector organisations.

##### Fieldfare can support your organisation with:

Disability Awareness Training, BETA Training, Marketing, Networking, Running Integrated Countryside Programmes, Environment Education, Site Planning and many other management services.

The Fieldfare Trust organises the **BT Kielder Challenge** which is a countryside adventure competition for young people with and without disabilities.



## HERE AND THERE

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It also publishes a series of leaflets about **EASY GOING TRAILS** which enable everyone to enjoy the countryside. These include :-

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For further information contact :

The Fieldfare Trust

67a The Wicker

Sheffield S3 8HT

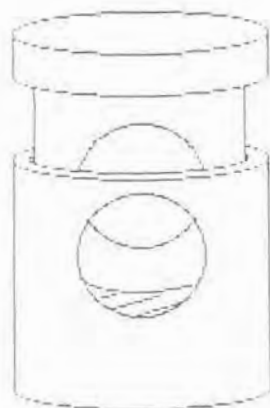
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### "HOME MADE" IDEAS

#### FOR SHOE LACE TYING PROBLEMS



Toggles make one handed lace 'tying' simple. Put together on both shoe laces, knot laces and push toggle down to fasten shoes or trainers. The laces can then be tucked inside the shoe. Hemi-hands can sometimes help by holding the knot.

If two hands can be used, but shoe laces difficult to tie, use toggles instead of knots and either tie bow or tuck in lace.

Toggles can be bought from camping shops, sold for laces on rucksacks. Also toggles now put on anoraks and jackets. I have collected coloured ones from friends, PTA's and even jumble sales. This allows children to match the colour of their trainers or decorate shoes with interesting colours.

Sue Whitby  
Senior Paediatric  
Physiotherapist  
Hinchingsbrooke Health Care  
NHS Trust (Community)  
Huntington  
Cambs.  
PE18 6SE

## HERE AND THERE

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THE DYSPRAXIA TRUST

Michele Lee  
Medical Liaison Officer  
Blair House  
Denham Green Lane  
Denham  
Bucks. UB9 5LQ

### THE DYSPRAXIA TRUST

The Dyspraxia Trust is a national, registered charity with its administrative and fund raising centre in Hitchin, Herts.

Founded in 1987, the Trust is financed entirely by membership subscriptions and private donations. It is unique in being dedicated to simplifying the diagnosis and treatment of Dyspraxia, hence enabling the additional educational provision essential to the Dyspraxia child, whilst raising awareness of the condition.

It has a network of some 40 Co-ordinator Groups offering local support and a wide range of activities specific to the Dyspraxia child and his or her parents.

The Trust acts as a resource centre for those wishing to learn more about Dyspraxia, its diagnosis and treatment and is highly pro-active in its area of expertise. Some of the Trust's activities are :-

- \* raising awareness of Dyspraxia amongst the general public and health and education professions.
- \* hosting conferences and forums for the specific education of health and education professionals
- \* forming, and servicing, self - help groups throughout the UK
- \* removing the "clumsy" stigma from those children who suffer from Dyspraxia
- \* offering support, advice and counselling to the parents of Dyspraxic children and adult Dyspraxia sufferers.
- \* acting as a resource and information centre for health and education professions

In addition to continuing to meet these objectives, and to meet the need, the Trust intends to :

- \* establish a dedicated Dyspraxia Helpline.
- \* produce educational videos on Dyspraxia, appropriate to
  - parents
  - educationalists
  - health care professionals

In 1995 the Dyspraxia Trust embarked upon an expansion programme to address the ever increasing demands made upon its services.

The Trust receives some 50 new enquiries each day from parents of newly diagnosed children, health care and education professionals wishing to learn more about Dyspraxia. These people largely form Trust's membership.

**For more information please contact :**

Michele Lee, Medical Liaison Officer tel: 01895 835144

or

Angie Robertson, Director of Funding and Development  
The Dyspraxia Trust, 8 West Alley, Hitchin, Herts. SG5 1EG.

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## C.S.P. ANNUAL REPRESENTATIVES CONFERENCE

At the CSP Annual Representatives' Conference which is to be held in Scarborough in September, APCP will be represented by Carole Hurran and Sue Whitby. They will present the Motion.

**The Conference believes that with regard to the development and use of standardised outcome measures in demonstrating the worth of physiotherapy intervention, the CSP should promote the value of consumer satisfaction audits as a valid measure of health gains.**

Any members who would like to contribute ideas for the presentation of the motion should contact Carole Hurran.

\*\*\*\*\*

The Motions which are approved by conference are taken to CSP Council meetings for consideration. Last year two of the motions submitted by APCP were passed, the results from the council meetings are set out below.

### **Motion**

'In recognition of Government policy to acknowledge the rights of the child as paramount, the CSP should endorse the notion that children's physiotherapy needs are met or supervised by a specialist paediatric physiotherapist.'

### **Council's response**

The CSP fully endorses the value of the specialist skills of paediatric Chartered Physiotherapists and it is particularly important that they should act as the lead therapist for children with multiple handicaps. It may, however, be more appropriate in some cases for physiotherapists with other specialist skills (eg in burns or sports medicine) to treat particular children; they should clearly have access to the advice of paediatric physiotherapists where necessary.

### **Motion**

'The CSP should encourage all its members to be competent in promoting, marketing and managing their business skills in the current competitive environment'.

### **Council's response**

Guidelines have been published by the NHS executive (HSG (93)5) 18.01.93 Standards of Business Conduct for NHS staff. This includes action check lists for staff and management.

The CSP will explore the development of suitable guidance to augment that already provided. An on-going programme of advice and training is available from and carried out by the CSP Professional Affairs Business Adviser.

### PROFILE OF THE SECRETARY

#### MARY S. GOY MCSP

Mary trained at Guy's Hospital with the intention of pursuing a career in spinal injuries. However, one husband and two children later she found that she was only able to get a part time post in paediatrics. Initially she worked in the former Schools' Health service at a small clinic in Lincolnshire with the ante-natal class thrown in for good measure.

Following her husband's move to the south, Mary found a job in schools for children with severe learning difficulties where she remained, gradually increasing her hours and responsibilities for twelve years. Then came a brief 15 month sojourn in South West Hertfordshire until Mary moved to her present post eight years ago. She is now based at the Chelsea and Westminster Hospital where she manages the paediatric team that provides both an acute and a community service across Hammersmith, Fulham, Chelsea and parts of Kensington and Westminster.

As a member of the Berkshire Branch Mary has seen service both as Chairman and Secretary and representing the Branch on the Oxford Board for eight years. She was Secretary of the Committee that ran the 1987 National CSP Conference - one of the last to be organised by a local board.

After many years as a member of APCP Mary became a member of the East Anglian Committee where she chaired the 1992 APCP Conference Committee. She was elected to the National APCP Committee in 1994. Recently she moved house and is at present spending a lot of time in DIY stores and wielding a large paint brush. She enjoys various musical activities, especially choral singing, which this summer included joint performances with German choirs of Britten's War Requiem in Reading and Dusseldorf. All this, added to two grandchildren leaves little time for her to pursue other interests.



OBITUARY

**DENISE WOOD**

1921-1994

Denise Wood was born on 23rd October 1921 in Zambia (formerly N. Rhodesia). She was educated at a girl's school in Malvern and then trained in P.E. at Ansty College, Erdington, Birmingham. She was a P.E. teacher in N. Rhodesia before returning to teach in England. She qualified as a physiotherapist in Bristol and then worked at the Wrekin Hospital and in the out-patient department at the Orthopaedic Hospital, Oswestry. She finally worked at the Katherine Elliot School in Shrewsbury until her retirement in 1976 and during this time she worked with Mr G.K. Rose, Orthopaedic Consultant on the development of the first Oswestry 'clicker' splint for Spina Bifida children.

After she retired she spent some time in Greece with a family with a handicapped child. She then returned to her retirement bungalow in Wales, from where she did some work for the Spastic Society.

She was a very keen golfer and played bridge for relaxation.

In 1972, together with Mary Hazlewood, she helped start APCP with a meeting of 36 interested physiotherapists at the Orthopaedic Hospital, Birmingham. This meeting was followed by the official inaugural meeting at Gt. Ormonde St. Hospital. She was elected as the first secretary of the Association, the post she held until her retirement. She was also a member of the first Post Graduate Diploma Committee.

She is remembered as a very conscientious physiotherapist and wonderful friend and is greatly missed.

## LIST OF PUBLICATIONS

BOOK/TITLE	QUANTITY	PRICE LIST
<b>SERIAL SPLINTING IN HEMIPLEGIC "CEREBRAL PALSY"</b> <i>by Margaret Jones (2nd Edition)</i>		3.50
<b>THE CHILDREN ACT 1989</b> <i>'A Synopsis for Paediatric Physiotherapists'</i>		£2.50
<b>PAEDIATRIC PHYSIOTHERAPY</b> <i>Guidelines for Good Practice</i>		£2.50
<b>DYSPRAXIA - A HANDBOOK FOR THERAPISTS</b> <i>by Michele Lee and Jenny French</i>		£5.50
<b>GUIDELINES FOR CALCULATING PAEDIATRIC PHYSIOTHERAPY CASELOADS - FACTSHEET</b>		£2.00
<b>STANDARDS OF PRACTICE - PAEDIATRIC PHYSIOTHERAPY</b>		<i>price to be confirmed</i>

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## REGIONAL REPORTS

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### WALES

Donna Morris  
Physiotherapy Department  
Prince Charles Hospital  
Merthyr Tydfil  
Mid-Glamorgan  
CF47 9DT

Our sharing day held in Neville Hall Children's Centre on June 9th was enjoyed by all who attended; many thanks to Janet Boreham and Julie Harvey for all their hard work.

A day looking at paediatric respiratory care topics is planned for November this year, a programme will be circulated in due course.

We also plan to have Annette Parker to speak on S.C.B.U. in the New Year.

There will not be much run over the summer months as so many members are currently attending the Bobath course in Swansea.

### SOUTH WEST

Gill Smith  
Children's Unit  
Salisbury District Hospital  
Salisbury SP2 8BJ  
Tel: 01722 336262  
Ext. 2280

Our new committee is busily organising a programme of study days for the Autumn and New Year.

On November 25 there will be a Dyspraxia day at Poole\*. At the end of October/beginning of November we hope to run a joint day with NAPOT on 'Splinting'.

Our AGM will be at the end of February and will coincide with a study day on Neonates.

We are also hoping that we will be able to organise study days on the Gross Motor Function Measure, so that as many members as possible across the region will have a working knowledge of the measure.

Finalised details will be available shortly.

For more information \*please contact Pam Bernard, Child Development Centre, Poole Hospital NHS Trust, Longfleet Road, Poole, Dorset.

### TRENT

Elaine Lloyd  
18 Balisfire Grove  
Leicester  
LE4 0LT  
Tel: (0116) 2359110

This has been a very quiet period for the region. The Study Day led by David Scrutton at Peterborough in May was well supported. Further study days are planned on Muscular Dystrophy in September at Mansfield, and Orthotics for November at Nottingham.

Trent members please keep me informed with your news so I can circulate it via the newsletter.

### WEST MIDLANDS

Carol Foster  
90 Green Hill Road  
Moseley  
Birmingham  
B13 9SU

An interesting programme of lectures and study days has been arranged for the current year.

The events for September & October 1995 are:

Saturday 23 September Dyspraxia Michele Lee

Wednesday 18 October Codes of Practice For Statementing

June Ledbetter

See November Journal for details of other November 1995 and 1996 study days and lectures to include hopefully:-

Childhood Arthritis

Cystic Fibrosis Update

Gross Motor Function Testing

The West Midlands Membership Stands at 120.

## REGIONAL REPORTS

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### SCOTLAND

Lesley Smith  
Physiotherapy Department  
Royal Hospital for Sick Children  
Yorkhill NHS Trust  
Yorkhill  
Glasgow G3 8SJ  
Tel: 0141 201 0061

Having survived the Heriot Watt Conference, APCP Scotland say a big thank you and goodbye to Lyn Campbell, Maggie Heggie, Helen Turner and May Dempster and welcome onto the Committee as new members, Fiona Gilbraith, Alison Morrison and Gillian Henry. The office bearers for 95/96 are:-

Chair	Lesley Smith
Secretary	Kathy Banford
Treasurer	Linda Cunningham
Course Organiser	Christine Shaw

A Gross Motor Function Measurement Course (GMFM) is planned for September, dates and details to be finalised.

### N. IRELAND

Finola Beattie  
The Royal Belfast Hospital  
for Sick Children  
180 Falls Road  
Belfast BT12 6BE

A very stimulating and information-packed 2 day course on the "Neurological Assessment and Development Care of the Pre-term Infant" was held on 9th and 10th June. The speaker was Roslyn Boyd, Superintendent Paediatric Physiotherapist at Guy's Hospital and Co-ordinator of Pre-term Assessment and follow-up at the Portland Hospital. It was obviously a subject which interested a lot of people as it was one of the better attended courses we have had recently. Some of our colleagues from the South of Ireland attended; we plan to establish closer links with their Paediatric Special Interest Group, liaising about courses etc. on a more regular basis.

The Committee are in the process of organising the 1995/96 programme. You should have received a list of forthcoming meetings with the August journal. Please bring it to the attention of any of your colleagues who are not APCP members - maybe it will encourage them to join!

We would welcome your suggestions for study days for the Autumn/Spring, so please get in touch.

Hope you all have a good summer.

### NORTH WEST

Sue Leech  
4 Hartland Avenue  
Urmston  
Manchester  
M41 9QG

The North West Committee have drawn up guidelines to enable N.W. members to apply for study bursaries. These and application forms are available upon request from Eileen Walters, Treasurer (see below). The committee will consider requests at each of the meetings held in September, December, April and June to allow funding to be spread throughout the year.

Don't forget our Video Library. We have a selection of tapes including Downs Syndrome; D.M.D. and Early Infant Assessment available from Jean Burroughs for a small hire charge (see below).

Our next study day is on "Seating". Date: Saturday, 14th October 1995, venue: Disablement Services Centre, Cheetham Hill, Manchester. See course adverts and/or the flyer for more details.

The springer 1996 A.G.M. will be on "Autism and Asbergers", date to be confirmed.

## REGIONAL REPORTS

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For Bursaries: Eileen Walters, Treasurer, Community Health Centre, Blackhall Road, Kendal, Cumbria.

For Videos: Jean Burroughs, C.D.C. Ormskirk District General Hospital, Wigan Road, Ormskirk L39 2AZ.

### SOUTH EAST

Sheila Minet  
Old Knowle  
Frant  
East Sussex TN3 9EJ

Unfortunately we had to cancel our study day on Working with Families due to lack of support. This may have been because for the first time we had decided to hold it on a Friday, as some members had found difficulties with Saturdays. However, we hope to re-organise this for a Saturday in October. Plans are progressing for Canterbury conference next year, and the programme will be in the November Journal.

### EAST ANGLIA

Sue Whitby  
3 Manor Way  
Hail Weston  
Huntingdon  
Cambs  
PE19 4LG

Our study day on ME in children was well attended. It is interesting that stress appears to be such a factor in how our bodies react to infections etc. We all were reminded how important breaks are, both during the day and as regular holidays.

We are hoping to have a workshop on Dyspraxia in October. Following our study day on syndromes, we have been asked to follow this up with Syndromes II. Please let me know what syndromes you would particularly like to hear more about.

I have not had many lists of local members as mentioned in my May report! Please get together and let me have lists of your local paediatric physios.

Many thanks for all your help on the committee to Sue Keam, who has resigned and moved away to the North West. We now have two committee vacancies and would love to hear from any of you who would like to join us.

Now that I have attended Eva Bowers' introduction to Gross Motor Function Measurement, I am keen to practise using this method of getting measurable results of physiotherapy for CP. I hope that we will all learn how to use this method well and at last have a standardised outcome measure.

### NORTH EAST

Liz Hardy  
45 Kestrel Close  
Norton  
Stockton-on-Tees  
Cleveland TS20 1SF  
Tel: (work) 01642 617617  
ext. 4869

Many thanks go to Georgina Thornton-Keighley, one of the new regional committee members who, single-handedly organised the recent study day 'Premis and Problems' at Barnsley. The day was very absorbing and thoroughly interesting - it was amazing how much information the three speakers managed to pack in! Thanks also go to Allen and Hanburys for their sponsorship.

The next event 'Hippotherapy' is to be held in the York area on October 7th. There will be a theoretical morning followed by an afternoon with practical demonstrations. Who knows, the more intrepid of you may even be able to have a go!

## REGIONAL REPORTS

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Your help is needed for two things:

Firstly, please do try to book a place at study days as early as possible. This is mainly because it is difficult to organise catering at the last moment - if you do not book in time you may miss the delicious lunch we arrange. Secondly, in 1997 it will be the turn of the North East region to host APCP's National Conference. We are just beginning to consider suitable venues, topics and speakers. We would like to set up an organising committee, separate from the regional committee, so to all those who would like to volunteer or who can offer ideas, you know where to contact me. I guarantee it will be good fun and will look very impressive on your CV!

### LONDON

Di Coggings  
7 Union Street  
Barnet  
Herts  
EN5 4HY

We have changes to our committee and welcome Maria Ash and Mary Clarke.

We are sad to say goodbye to Kim Pottinger, but congratulate her on her marriage in September and wish her all our luck on her return to "down under".

Our next Study Day shall be different as we have decided to hold it on a weekday. The Tutor shall be Diana Farragher and the Title - "Neuromuscular Stimulation Workshop" - to be held on Monday 9th October in London. For further details, please look at the back of this Journal. We all look forward to seeing you on that day to support us.

## COURSES

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Information for courses should be sent to:  
Mrs J. Reynolds, Lark Cottage, Catfield, Nr. Halesworth, Suffolk IP19 0BN

### APCP REGIONAL STUDY DAYS

#### S. WEST

#### DYSPRAXIA

Venue: Poole Hospital  
Date: **Saturday 25th November 1995**  
Cost: £20 APCP/NAPOT Member  
£25 Others  
Includes coffee and lunch  
Places: 60

This course will include a number of physiotherapists and occupational therapists involved in the assessment and treatment of children with dyspraxia giving presentations of their work.

Further details and application forms from:

Miss Pam Bernard, Sen I Physiotherapist, Child Development Centre,  
Poole Hospital NHS Trust, Longfleet Rd., Poole, Dorset BH15 2LT  
Tel: 01202 442013.

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#### E. ANGLIA

#### DYSPRAXIA WORKSHOP

Venue: Annwell View School, Stanstead Abbots, Nr. Ware, Herts.  
Date: **Saturday 14th October 1995, 9.15 am - 2.30 pm**  
Course Leader:  
Michele Lee, Physio (Co-Author APCP Dyspraxia book).  
Talks, video and practical assessment workshops.  
Cost: APCP Members £15  
Non Members £20  
Students £5

Bring a packed lunch for a 'quick' lunch.

For more information and applications please send S.A.E. to:

Mrs P. Brosnan, Hope Cottage, 10 Church Street, Great Shelford,  
Cambridge, CB2 5EL.

Tel: 01223 843 435 (home), 01223 216805 (work)

Closing date: 30th September 1995.

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## COURSES

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### N. WEST

#### SEATING

Venue: Disablement Services Centre, St Chads Street,  
Cheetham Hill, Manchester M8.

**Date: Saturday, 14th October 1995**

Speakers: Prof. Peter Bowker - Salford University School of  
Prosthetics & Orthotics  
Technical Officer Withington D.S.A.  
Seating Specialists  
Physiotherapist  
Occupational Therapist  
Specialist seating firms display of products

Cost £20 - members  
£25 - non-members

Application forms from: Carole Williams MCSP, 14 Higher Lane, Lymm,  
Cheshire WA13 0AP.

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### LONDON

#### NEUROMUSCULAR STIMULATION WORKSHOP

**Date: October 9th 1995**

Course Tutor: Diana Farragher

Looking for New Ideas?

A full day of theory and practical, covering trophic stimulation for atrophy  
and disuse atrophy in a variety of paediatric conditions ranging from  
Talipes to Cerebral Palsy.

Students £20

Members £35

Non-members £40

For further details and application form, please contact:

Di Coggings, Paediatric Physiotherapy, Mile End Hospital, Bancroft  
Road, London E1 4DG. Tel: 0171 377 7874.

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### W. MIDLANDS

#### DYSPRAXIA DAY

Venue: Post Graduate Centre  
Birmingham Childrens Hospital.

**Date: Saturday 23rd September, 1995**

Time: 10.00 am - 4.15 pm

Speaker: Michele Lee

Cost £20 ACP Members  
£25 Non-members (to be finalised)

Further details from:

Sally Braithwaite, 531 Church Road, Yardley, Birmingham B33 8PG



## COURSES

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### OTHER COURSES

#### CONDUCTIVE EDUCATION TOWARDS "2000"

##### Friday & Saturday 10/11th November

Venue: To be confirmed.

This conference is aimed at establishing North West Children's Centre based on the principles of Conductive Education, with a commitment to research and training.

Speakers to include: Dr Lillemor Jenquist - Craighalbert Centre, Scotland.

Howard Probert - School for parents - S.C.O.P.E.

Maureen Lilley - Director of Hornsey Centre, London.

Prof. Peter Bowker - Salford University.

Jacque Melia - School of Physiotherapy, University College, Salford.

Enquiries to:

Dr Kevin Foreman, Salford School of Physio, University College, Salford, Frederick Road, Salford M6 6PU.

Tel: 0161 736 6541.

#### CODE OF PRACTICE FOR STATEMENTING

Venue: Victoria School, Bell Hill, Northfield

**Date: Wednesday Evening, October 18th, 1995**

Time: 6.30 pm Coffee, Lecture 7.00 pm.

Speaker: Jane Ledbetter

Cost (to be confirmed) Free to Members

£1 Non-members

Further details from:

Sally Braithwaite, Transfer to Reg Study Day.

531 Church Road, Yardley, Birmingham B33 8PG.

## COURSES

### Postgraduate Certificate in Paediatric Studies

September 1995

This Certificate is the only specialist Course of this kind at postgraduate level. It is registered by the Chartered Society of Physiotherapy (CSP) as a recognised course in their PACE scheme. Aimed at professionals working with children - physiotherapists, occupational therapists, nurses and speech and language therapists - the course comprises four units of study running in three one week blocks, over one semester.

Successful candidates will be awarded 36 credits at Level M, which can be accredited to further areas of study they may subsequently undertake at postgraduate level.

The units of study are as follows:

- Psychosocial aspects of development (12 credits)

- Physical aspects of development (12 credits)
- Legislative issues in child health and education (6 credits)
- Team management and professional practice (6 credits)

The course may also be linked to other units available within the various Postgraduate Awards in Health and Social Care offered by the School of Postgraduate Studies, leading to a MSc in Health and Social Care.

To apply, you will need a first degree, usually in Health or Social Science, or an equivalent level professional qualification linked to the field of Paediatrics. Professional or vocational experience is also essential.

The tuition fee is £375.



UCE

University  
of  
Central England  
in  
Birmingham

Please address enquiries to:

The Admissions Officer, Faculty of Health and Social Sciences, University of Central England in Birmingham, Perry Barr, Birmingham B42 2SU.

Tel: 0121 331 5500/5502.

September 7-8

Salford.

#### ORTHOTICS FOR CLINICIANS, NURSES AND THERAPISTS

A study day and workshop. Co-ordinators: Dr Shyam Rithalia and Mr Mike Gilligan.

Further information from: Mrs Norah Virtue, School of Prosthetics and Orthotics, Statham Street, Salford M6 6PU. Tel: 0161 736 1594.

Fee: £50 (or £28/day) payable to 'University College, Salford', (a), (b), (c), (e), (f), (h).

Closing date August 24.

September 27-29

Leeds.

#### PAEDIATRIC RESPIRATORY CARE

Three-day course predominantly designed for physiotherapists who are looking to specialise in paediatric respiratory care and those who participate in paediatric on-call rotas. Topics covered will include paediatric and neonatal intensive care and surgery, and general medical paediatric respiratory care.

Applications to: Mrs C. Passingham MCSP or Mrs P. Price MCSP, Paediatric Therapy Department, A. Floor, Clarendon Wing, Leeds General Infirmary, Belmont Grove, Leeds LS2 9NS. Tel: 0113 2923771.

Fee: £100 or £35 per day, (a) Friday only, (c), (d), (g), (h).

Closing date September 14.

## COURSES

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October 9-13

Stockport.

### **SENSORY INTEGRATION INTERNATIONAL: NEUROBIOLOGICAL FOUNDATION AND TREATMENT FOR SENSORY INTEGRATIVE DYSFUNCTION**

A five-day multidisciplinary workshop - lectures and case studies. Intensive course providing the prerequisite for the SIPT foundation for Understanding the Principles of Sensory Integration theory and treatment. Tutor: Sue Young, Sensory Integration International.

Apply to: Mrs Hilary Tidey, Head Occupational Therapist, Learning Disability Resource Centre, Marple Road, Stockport, Cheshire SK2 5ER. Tel: 0161 419 9644.

Fee: £230 BISI members  
£250 others, (a), (c).

Closing date: September 15.

October 30 - November 1  
(three days)

Birmingham

### **PAEDIATRIC RHEUMATOLOGY THERAPY COURSE**

University of Birmingham Conference Park, Edgbaston, Birmingham. Three-day course for physiotherapists and occupational therapists, covering all aspects of treatment of juvenile chronic arthritis (places limited to 24).

Tutors: Staff of the Childhood Arthritis Unit, Birmingham.

Apply to: Mrs Ann Parkin MCSP, The Childhood Arthritis Therapy Unit, Ward 14, The General Hospital, Steelhouse Lane, Birmingham B4 6NH. Tel: 0121 236 8611 ext 5494.

Fee: Residential £250  
Non-residential £150, fully inclusive, (b), (c).



### **TOWER HAMLETS HEALTHCARE NHS TRUST**

providing community and  
mental health care in east  
London

An orthopaedic approach  
in the ambulant child with  
neurological problems: with  
reference to the lower limb

**Date:** October 2 & 3, 1995

**Venue:** Royal London Hospital, Mile End

**Speakers:** Stephanie Cawker - Senior physiotherapist THHT

Mark Paterson - Orthopaedic consultant RHT

Steve Jackson - Orthotist - Camp

Debbie Beneke - Senior physiotherapist THHT

Di Coggings - Superintendent physiotherapist THHT

Roslyn Boyd - Superintendent physiotherapist Newcomen  
Centre, Guy's Hospital.

**Course Content:**

**Monday 2nd October:** Gait analysis, orthotic management, multiple level surgery and its rehab. Workshops on the assessment of the ambulant child with neurological problems with reference to the lower limb.

**Tuesday 3rd October:** Serial Inhibitory Plasters, Indications, workshop and problem solving.

Cost: £35 per day, £60 both days.

For further information and a course programme, please contact:

Helen Short - Course Organiser, Paediatric Physiotherapy Department,  
Royal London Hospital - Mile End, Bancroft Road, London E1 4DG.

Tel: 0171 377 7874.

## COURSES

*NAPOT ANNUAL CONFERENCE  
CAERLEON '95*

*CHILDREN AT PLAY  
A CREATIVE APPROACH*

**14-15 September 1995**

The Conference will appeal to all Therapists working with children, their families and carers.

The programme will include:

- \* **Key note speakers**
- \* **Seminars and practical workshops**
- \* **Resource and Equipment Exhibition (open to public)**

(Accommodation available at a very reasonable price)

For further details:

Sharon Drew, Senior Occupational Therapist, Eveswell Children's Centre, St John's Road, Newport, Gwent. Tel: 01633 274832.

**HIPS IN  
CEREBRAL PALSY**

**Date: Monday 4th September**

You are invited to a study day at Victoria School to consider hip displacement in Cerebral Palsy children. The programme will include radiological assessment and recording, orthopaedic and physiotherapy management and information on the development and use of a dynamic brace.

Our invitation is extended to all medical staff who are interested or involved in managing this complex problem and we feel sure the varied programme will make it a very valuable day.

For programme and application form please apply to:

Carol Sammons, MCSP, Victoria School, 12 Lindsay Road, Branksome Park, Poole, Dorset BH13 6AS.

Study day fee £25 MCSP

£20 Student

£30 Others

Speakers include: Mr M. Cornell, FRCS, recently at Newcomen Child Development Centre and Mrs S. Missen, MCSP, Bristol Royal Hospital for Sick Children.

# Training in CranioSacral Therapy

The Upledger Institute's intensive workshops take graduate students through CranioSacral Therapy and SomatoEmotional Release to their application at Advanced level and beyond.

CranioSacral Therapy is a gentle, safe but profoundly powerful approach which works through the fascia and cerebrospinal fluid. It is effective in releasing and neutralising many of the causes of chronic pain, illness and disability especially where physical or emotional trauma, whether sustained before, during or after birth, are involved. A complete system of deep release techniques, it also melds naturally with other hands-on routines.

Dr John E Upledger originally started developing his evaluative and treatment routines over 20 years ago when conducting widescale clinical research amongst children within the Illinois public school system who suffered various forms of brain dysfunction. Subsequently refined, his original approach has proved easily adopted by therapists of good intention, but from any background, who have a sensitive touch.

The routines and techniques taught at the entry-level workshop - CranioSacral Therapy I - can be immediately integrated with existing practice involving patients aged around nine years and upwards. For younger patients (0-8 years) additional guidance is given at the second level of training, when students will have had time to practise their foundation techniques.

## **Programme**

CranioSacral Therapy I	<b>Dublin</b>	September 16 - 19
	<b>Edinburgh</b>	October 19 - 22
CranioSacral Therapy II	<b>Edinburgh</b>	November 30 - Dec 3

Fees: CST I £395, CST II £445 include comprehensive study guides, refreshments and lunches. For details of registration and required and recommended reading, please contact:

 **THE  
UPLEDGER  
INSTITUTE U.K.**  
52 MAIN STREET, BRIDGEND  
PERTH PH2 7HB, SCOTLAND  
TEL/FAX 01738 444404

## JOB VACANCIES

### VICTORIA SCHOOL

*The Shaftesbury Society*

#### Chartered Physiotherapist Senior I Whitley Scale

**Term time only - 39 school weeks + 5 weeks paid holiday**

*Victoria School in Poole, Dorset is a school for children with physical disabilities aged between 3-19 years. We are seeking an energetic and motivated Physiotherapist to join our enthusiastic and caring team.*

*Some paediatric experience would be preferable but not essential as a programme of induction and training will be offered followed by on-going education and a staff development programme.*

*This is an opportunity to work in this busy and friendly school with a multi-disciplinary approach.*

*For further information contact: Carol Sammons MCSP, Victoria School, 12 Lyndsay Road, Branksome Park, Poole, Dorset BN13 6AS.*

### WEST HERTS COMMUNITY HEALTH (NHS) TRUST

**Senior I Physiotherapist - Paediatric (full time/job share)**

#### MEADOW WOOD SCHOOL FOR PHYSICALLY HANDICAPPED CHILDREN, BUSHEY

The children attending Meadow Wood transferred last December from their old school premises to a brand new, purpose built school for physically handicapped children with fantastic facilities.

The children are aged from 3-11 years and the majority of them have cerebral palsy. The staff of that school are enthusiastic and keen to integrate therapy into the school day. The Headmaster is very supportive of all the therapists' work.

The Paediatric Therapy Team are all enjoying the idyllic situation in school, when DISASTER, the physiotherapist whose major commitment is to run Meadow Wood decides to leave us and go to Australia.

We need a physiotherapist who has all the usual expected characteristics:

enthusiasm	dynamic
adaptable	highly motivated
capable	resourceful, etc

plus the ability to work with a variety of other professionals, especially those in education.

We need a physiotherapist who has paediatric experience, who preferably has attended the full Paediatric Bobath course and has an understanding of the postural management of physically handicapped children to work in Meadow Wood School.

Come and join our friendly and supportive multi-disciplinary team of Paediatric therapists working in the community in South West Hertfordshire. We can offer personal and professional development through staff appraisal, an established programme of in-service training, both clinical and managerial plus support and funding for relevant external courses.

Hours of work are negotiable, full time, part time or job share and could include reduced hours during school holidays.

Car driver with current driving licence is essential. Regular car allowance is payable.

**For further information or for an informal visit please contact Trish Nicholson, Superintendent Paediatric Physiotherapist at Watford General Hospital. Tel. 01923 244366 bleep 191.**



## JOB VACANCIES

### WALSALL COMMUNITY HEALTH TRUST COMMUNITY PHYSIOTHERAPY SERVICE

#### Senior I/II Physiotherapist - Paediatrics Full Time or Part Time considered

Due to a re-organisation within the Community Physiotherapy Service, we have an exciting new post on offer to a suitably qualified physiotherapist.

You would be joining a friendly, dedicated team of professionals who provide a high quality paediatric physiotherapy service to children in Walsall. The service is offered in domiciliary, school and other community settings as appropriate, but the main portion of your time would be spent at Three Crowns Special School. There would be opportunities to work in other areas of the paediatric service. Experience in the paediatric field would obviously be an advantage, but if you are seeking to enter this particular speciality we would be willing to train you.

Career and personal development is actively encouraged in this service and we have several new developments in the pipeline which, if they are of special interest, you could be invited to take forward.

As the job is community based, you must be a car driver with a clean driving licence.

We are implementing a Waiting List Initiative at the present time, so the successful candidate would be offered a substantial financial incentive over and above the Whitley Council pay guidelines.

For an informal discussion/visit please ring Sue Morris, Acting Physiotherapy Manager on 01922 647878.

**For an application form and job description please contact the Personnel Department, Walsall Community Health Trust, St Margaret's, Great Barr, Birmingham B43 7EZ. Telephone: 021 360 4862 (answerphone) quoting job reference C/24/95.**

Closing date for completed applications: 1 September 1995

An NHS Trust - committed to becoming an equal opportunities employer.

### TOWER HAMLETS HEALTHCARE NHS TRUST

#### SENIOR II PHYSIOTHERAPISTS PAEDIATRICS - ROTATIONAL



Two vacancies have arisen to join our team of 10 physiotherapists, working on a 9 to 12 month rotation between acute and community settings.

The posts offer opportunities to work with experienced Senior Staff both at the Royal London Hospital and in the Community, gaining experience in a wide range of conditions such as head injuries, multiple trauma and multiple level surgery on neurologically impaired children.

Paediatric experience is not necessary.

**For an informal visit, further information and/or application forms, please contact Di Coggings, Superintendent Physiotherapist, Paediatric Physiotherapist, Mile End Hospital, Bancroft Road, London E1 4DG. Tel: 0171 377 7874.**

## JOB VACANCIES

### NORTH STAFFORDSHIRE COMBINED HEALTHCARE NHS TRUST

Primary Care Directorate

Physiotherapy Services

Job Share

Senior I Merryfield School + Child Development Centre

Full time - Flexible working arrangements offered

#### SENIOR I PHYSIOTHERAPIST

Full time, job share Child Development Centre, Newcastle, Staffs. Merryfields School, Newcastle, Staffs.

An experienced Physiotherapist is required for this shared post, at the Child Development Centre and Merryfields School for Children with Learning Disabilities.

At the Child Development Centre, the multidisciplinary team works to provide appropriate input to children under 5 with special needs by means of home visits and individual and group treatments within the Centre.

Merryfields School is sited in a modern building with hydrotherapy pool. The Physiotherapy staff are an integral part of the team providing holistic management of the childrens' needs.

Good communication, inter-personal skills, and the ability to organise staff and helpers are required for this post, and the opportunity to support placements for students from Keele University may also arise.

All staff are encouraged to participate in in-service training, staff appraisal and skill sharing in order to extend their clinical and managerial skills.

**For information, informal visits and application forms, please contact: Mrs Jean Johnson, Superintendent - Paediatric Service, Smallthorne Health Centre, Baden Road, Smallthorne, Stoke-on-Trent ST6 1SA. Tel: 01782 832932.**

Combined Healthcare operates a no-smoking policy and is working towards equal opportunities.



### TRENGWEATH SCHOOL, PLYMOUTH

#### SENIOR I PHYSIOTHERAPIST

**Full Time Post commencing September 1995**

We require an enthusiastic and experienced Paediatric Physiotherapist, preferably with Bobath training and expertise in hydrotherapy.

You will join a multi-disciplinary team in a well resourced centre for children with neurodevelopmental disorders, age range approximately 1-17 years.

The service includes a special school, nursery, school for parents, respite care and work in the community.

Flexible hours, job share considered. Car driver essential.

**For further information, please contact: Flok de Rijke-Winter, Therapy Co-ordinator, Trengweath School, Hartley Road, Plymouth PL3 5LW. Telephone 01752 773735/771975.**

## Notes for Contributors

The Editorial Board welcomes research material; referenced articles and evaluations of physiotherapy practice; informal articles.

Manuscripts should be sent to Lin Wakely, 2 Ash Bank, Pipers Ash, Chester, Cheshire, CH4 7EH, U.K.

Copy to be submitted should be typed on one side of the paper, double spaced and with ample margins. All pages should be numbered consecutively.

**Manuscripts** should provide the title of the article and the author(s) name(s) and full postal address for correspondence.

**References** should be given in the Harvard System.

In text Author(s) name and initials followed by the date of publication. Use a,b, to indicate more than one publication in the same year. Where there are 3 or more authors use first name followed by et al.

For books Laszlo, J. & Bairstow, P. (1985) *Perpetual Motor Behaviour* (Rinehart and Winston)

For chapters

within books Morley, T.R. (1992) Spinal deformity in the physically handicapped child, in : G.T. McCarthy (Ed). *Physical Disability in Childhood* (Churchill Livingstone)

For articles Scott O.M., Hyde S.A., Goddard C.M., Dubowitz V., (1981a) Prevention of deformity in Duchenne muscular dystrophy. *Physiotherapy* 67(6), 177-80.

## Tables and Figures

The approximate position of the tables and figures should be indicated in the manuscript.

Keys to symbols should be included.

Tables should be numbered by Roman numerals and figures by Arabic numerals.

Figures should be supplied in a finished form, suitable for reproduction. Figures will not normally be redrawn.

Proofs will be sent to authors if major alterations have been made to the text.

The Editorial Board reserves the right to edit material submitted for publication.

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## **In this issue**

**Hippotherapy - A Therapeutic Option**

**Special Needs Gymnastics**

**Fitness for Life**

**The Upside Down Swimming and Sports Club**

**The Penguin Asthma Swimming Club**

**Juvenile Chronic Arthritis -**

**The Vancouver Experience**

**Dynamic Ankle Foot Orthosis - Tone Inhibiting**

**A visit to the Craighalbert Centre**

**Evaluating Therapy in Cerebral Palsy**

