ASSOCIATION OF PAEDIATRIC CHARTERED PHYSIOTHERAPISTS

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EDITORIAL

LIN WAKLEY
Editor

The main theme of this journal is the AGM which was held in Newcastle on 17th April. As usual I have included the officers reports. This year, because our annual conference is part of CSP Congress in October, the AGM was part of a Study Day and I have been able to include notes from two of the excellent lectures presented that day.

I continue to be amazed at the quality of the articles I receive for inclusion in the journal. Yet again I have four interesting items which I hope you find interesting and stimulating.

The letter pages continue to be very busy. I would like to ask again that, if you do reply to a letter, you will consider sharing you reply with the rest of the membership. There have been several letters recently that I would have been interested seeing the replies to.

Don't forget September journal is on **Syndromes** and we are looking for some case studies on children with interesting or unusual conditions. **Can you help?**

Copy for the

SEPTEMBER 1999 JOURNAL

must be with the editor by

1st AUGUST 1999

The editorial board reserves the right to edit all material submitted

IF POSSIBLE, PLEASE SUBMIT COPY ON FLOPPY DISC IN WORD 6 FORMAT.

Sophie Levitt
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01225 782 267

Dear Lin,

I am delighted that you published Lyn Campbell's interesting article on parent/child relations in the March issue. It is rare for physiotherapists to write about the feelings of parents, perhaps assuming that other disciplines are better placed to do so.

I have been exploring the feelings and thoughts of parents in general and specifically in the context of physiotherapy. This has happened in many workshops I have facilitated with parents, professionals and both together, as well as in my clinical experience. One of our findings has been certain differences between views of parents and professionals. For example, parents say they received insufficient information or conflicting information from different therapists. It is also true, as Lyn Campbell finds, that distressed parents cannot absorb too much information and deny that they were ever given it. How do we judge what is "too much" information for the **individual** parent? In what way do we present information so that it is accepted and remembered?

Parents also stated that professionals sometimes treat them as if "they are idiots" or "mentally retarded like my child" and regularly feel their insights and skills are underestimated. How do we enable parents to feel in charge yet gain professional expertise? Teaching by showing and repetitive advice maintains the therapist in the role of expert. It is a contradiction for a parent to then be told that they are the experts on their child. This needs to be carefully clarified for it takes any parent their own time to become an expert on their child's "person" let alone on their child's condition. Parents can learn and we need to study how the learning of distressed adults can be facilitated. None of us learn well when we are upset or anxious - especially when the subject is unfamiliar.

Unfortunately, the traditional teaching of physiotherapy has omitted the important area of feelings of parents as well as of physiotherapists confronted by the very distressing situation of disabilities. We need more training in active listening, in how to receive information and in how to negotiate whilst developing our own confidence as sensitive professionals. We enable parents to achieve new skills and also support them as they sort out their thoughts and feelings. My interest is in how we facilitate their skills or handling so that they can sort out many of their thoughts and feelings in order to use these skills more effectively.

Over time I have further evolved my Collaborative Learning Model with parents which makes it easier to manage different viewpoints with them. (This is only published in the Third Edition of my book "Treatment of Cerebral Palsy and Motor Delay"). Perhaps interested paediatric physios would like to set up some Workshops to discuss more deeply parent/child relationships in our practice. Please contact me.

Yours sincerely

Sophie Levitt

LETTERS TO THE EDITOR

Moira Melville MCSP
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Dear Editor

I am currently treating a two year old little girl who it is thought has some type of periperal neuropathy, but is as yet undiagnosed and under medical investigation.

One of her problems is the absence of any reaction to painful or heat stimuli. This causes great problems for her mother at home and already she has many scars from accidents and burns. Her mother is keen to communicate with other parents in a similar position for support and advice. If any therapist knows of a child with similar problems and whose parents would be willing to correspond with her would they please contact me.

Thank you for your help.

Yours faithfully

Moira Melville MCSP

Senior Physiotherapist

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Dear Miss Wakley

Re: Electrotherapy

I am currently trying to gather information, research and views on the use of electrotherapy in paediatrics.

It appears that some physiotherapists use ultra sound, pulsed shortwave and Transcutaneous Electrical Nerve Stimulation, and others don't.

I have always been led to believe that modalities should not be used directly over 'rapidly dividing tissues' including epiphyseal plates. However I am unable to find a research base to either confirm or reject this opinion, despite a recent letter in Frontline and numerous letters to key people.

I would be very grateful to hear from anyone who has research or even just an opinion on this matter.

Yours sincerely

S. J. Yardley

Senior II Paediatric Physiotherapist

Joy Donaldson
Senior Physiotherapist
Hull & Holderness
Community Health
NHS Trust

Dear Lin

We have recently been asked by our Trust Management to produce Integrated Care Pathways for our Community Paediatric Physiotherapy Service. We would be very grateful to hear from any other paediatric physio team who are embarking on a similar process.

Please contact Joy Donaldson or Angela Green at Frederick Holmes School, Inglemire Lane, Hull HU6 8JJ (Tel. 01482 804766 - Physio Dept.)

Yours sincerely

Joy Donaldson

Senior Physiotherapist

Heather Epps MSc
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Dear Miss Wakley

I was wondering if it would be possible to incorporate the request below for paediatric physiotherapists to assist in a hydrotherapy study into the APCP journal in June.

Paediatric physiotherapists - you may be able to help in hydrotherapy study

At a time when many hydrotherapy pools are under threat of closure the NHS has requested evidence as to whether hydrotherapy is a cost-effective form of treatment. That is, whether the benefits of treatment to the patient outweigh the costs of the service and if those benefits can be achieved without hydrotherapy.

I am a physiotherapist about to undertake a study to examine the cost effectiveness of hydrotherapy in children with rheumatic disorders. The trials are being funded by the NHS research and development executive (government funded). It will be the first large multi-centred randomised blinded study in this area and as such has huge implications for hydrotherapy. The results will no doubt influence NHS managers when considering opening or closing hydrotherapy pools.

I am currently attempting to identify physiotherapists who treat children with rheumatic disorders. I will be requesting the involvement of local physiotherapists who treat children from Great Ormond Street Children's Hospital, Middlesex Adolescent Unit and Birmingham Children's Hospital and have access to hydrotherapy. The study protocol involves a two week in patient period followed by once weekly treatment on an out patient basis for 12 weeks following discharge. We will be providing appropriate training at no cost in July 1999.

If you are involved in the physiotherapy management of any children with rheumatic disease who attend any of these centres and could gain access to hydrotherapy I would be very interested to discuss the study with you.

Yours sincerely

Heather Epps

Susan Rideout
Elen Wright
Senior Physiotherapists
The Birmingham Children's Hospital
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Dear Colleagues

We are a group of physiotherapists with an interest in paediatric neurosurgery. Our experience varies from treating the occasional patient to a full neurosurgical caseload.

The aims of the group are to

- create a network of interested physio's.
- to provide support, advice and ideas for colleagues working in the same area.
- To disseminate knowledge.

We meet annually to discuss various aspects of treatment. Each day having a specific theme.

We would be pleased to hear from anyone interested in becoming involved with the group.

For further information contact either Elen Wright bleep 55046 or Susan Rideout bleep 55112 at The Birmingham Children's Hospital, Tel 0121 333 9999.

We look forward to hearing from you.

Susan Rideout

Elen Wright

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Penny Large MCSP
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Pat Lewis Child Development Centre
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Dear Sir/Madam

We represent the West Herts paediatric physiotherapy team who are currently researching packages of care offered to children with Down's Syndrome - prior to auditing the service we currently offer to these children in our care.

We would be interested to hear from any paediatric therapists on their current practice in the uni or multidisciplinary setting. We would appreciate comments by Friday 11th June 1999.

Andrea Holder

Penny Large

MANAGING A PAEDIATRIC APPLIANCE BUDGET

FIONA CORKHILL
MCSP

The philosophy within the Loddon NHS Trust Child Health Directorate is to pass budgetary control as far down the organisation as possible to enable clinicians to actively participate in financial management. I have, therefore, had managerial responsibility for the paediatric appliance budget for the past five years. As clinicians we are given considerable freedom to assess and make recommendations to Paediatric Consultants on the prescription of orthoses. The difficulty has been the ease with which repeat prescriptions have been sanctioned with little questioning of whether there was still an identified need or benefit to the child. With Consultants being the prescribers it puts one in a difficult position when trying to control expenditure.

A gradual increase in expenditure of the budget, year on year, was becoming apparent which reached a point four years ago when it was overspent by approximately 33%. It was clear that expenditure was running out of control and the factors causing this had to be identified.

The service consists of clinics held bi-monthly in three of our special schools and at two out patient sites. All clinics are run jointly with the orthotist and children are seen for both assessment and review. Child Health has a service agreement with the Acute Trust's in house Orthotic Department which has developed an excellent computer system for recording all patients against a named Consultant detailing items supplied.[1] Quarterly reports identify the number of patients seen, the cost of appliances prescribed and expenditure per consultant. This information has gradually become more refined to enable us to see at a glance the total annual expenditure on specific items. In addition to this Loddon Trust's Finance Department provides a monthly graph of actual versus average expenditure with a list of all items invoiced that month against a named child. This is useful because there is a delay between the time an item is invoiced and the time it takes to be costed against the budget.

Having such detailed information enabled a number of issues to be addressed .The first step was to identify those children who had transferred to adult services who were still having appliances prescribed by Paediatricians. This was due to the fact that there was no system for adults with physical or learning disabilities to obtain appliances unless they were under an Orthopaedic Consultant. This became a management issue for the Trust to deal with and the Consultant responsible for learning disability services established an orthotic service for these young people.

The annual expenditure against items prescribed was then examined and this identified a pattern emerging of expenditure on certain high volume and /or high cost items increasing year on year. These were:-

- Bespoke footwear

- Ready made footwear
- Ankle foot orthoses/dynamic ankle foot orthoses (AFO's/DAFO's)
- Insoles
- Spinal orthoses
- Special seating

The significant amount spent on special seating for children under five years of age was a result of the long term development of a seating system for pre school age children with neurological impairment which was part funded by Child Health through this source.[2]

Having identified the main causes for increasing expenditure a proposal was presented to the Child Health Clinical Policy Board with an action plan for controlling and if possible reducing expenditure. The key points were:-

1 To obtain agreement from the wheelchair service to fund pre - school age children with a clearly identified long term need for special seating.

2 To establish a clinical forum between physiotherapists and orthotists to develop guidelines through consensus on the assessment and prescription of orthoses.

The first point was achieved through a series of meetings where agreement was reached to transfer funding responsibility over a two year period for those children whose seating had been funded by Child Health.

To achieve the second point a series of workshops were held when we brainstormed our thoughts on the needs of children at different stages of development according to the degree of disability, level of independence expected or achieved and nature of muscle tone.

We identified those children who had presented us with problems of compliance particularly those with increased tone who were unable to tolerate the pressures created in weight bearing of either fixed or hinged ankle foot orthoses. There was also a developing interest in the value of the DAFO and we were concerned that like AFO's they may become fashionable and could potentially become prescribed with no real evidence of their benefit.

We reached agreement on the following :

- Pre school children would not receive prescribed ready made footwear except in exceptional circumstances with the agreement of the child's Paediatrician
- Children prescribed DAFO's would not have prescribed footwear

- The parents of non walking children (total body involvement) would be given advice on purchase of normal footwear.
- Children in prescribed footwear would receive no more than three pairs a year and supply should be staggered for exceptionally heavy users who required repeated repairs.

In addition we devised a protocol for the assessment and prescription of DAFO's targeting :-

- children with hypertonia, aged 2-5 years with either diplegia or hemiplegia
- children with hypotonia aged 2 - 5 years who required close structural control of their feet.

The following procedure had to be followed by the physiotherapists to ensure due consideration was being given to the possible clinical benefit of the intervention.

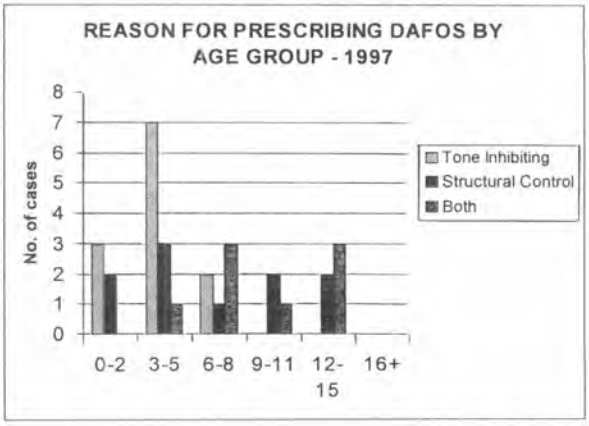
1. Referral to orthotic clinic for assessment
2. Discussion of recommendations and planned intervention with parents and Paediatrician
3. Obtain signed AOF 1
4. Video current gait pattern
5. Arrange provision of orthoses (plaster casting and fitting)
6. Agree a review and re-assessment process with specific time scales
7. Video gait after provision of orthoses
8. Repeat prescriptions would follow the same procedure with justification that a positive clinical benefit could be identified in either improved functional ability or sustained control of foot structure.

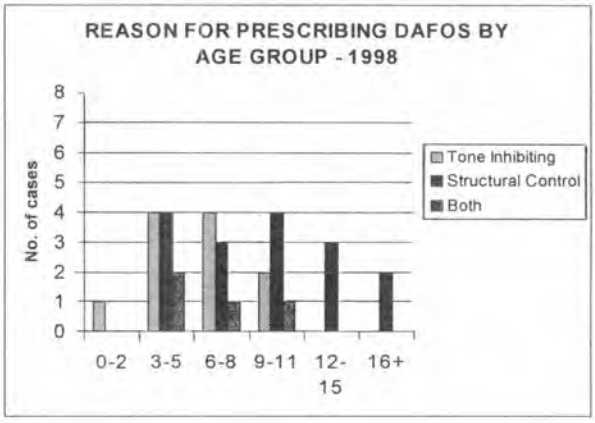
An audit was carried out in 1997 and repeated in 1998 to identify the numbers of children prescribed either DAFO's or dynamic insoles.

The following questions were asked specifically about the prescription of DAFO's and identical questions regarding the prescription of dynamic insoles:-

- How many of your caseload are in DAFO's?
- How many of this client group fall into each of the age ranges?(banded from 0-16+ years)
- How many were prescribed DAFO's for tone inhibiting/structural control reasons?
- How many wear DAFO's with Piedro boots /normal footwear?
- How many wear DAFO's on one foot/both feet?
- How many of this group also wear dynamic insoles?

The analysis identified that children within banded age groups from 0 - 16+ had all been prescribed either DAFO's or dynamic insoles. The greater proportion being between the ages of 2 - 8 years. The percentage of the individual physiotherapist's total caseload identified by location provided a comparison between mainstream and special school provision. There was an increase in the number being worn with normal footwear in the second year.





It was clear when we established the guidelines that a process of education and evolution would have to occur for the parents, physiotherapists, orthotists and Consultants. There was also agreement that, working within the allocated budget, children with a clear clinical need should not miss out due to forceful parents or carers obtaining repeat prescriptions of footwear where there was no justification of positive clinical outcome. A wide variety of boots and shoes are now available in the high street and we endeavoured to ensure that parents were given appropriate advice and support to enable them to purchase suitable footwear. If adaptations to these were required they would be assessed for and identified through the clinics.

We are now into the third year of the cycle since agreeing our guidelines. Having demonstrated a reduction in both number of items prescribed and expenditure for high cost items, despite an overall increase in the cost of orthotic hardware, the figures were presented to the Trust Finance Director with a request for an increase in the budget. It was agreed that as the actual budget had remained static for a considerable time that an inflationary uplift could be considered if a cost pressure could be identified in orthotic hardware. The NHS Supplies Department confirmed that Orthotic product prices set by the NHS Supplies Purchasing Agreement for the Supply of Orthoses increased by on average 2.4% for the period 1997/98. The Orthotic Department also had evidence of an increase in the cost of non stock specialist items of 7% for 1996/97 and 5% for 1997/98.These items which included DAFO's accounted for 50% of our expenditure. At the mid point of this financial year the appliance budget is underspent for the first time and an inflationary increase has just been agreed and transferred to the budget.

The whole process has been a useful exercise which will stand us in good stead when we have to consider the implementation of Clinical Governance. One benefit has been in having proved that despite increasing costs a reduction in expenditure for two consecutive years has been achieved and we have clear evidence that, in the majority of cases, only those children with a clearly identified need are receiving orthoses. The greatest benefit has been in the cultural shift of both parents and physiotherapists in acknowledging that a diagnosis of neurological deficit does not automatically mean prescribed footwear! Inevitably those children with the most complex needs will continue to be heavy users of orthoses but this need will be justified if the prescribers are working to a procedural policy which ensures routine reassessment and review of need.

We have recently become aware that there is evidence of reduced activity at all our clinics due in part to a bulge of teenagers moving through to adult services but also fewer pre school age children coming through with moderately severe disability. It will be interesting to observe whether a trend is emerging of a changing pattern of disability and we will be monitoring our referral patterns closely over the next year or two.

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AN INVESTIGATION INTO WHY CARERS FIND IT DIFF FOR THEIR PRE-SCHOOL CHI

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Key words
Paediatric, compliance, stress, therapeutic partnership

AUTHOR'S SUMMARY

Pre-school children with long term problems are treated in the community by physiotherapists in partnership with their parents. Physiotherapy is only a part of the package. Stress mounts, families find the therapy less worthwhile, and disillusionment occurs with therapeutic partnerships becoming difficult.

A questionnaire sought carers' views of physiotherapy, how it integrates with other services and the reasons for apparent non-compliance. There were 17 replies from 26 sent out (65.4%). The questionnaire contained a Strain Index of parental stress. This was set against the physiotherapy achieved to find a relationship. None was found. Physiotherapy findings were that parents do the therapy in their daily routine, and are happy with the service, but mothers feel they want more help from the family (47%), other concerns were about the pain experienced by the child, and dislike of doing therapy (each 17.5%). The problem may be one of physiotherapist expectation exceeding the parents' perceived need for treatment.

Recommendations are for therapists to actively seek to involve more family members, to continue knowledge-giving, and ascertain the parents' feelings towards therapy.

INTRODUCTION

"Working Together" is the title of the 1989 Children Act, and all agencies dealing with children are asked to set them in their world and provide them with services which are, "accessible, acceptable and appropriate" (Shaw 1986 cited in Swannick 1993) and according to the parents' own estimate of need.

It is apparent that the State and society expect parents to take on more care and responsibility of their handicapped children. Children now have most of their early-years care totally at home, including therapy.

How do parents cope with these increased demands of care, responsibility, behaviour, dependency, appointment keeping and therapy input? Parents of handicapped children are subject to increased stresses in their lives. Physiotherapy at home happens in a primary health setting as part of a total healthcare package: does this make sense for the patient and his/her family as they see it? Are they able to follow out treatment agendas as expected? Do they find it overburdening? We need to assess our care and the expectations of the family from their point of view.

The notion of patient compliance, with the family doing as they are told and a minimum of knowledge has been transformed into patient autonomy (Wilson-Barnett 1989) with the therapist and parent working as a team.

After the honeymoon period is over and the child needing long-term care is not improving as has been expected, the therapist can begin to believe that not as much physiotherapy is being done as necessary. Expectations of the family and therapist fail, and the relationship with the family, and between the family and community team can begin to deteriorate. This leads to disenchantment with the therapist, her services and wider services. The child then achieves even less. Are we right? Are the families not doing as much as we expect, and if not what makes it difficult for them to carry out therapy?

Despite the current concept of the patient as a consumer of health care services, there is little physiotherapy literature from the patients' point of view. Asking questions about parental expectations, family stresses, the amount of therapy they realise and their views of the service may help us in our service planning and delivery. Can a forecast of stress factors acting on the family stem possible problems with the amount of therapy the family is able to achieve and thus preserve the family/therapist relationship?

LITERATURE REVIEW

There are some accounts of how parents would like their own and their child's needs managed. In 1990 Rosenbaun surveyed 50 young disabled children and found benefits for some aspects of initial assessment at home compared to clinic, but the parents expressed preference for therapy intervention at home. Two thirds of a group of 67 parents of Cerebral Palsied children (Tarran 1981) called for home visits to be instituted to counter their feelings of isolation, to provide information and advice about the diagnosis and treatment and emotional support.

A study by Short (1989) on 40 children learning to walk found that earlier parental involvement enhanced the children's walking skills. Some parents reported increased confidence and parenting skills, when there was sufficient support for them. An observed effect was improved child-mother interaction resulting in better handling techniques. Von Wendt (1984) in another small study of 39 parents found most could adequately carry out home treatments, and the therapist adopted the role of "family counsellor". These investigations show that parents are very willing to learn about and be involved in their child's ongoing therapy if they feel adequately trained and supported physically, socially and emotionally.

Bower (1992) found that in a school functional goals intensively practised and reinforced by carers did lead to retained daily-life skills. Mayo's (1991) trial compared infrequent non-specialised home based physiotherapy with a school based intensive specialist programme. The intensive programme succeeded. However with the very handicapped goals may take a long while to realise, and the therapy becomes repetitious and frustration sets in.

Private healthcare and government policy has advanced the notion of the patient as consumer, and his rights are enshrined in the Patients' Charter, while the Children Act (1989) insists that the need of the child in his own social setting as perceived by the family are to be met. Unquestioning patient compliance to treatment is being eroded to be replaced by patient autonomy.

Ross (1993) found the more confident parents are the more they wished to be involved with treatment, and increased anxiety led to less involvement. Part of confidence building is sharing relevant knowledge.

Parents will fight for high quality services for their children, (Beresford 1996) but there is scant literature on parents' views of how physiotherapy meets their needs. Partridge 1987 calls for extended community physiotherapy services in the primary care setting as cost effective, so we need to examine consumers' views on the satisfaction with long-term home therapy, and Hudson (1991) asks for patients' views to be examined on the "product" they receive. Patient, in this case parent satisfaction is counted as a worthwhile health outcome leading to positive benefits including reduced stress.

Robinson (1983) validated a care giver Strain Index in America on elderly convalescents giving permission for its use, suggesting that it would be a tool for "Studies of intergenerational relationships involving dependency and care".

The Strain Index was developed to be a simple, easy to administer indication of the amount of strain experienced by care-givers in the home describing their emotional health and therefore coping skills. The areas reviewed are pertinent to the care of young children at home. These include the health status of the child, the parents' view of their role and their psychological health. A handicapped child in a family alters that family's expectations, the family dynamics, and means hard work and long commitment to the child.

Feelings induced by stresses from having a handicapped child govern parental behaviour which MacKeith (1973) described as ranging from maternal to rejection and include depression, inconsistency of reasoning, aggression or withdrawal from society. Possible isolation is therefore a real problem for these families. In a study of mothers' coping behaviour with handicapped children, from 19 different variables the three most significant were the mother being in a secure marriage, the child being a boy and living at home - Friedrich (1979). These factors were considered powerful enough to be predictive of the mothers' coping behaviour.

Hirose (1990) in a long-term study of Cerebral Palsy children explained

that mothers found infancy (before 5 years) the most stressful time, with fathers offering less emotional but more rational support. The mothers at this time were taking the lion's share of raising their children, becoming very tired, attending most clinic appointments and treatment sessions, having most physical work to do with the child and having least mental distraction from the problems, but the child/parent relationship is central to why they carry on (Finnie 1974, Beresford 1996).

Families' feelings and needs must be met if they are to function as a unit coping with the long arduous job of raising a handicapped child. Unmet needs lead to stresses becoming manifest as strong emotions resulting in reduced therapy and conflict between therapist and family. An investigation into the parents' problems with therapy is therefore worthwhile.

METHOD

A questionnaire was chosen as the most suitable method of obtaining information in view of the limited time and resources rather than interviews.

A preliminary letter was first delivered by the visiting physiotherapist and shortly afterwards an explanatory letter and the questionnaire. These letters described the reason for the questionnaire, guaranteed anonymity and confidentiality, and the whole enterprise was passed by the Ethical Committee of South Worcester Community Trust.

The sample was all of a rare and particular range of children from the total case load of the five community paediatric physiotherapists covering the area. They were below school age, (5 years old in 1995) not in full-time nursery education, and receiving most of their physiotherapy at home from community physiotherapists. They should have had home-based physiotherapy for a minimum of six months. At the end of this time the newness of the regimen and therapist has usually worn off, and the initial early encouraging results have slowed thus the parents are then into the slog of the daily therapy, and the possible dawning realisation that their child's condition will continue for some time and may be complex. This is when expectations begin to fail, both for the family and the therapist.

A specific diagnosis was not a condition of the study, only that the child was receiving long term physiotherapy, therefore their problems range from metal handicap (eg. Down's Syndrome), physical or degenerative conditions (eg. Spinal Muscular Atrophy) to movement problems (eg. Cerebral Palsy), with most children having movement delay or movement problems. This sample is of all the under 5's who fall into these parameters in the South Worcestershire Community Trust. It is noticeable that most short studies on long-term treated children are of a similar numerical size to this one.

Community physiotherapy is given in the home. The families are taught how to handle their children with the general aims of reducing deformity whilst promoting advancing functional independence. There was no special training for this study and each of the therapists has her own style and philosophy of physiotherapy.

The questionnaire consisted of some demographic details and closed questions aimed at eliciting how handicapped the child is, then questions about the frequency of appointments from the rest of the community team including time and travel commitments on the family, and how much other therapy input the family was receiving. There were Likert-type scales to register understanding of and satisfaction with physiotherapy, equipment or orthoses and some open questions for parents to express their own views of physiotherapy and their emotions about doing therapy. These open questions were not used extensively, and new ideas were not generated.

Built into the questionnaire was a Carers' Strain Index based on Robinson's validation (1983) to gauge some idea of how stressed the parents may feel. It was hoped that there would be a correlation between this and the therapy carried out at home. A total of 12 points was the maximum Strain Index. This was a long questionnaire, but a response rate of 65% was reasonable to guarantee a representative sample and internal validity.

RESULTS

Anonymity was promised. Nevertheless I was able to identify people from the answers, because of this I was aware that I was not receiving the answers I would have expected to some of the questions i.e. marital status, parental working and diagnosis; was this because of my wording or a wish by the parent to appear otherwise? Because of the small number of replies it is not possible to treat the numerical results statistically, but some useful trends can be highlighted.

Seventeen questionnaires from twenty six sent out were returned (65.4%) which gives an internal validity. Thirteen replies were for boys (76.5%) and four from girls with an age range from 14 months to 49 months giving an average of 25.5 months. The number with siblings was 59%, only one parent answered the open question on sibling behaviour and indicated that the sibling was difficult (6%). Twelve per cent of siblings needed long term treatment, ie. 2 children in one family, and two other mothers had other caring responsibility.

To elicit how affected the children were the question on prematurity gave 47% as premature and 88% receiving Disabled Living Allowance, 58% of the children take medication and it is hard to give to 20% of them. These children have significant problems.

None of the children lives with a single parent, and only 2 (12%) of main carers work, showing that the vast majority of the children live in what appears to be a traditional family, these are noteworthy statistics because there are not national norms.

100% of children have diagnosis and from the open question 2 (12%) would like to know more about their child's condition, a requirement that Wilson-Barrett (1989) finds necessary for parent autonomy, and Ross (1993) for co-operation.

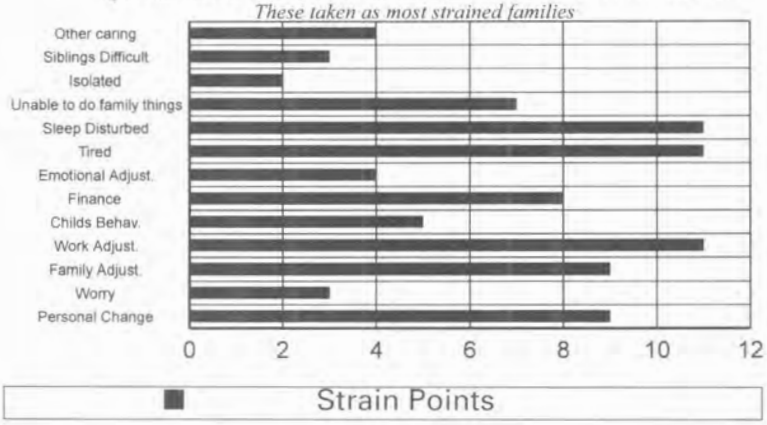
Physiotherapist had been visiting for an average of 19 months at a rate of two and a half times a month with an average of 8 visits per month from all members of the Community team. Eighty one per cent of respondents found that the co-workers co-ordinated together.

The Strain Index, as validated by Robinson (1983) was incorporated in a modified form with the questionnnaire to seek a connection between high parental strain and low coping, and the level of regard for physiotherapy, possibly resulting in less compliance with therapy, giving a possible highest score of 12 strain points (Table 1).

Strain Index Scores n = 17 (Table 1)

Strain Index Scores from questionnaire

4 parents scored 9 out of 12 or above on the strain index - 9, 10, 10.5, 12. These taken as most strained families



Four parents scored in the top third of the Strain Index. The two highest were for girl chidren ie. 50% of the girls in the study and 2 boys, only 15.4% of boys in the study, which is in line with Friedrich (1979) who found mothers at home in a stable marriage coped best with handicapped boys. The most strained mother (of a girl) ticked the isolated box 3 times.

Orthoses (Table 2) were used by up to 80% of children, n=12. Several replies included equipment supplied by other services, which meant confusion of therapist role in the parents' minds. These replies were

omitted. The response to aids was uniformly good, with one grumble from an open question relating to the room these take up, and difficulties travelling with them. Otherwise parents felt they understood their function, found them useful and employed them appropriately.

Likert-type Scale (Table 2)Usefulness of Orthoses

N=12	Most Useful 5/4	3	Least Useful 2/1	Scores
Boots Useful	12	-	-	55/60
AFO, understand use	5	-	-	24/25
AFO, useful	5	-	-	24/25
Useful other equip	7	-	-	30/35
Useful further equip	2	-	-	10/10
Able use aids approp	9	-	-	46/50
				189/205 =93%

If the scores from the Likert-type scales are added together and percentaged with a possible maximum score for use and satisfaction with Orthoses a score of 93% is obtained. This would indicate that they are welcomed and used at a very high rate.

Physiotherapy (table 3), n=17, again if all Likert scores are added together and percentaged a score of 84% is achieved for physiotherapy compliance and acceptance. The lowest physiotherapy score was for the family not helping the mother - involving 8 parents (47%), 3 of whom had high Strain Index score.

Likert-type Scale (Table 3) How Parents Found Physiotherapy

N=12	Most Useful 5/4	3	Least Useful 2/1	Scores
I understand p/t	17	-	-	79/85
The p/t listens	17	-	-	82/85
I help with goals	13	3	1	73/85
I understand treatment	15	-	2	75/85
Pain for child	12	2	3	66/85
I dislike doing	14	1	2	70/85
P/t help me understand illness	16	-	1	66/75
P/t fits into routine	17	-	-	75/85
I do enough p/t	13	1	3	66/85
My family help me	9	-	8	57/85
				708/84 =84/4%

17.5% of parents believed they did not do enough physiotherapy, 2 having

high Strain Index scores (Table 4). Three parents (17.5%) believed that the physiotherapy caused some pain, one had a high Strain Index score. Two responders (12%) did not like doing the therapy, nor understand it well. In all areas the parent with the maximum Strain Index scored badly. However one parent in the low Strain Index category scored the worst throughout the physiotherapy section. The Strain Index scores therefore, in this small study are not widely answered, but for the two relating to therapy one parent mentioned slower progress than expected and one mentioned pain. Thus a questionnaire is not an ideal tool to gain deeper insights into parents' lives and emotions. The parents felt inhibited about revealing much of their feelings, interestingly 76% of the questionnaires were filled out by mothers alone . . .

DISCUSSION

These results provide a snapshot in time of seventeen local families with special-needs children and their views on community physiotherapy provided as part of a total health care package. The numbers are too small to extrapolate the results to other populations.

These parents are pleased with their physiotherapy service have a compliance and satisfaction of 74% overall, and found that the team workers co-ordinated well (81%), thus physiotherapy is offered within a harmonising team. However only 12% wanted more knowledge of the child's condition meanwhile 85% felt the physiotherapists helped them understand their child's condition, helped to formulate treatment goals with the therapist and understand what physiotherapy is doing. These factors will provide Ross's (1993) treatment confidence and enhance what Wilson-Barnett (1989) calls the therapeutic relationship built on "trust, equality and negotiation", giving the parents a valued part in formulating therapy direction. Audit is a necessary exercise to evaluate treatments and give feed back on Statementing. Hudson (1991) calls for studies or patient satisfaction as a valid clinical outcome.

Most unusually all the children are living in a houshold with more than two adults around, an apparently stable environment. (Beresford, 1996 and Friedrich, 1979) found that this is one of the best conditions in which to raise a special-needs child. Orthoses, are rated at 92% satisfaction and compliance, parents are therefore very happy with the use and supply of their splints and equipment. The equipment needs renewing frequently, things go wrong and hospital visits are necessary for fitting so orthoses involve investment of time, effort and understanding by the family. This result is surprising because so often the equipment appears to be resisted and discarded but it is the carers' view that is being elicited here; there is no anxiety about them, and only one open question mentioned constraints of room and travel in connection with orthoses. As therapists we feel a difficulty in getting enough use from these articles, and believe that parents find them distasteful.

Physiotherapists visit for an average of 19 months, 2.5 times a month, so are frequent long-term family visitors. The physiotherapy question that scored best was that we listen to the carer talk about the child. Rosenbaum (1990), Tarran (1981), von Wendt (1984) and Beresford (1996), all found that parents wished to have someone visiting the home to give information and support; talking reduces stress and enhances feelings of partnership, over the treatment.

The worst individual physiotherapy score was that the the rest of the family do not help the main carer with the physiotherapy in 33% of the cases, with a similar number of parents feeling they do not do enough physiotherapy, yet 88% say it fits well into their routine. Also over 75% of questionnaires were filled in by the mother alone, so it is the mother who speaks and bears the brunt of the physical work. Are these feelings of guilt, will they ever feel they can do enough? 20% of parents felt that the therapy causes their child pain and the same amount dislike what they are asked to do. Two parents mentioned frustration and fear when questioned about altering feelings towards their child because of having to do therapy, while seven said they were contented with the results and only one mentioned that physiotherapy had produced slower than expected progress.

There was no obvious relationship between the S.I. scores and the amount of therapy the parents managed. The most strained mother was the one with the most negative feelings and felt the most isolated, and she had the second lowest physiotherapy score, but the next two lowest physiotherapy scores were in the lowest S.I group (4 points and under) Table 4.

Table 4
Strain Index scores against physiotherapy scores individually

	S/I out of 12	P/t out of 50
1	12	26
2	10.5	45
3	10	39
4	9	40
5	6	37
6	4	45
7	4	45
8	4	28
9	4	47
10	3.5	40
11	3	44
12	3	41
13	3	46
14	3	49
15	1	48
16	0.5	28
17	0.5	44

The highest S.I. scores related to tiredness (11 people), and the next three highest factors deal with the wider family matters of, in descending order work adjustment (11 people), family adjustment (9 people) and personal changes (9 people), so that if the S.I. were a useful tool it would need to be formally administered.

When the S.I. scores are set against the physiotherapy Likert scores in their upper, middle and lower groups no pattern emerges; observe that the 2 people rating physiotherapy the least well were in the lowest and the highest S.I. groups. The highest S.I group of parents shows a valuing of the physiotherapist's listening and helping towards an understanding of the child's disability.

The children with the highest strained carers were girls, 50% of the study and the two boys represented 15.4% of the study. Friedrich (1979) found that mothers living at home and in a stable relationship coped best with handicapped boys. Beresford (1996) described parents as needing to talk to people in order to cope. This area is rural, and half the children lived in the country. Traditionally country people remain fixed populations, possibly these families had a good local networking of friends and were able to obtain respite and communication for themselves in anxious times.

This questionnaire shows physiotherapy in primary health care delivery to be well regarded by parents and that compliance in the long-term is good despite Law's observations (1993) to the contrary.

CONCLUSION

Do carers find it difficult to do their physiotherapy? These families did not find that they had a problem. Is this a physiotherapists' problem, of perception or expectation? Bereford (1996) finds that two of the parents' coping strategies are to take one day at a time, and not dwelling on difficulties, hence parents are coping on a short term strategy, whereas we as professionals are working to avoid a future worst case scenario. Are we guilty of foisting our expectations on families? These are that we, who do not work within the child's family all day expect more improvement than we are seeing. If they are happy with the results should we leave it there and know that they are doing as much as they can? After all they are coping as they see it, anything else falls outside patient appropriateness (Swannick 1993).

Health care must be evaluated from the point of view of the user and parental satisfaction with a service is indictive of a good health outcome, because if parents are satisfied it must reflect positively on their care and the handling of their children. Significantly mothers feel that they carry the main burden themselves, it would be good practice to deliberately seek to involve other family members. Therapists can actively meet family members and avail themselves of their talents and help in therapy thus

offering more maternal support.

A minority felt the therapy caused their child pain, and the same number of people disliked that they have to do, these are noteworthy minorities and may need more wide ranging support. It is possible to offer poorly coping families a creative respite solution from other agencies. We need to be continually aware that we explain to families the reasoning for what we are doing because the knowledge involves and values the parent, allowing them to cope better. We ought also to try to ascertain how they feel about doing what we require of them.

The parents in this study feel that they have a good relationship with and work well with their children, yet if the physiotherapists who are less involved with the children are anxious that not enough therapy is happening, does this put a strain on the therapeutic alliance?

The problem is of the physiotherapists' expectations of what is possible for the child, and their awareness of future problems set against a happy child/parent relationship functioning in the wider world of family and society. The relationship is too valuable to the child to be compromised by overload of therapy. Parents who are the most involved with their children have different values and priorities from health workers, we mustn't let our feeling of dismay override their satisfaction with treatment giving, personal relationships and involvement as they work hard with their children.

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ARE BABY WALKERS A SAFE AND EFFECTIVE WAY OF PROMOTING MOBILITY IN INFANTS?

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Background

On Tuesday 28 April 1998 a report on the ITN (10pm) News was the culmination of eight months of publicity and media coverage on the inherent dangers of the use of baby walkers. (ITN Ten O'Clock News 28 April 1998)

The report followed the release of investigation details by the Liverpool Trading Standards Department, who had examined fifty four models of baby walkers and found that fifty of them failed to meet British Safety Standards. A variety of defects were discovered and the faulty models included many best selling names. Nigel Griffths MP, Trade and Industry Minister, called for manufacturers and distributors to assure the public that the faulty models were no longer available and that steps would be taken to improve design. The Minister did not feel an overall ban was necessary if faulty models were withdrawn from sale.

The Chartered Society of Physiotherapy (CSP) gave a press release, eight months earlier, in August of 1997, warning of the risks involved in the use of baby walkers. This followed an American Medical Association's Accident Survey (1997) which branded baby walkers "A lethal form of transportation".

Since that time the CSP have continued to lobby Government pressing for a total ban on the manufacture and sale of baby walkers. To date no action has taken place and baby walkers can still be purchased in most high street stores, despite recent official figures stating that 5000 accidents occurred in the UK in 1997 involving baby walkers (Department of Trade and Industry Accident Monitoring Unit).

A baby walker is a metal and plastic frame on wheels, in which a baby is suspended in a canvas sling- seat. Some have a tray or activity centre mounted on to the frame.

They are used by children who are developmentally between the stages of crawling and walking independently, some as young as four months and others as old as twelve months (Frazen and Felizberto 1982). One of the main reasons for ceasing use of the walker is that the child achieves independent walking.

The fundamental issue causing a potential increased risk of injury to children using baby walkers is that this equipment is specifically targetted at an age group that do not have the developmental capabilities to use it safely. By the time the child has developed the perceptual skills to do this, they no longer need to use the walker as they are capable of independent walking. (Fazen and Felizberto 1982, Millar et al 1975) Parents also have a misconception that baby walkers will promote walking however studies by Kauffman and Reidenour (1977) and Crouchman (1986) show otherwise.

Children of this age have a decreased awareness of the dangers within the "baby walker environment". The child can access areas previously unavailable eg. kitchens, stairways, doorways. The change of level introduces new dangers increasing the child's reach towards cookers, kettle cords, houseplants, ovens, fires and other objects normally inaccessible.

There is much available evidence, from localised practice population surveys to accident and emergency department surveillance reports, on injuries sustained while using a baby walker (Fazen and Felizberto 1982, Chiaviello et al 1982, Gleadhill et al 1987, Greensher and Mofenson 1985, Kavanagh and Banco 1982, Millard 1991, Reidenour et al 1986).

These include :

- Head injuries - fractures, facial injuries, bruising and lacerations, mainly due to tipping over or falls (Stoffman et al 1984)
- Burns - from fires and ovens (Birchall and Henderson 1988, Gleadhill et al 1987, Mayer 1988, Millar et al 1975)
- Scalds - caused by pulling kettles or containers of hot liquids (Birchall and Henderson 1988)
- Poisoning by eating household plants
- Near drowning (Silverstein 1984)

A child of this developmental age may be able to move a walker in one direction only (often backwards) and thus may be unable to move away from danger, such as a fire; once there, suffering horrific injury of the most disabling and disfiguring kind, as a consequence. (Birchall and Henderson 1988, Millar et al 1975)

Other injuries have been reported and include finger amputation and some so severe that they have resulted in death.

The most common thread in all studies supports the fact that falls downstairs account for between 50% (Greensher, Mofenson 1985 and Fazen and Felizberto 1982)) and 89% (Reider et al 1986) of all injuries reported when using a baby walker. The task of perceiving a change in level, assessing risk and responding appropriately is beyond the capability of a child aged between 4 and 12 months. Many studies report that although parents use stair safety gates these have been knocked over by the child or inadvertently left open by another family member. (Reider et al 1986)

Parents often utilise the walkers as "passive baby sitters". The study by Reider et al (1986) includes a child who, on average, spent up to eight hours per day in a walker.

Many accidents occur when parents are occupied doing other things and it may be possible that accident figures are under-recorded due to parental

guilt and anxiety over the lack of supervision they have given their child. A great majority of accident figures will not be recorded if there was only minor injury sustained and this did not require medical attention at a hospital.

Several authors report that accident statistics show many of the children injured were actually supervised during the time the injury occured. (Reider et al 1986, Birchall and Henderson 1988, Middleton 1988 and Millard 1991) The reason for the adult being unable to prevent the accident is that when in the walker the child can move at speeds faster than the adult can react even when directly observing the child. This is shown is studies by Walker et al 1996 and is reinforced by the Which Report of November 1997 which states that in tests they carried out a child could reach speeds of 7 miles per hour, or 2.8 metres per second.

Although most manufacturers advise never to leave a child unattended while in the frame, safety information is limited and they do not define exactly what is meant by supervision ie. in constant eye contact at no more than arms length away.

The kinetic energy potential caused by raising the heaviest part of the child, the head, above standing height then allowing it to accelerate to high speed increases the risk of injury on impact.

The body and lower limbs are often protected in falls by the framework of the walker itself and are less often injured. (Birchall and Henderson1988)

The baby walker is one of the only items of paediatric equipment which has no form of restraining strap which allows the child the potential to fall or climb out.

There are no studies available that indicate the benefit of baby walkers.

Parental perception of the baby walker helping a child to 'learn to walk' is misdirected and studies by Kauffman and Ridenour 1977 and Crouchman 1986 actually show the baby walker delays walking and produces an abnormal gait pattern and posture.

When using the walker the child is neither sitting or standing and the lower limb position may be asymmetrical or abnormal. Studies by Kauffman and Ridenour 1977 comparing six sets of male fraternal twins - one child using a baby walker the other not, and Siegel 1998 examining the motor and mental milestones of 109 infants, have shown that children using walkers demonstrating poor lower limb postures improved once the walker was removed and have suffered no long term damage or disability.

The observation of poor postures are supported by Downer, Inwood and Knox 1988 and Inwood and Downer1989, who noted truncal hypotonia and decreased protective responses associated with gross motor delay

although these problems were found to be reversible in the normal infant, once the walkers were removed.

Using the walker limits the amount of time spent in the prone position at floor level and thus affects development of the skills of rolling, four point kneeling and crawling. It also limits development of perception of the environment at this level. Parents may not play with their child when in the walker thus losing valuable opportunities for interaction and bonding.

The child can only play with toys that are supplied and that stay on the tray of the walker. The child has no means of seeing a toy once it has fallen to the floor or reaching to pick it up. Crouchman 1986 believes that a child learns about objects by handling them, pulling them apart and putting them back together. If the toy is inaccessible the child fails to achieve this important aspect of development. Increasing baby walker use offers limited opportunity for stimulation at a developmentally critical time. Andrea Carol Siegel, an Associate Professor of Psychology at the Case Western Reserve University (1998) believes that walker use may constitute a form of deprivation for the child and Birchall and Henderson described the walkers as "mobile straight jackets!" They limit the time available for free exploration of the environment which is important for mental development.

Professor Seigel has recently carried out work with babies who used walkers with smaller trays allowing them to see their feet, she found that they walked earlier than babies who used walkers with trays that did not allow the child to see their feet. However her study showed that both these groups walked later than children who had not used walkers at all.

Studies of high risk infants (premature babies and children with cerebral palsy) using baby walkers show that the infants appear to perpetuate undersirable primitive reflexes such as the positive supportive reflex. These infants also demonstrate decreased equilibrium reactions, decreased protective responses and walker use precludes practice of more mature balance reactions. (Holm Harthun-Smith, Tada 1983)

The child stands with all the body weight on tip toes when their bones and muscles are not developmentally ready to support it. The straddle position caused by the sling-seat, pushes the hips out of alignment and produces a tip-toed posture of the feet. There is no back support which leads to poor spinal posture.

Kauffman and Ridenour (1977) describe abnormal postures which although, may be transient in developmentally normal babies, is not so in a child with cerebral palsy. A single case study in Canada by Holm et al 1983 and further observational work by Downer et al 1988, supports this theory, resulting in the belief that use of the baby walker by a high risk infant or child with cerebral palsy may contribute to the devlopment of heel cord contractures, subluxation of the hips and pronation contractures

of the upper limbs.

There are limited studies available on children with cerebral palsy using baby walkers. However, despite the ethical dilemma of the potential for injury and possible developmental delay, others believe that it may be beneficial to offer the use of a baby walker to the child with limited potential for mobility to relieve frustration from the difficulty of ambulation. Using the walker some of the time and therapy and postural management at others could be beneficial to the child. (Bachman 1985)

Summary

Siegel (1998) believes there are two myths about baby walkers

1. They help babies to walk
2. They are safe to use

There is a consensus of opinion that the use of the baby walker does have an detrimental impact on a child's motor development and a potential to delay cognitive function. However more studies are needed to justify this belief and the ethical dilemma or argument of carrying out such studies when there appears to be overwhelming evidence of the potential for injury when using such equipment may prevent such research.

Baby walkers have been banned in Europe since the early 1980's and have been regulated out of manufacture in Canada since 1990. The American Medical Association, the American Academy of Pediatrics, the Consumer Federation of America and the Consumers Union are lobbying to prevent the use of baby walkers in the United States of America.

In California baby walkers were banned in day care, pre-school and child care centres in 1996.

The Australian Bureau of Statistics examined the safety records of paediatric equipment such as high chairs, changing tables, prams, cots, baby bouncers, playpens and baby walkers. Baby walkers demonstrated the highest incident of injury which led to the greatest number of hospital admissions. Baby walkers were found to have the highest risk per hour of use, eight times higher than prams, nine times higher than a high chair and twenty five times higher than a cot!

If it is not possible to produce a total manufacturing ban on baby walkers even after examining all available evidence is it not appropriate to follow the example of the Canadians and produce changes in manufacturing regulations to reduce the risks to infants using baby walkers? (Gommans and Stewart 1988)

Is there also a place for an education campaign targetted at parents and other child care workers. Newspaper reports and TV News items are quickly forgotten and a sustained campaign may be necessary to get the safety message across to parents.

Parents who express the opinion that their child enjoys being in the baby walker should remember that babies like playing with electric cables and electric wall sockets but is this a good rationale for letting them continue?

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THE EFFECTS OF A PHYSIOTHERAPY INTERVENTION PROGRAMME ON CHILDREN WITH DEVELOPMENTAL CO-ORDINATION DISORDER

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Introduction

In Developmental Coordination Disorder(DCD) the primary factor is a marked impairment in the development of motor co-ordination. In a recent review of literature Wright (1997) accounted for over 19 different terms describing children with DCD and their associated difficulties. The appearance of the disorder in the APA manual, although by no means comprehensive in definition, diagnoses or treatment, means the term DCD may go towards unifying the diverse terminology.

For the child with DCD, school life can be greatly affected. The disorder not only affects movement in physical activity, but can also affect social and affective functioning (Henderson et al., 1989; Shaw et al., 1982; Schoemaker and Kalverboer, 1994). Learning behaviour can be affected by inattentiveness, restlessness and a distractable manner. Children with DCD when placed in environments which demand motor competence, might adopt strategies such as withdrawal or inappropriate behaviour when the task results in failure. This action further results in low self-concept, low self-esteem and unrealistic goal setting (Henderson et al., 1989) Research has not found a causal relationship for children with other difficulties and motor impairment, but it is suggested that motor impairment is a precursor to the associated difficulties (Schoemaker and Kalverboer, 1994).

A major factor in assessing the prevalence of DCD has been the problems faced in identifying and assessing just who is at risk. There appears to be little agreement in assessment (Keogh et al., 1979) and definition of the disorder (Henderson, 1992). The term DCD is now, however, an accepted entry in the American Psychiatric Association (APA) manual for Mental Disorders (Diagnostic and Statistical Manual of Mental Health Disorders DSM-IV, 1994). The term describes a child who has no known medical condition such as cerebral palsy or muscular dystrophy, which would affect motor skills, nor any condition demonstrating mental retardation.

Although, symptoms of impaired motor performance had probably been noticed before 1960, the 1960's saw several articles investigating, in a scientific manner, the phenomena known today as DCD (British Medical Journal, 1962; Brenner and Gillman, 1966). It is estimated that figures for children with motor difficulties known as DCD range form 2.7% in Nigeria and the Netherlands (Iloeje, 1987; van Dellen et al., 1994) In the UK the figure is estimated to be 10% (Henderson et al., 1992). Indeed, Henderson et al. (1992) estimated that 10% of school aged children may suffer from

DCD, which is neither due to a physical disorder or lack of intellectual capacity.

Prior to any therapists' intervention, assessment must take place. After a period of treatment assessment will be used again to determine the effectiveness of the programme. Planning intervention programmes can help professionals set goals and recognise strengths and weaknesses of the therapy programme. In addition, intervention programmes are helpful to parents to observe positive or negative changes over a period of time and assess the reasons for that change. The use of intervention programmes will also help the on-going assessment of the special educational needs of the child and can assist in gaining extra support from schools as the standardised testing shows evidence of the necessity for help for those children with DCD.

Results on the prognosis and development of DCD are equivocal. Research evidence suggests that DCD can continue in adolescence (Drillen and Drummond, 1983; Gilberg and Gilberg, 1989; Losse et al.,1991; Lyytinien and Ahonen, 1989; Silva and Ross, 1980) but also that some children can grow out of the condition (Gilbert et al., 1989). more research is clearly needed in this area. Whether the prognosis of DCD is long term or short term, the earlier the intervention, the better the chance of reversing the effects. Schoemaker et al., (1994) states that the earlier a programme is applied, the greater the positive outcomes and that without additional support for children with DCD the long term prognosis is not good. At present, there is a scarcity of data related to therapy based research in the area of DCD, although this could change as the Chartered Society of Physiotherapists (CSP) is encouraging all members to be involved in research as part of their professional development.

Aim

The aim of this study was to measure the effectiveness of an intervention programme offered to children with developmental co-ordination problems, who had been referred by a paediatric consultant. Specifically, the study aimed to investigate the improvement of motor development using the Movement ABC Test (Henderson and Sugden, 1992) following a period of specific physical activity and rehabilitative lessons. The programme was a ten week intervention study co-ordinated and staffed by paediatric physiotherapists, in conjunction with local schools.

Method

The subjects involved in the intervention study were originally referred by a paediatric consultant and considered to have movement difficulties. The intervention group totalled 18 children (15 boys and 3 girls). Within the intervention group one of the children had Sotos syndrome, a second an undiagnosed disorder and a third child had cerebral palsy. As these three children do not meet the criteria for DCD, they will be reported as a separate sub-group (SG). As physiotherapists often work with other

children with different medical conditions, it was therefore decided to keep the SG and present their data, to assist other physiotherapists. The final totals of the intervention group were DCD (n=15, 13 boys and 2 girls) and SG (n=3, 2 boys and 1 girl).

Prior to the study starting, the project was approved by the Faculty of Health's Ethics Committee. A signed informed consent was obtained by the parents of the Children involved in the study.

Procedures and Tasks

Prior to the start of the 10 week intervention programme, each subject was tested individually using the Movement ABC test (Table 1) which contains four sets of items which are differentiated by age (Henderson and Sugden, 1992). The sections include Manual Dexterity, Ball Skills, and Static and Dynamic Balance. Coding of the attempted sections can be in the form of a failed attempt, refusal or a score of 0-5, where 0 is the perfect score and the child has executed the required skill as outlined in the manual. A score of 5 represents an inability to perform the task as required. The tests are age related aimed at 5-6 years, 7-8 years, 9-10 years and 11 years or older for the four test items.

Table 1. ABC Movement Test Items.

(1) speed and sureness of each hand (manual dexterity I)
(2) coordination of both hands for performance of a single item (manual dexterity II)
(3) eye-hand coordination using the preferred hand (manual dexterity III)
(4) catching (ball skills I)
(5) throwing (ball skills II)
(6) control and balance of the body while immobile (static balance)
(7) control of the body in rapid movement (dynamic balance)
(8) control and balance in slow movement.

The scores attained on each task are totalled for each of the sections Manual Dexterity (MD), Ball Skills (BS), Static and Dynamic Balance (SDB) and then the four sections are totalled to obtain an overall score. This score then represents the Total Motor Impairment Score (TMIS)

All testing took place at the same time of day and in the same place as the intervention programme was to be held. The pre and post intervention tests were conducted by the same experimenters in order to maintain consistency of testing. All testing instructions were followed according to the manual which accompanies the Movement ABC test.

The ABC Test also provides checklists for the qualitative assessment of the child's motor ability which a tester can use to try to explain poor performance i.e. a motor difficulty or a behavioural problem. Although these were used, only the recording of the norm-reference scores will be used.

Intervention programme

The aims of the sessions were diverse and included:

- not only the therapy for the child but also support for the families attending
- assessment and reporting back to doctors, schools and other involved agencies
- to provide home programmes which the children took away to practice.

The sessions also gave the children an opportunity to participate well in a group of similarly skilled peers and promoted self- esteem and self confidence. All of the intervention sessions were conducted by the same regular team of three to four physiotherapists. The physiotherapists were part of the paediatric development unit based at the local district hospital.

The programme was classified according to age groups:

- group 1 4-6 years
- group 2 6-8 years
- group 3 8-11 years

On each Thursday morning, the DCD group would attend one of three age allocated sessions for 45 minutes. The sessions included a variety of games, including: team games (basketball, hockey, football), ball games (catching, dribbling, throwing), running drills (around cones, along lines, over/through hoops), balance activities (walking along lines on the floor), strengthening activities (rope pulls along a mat on the floor) and specific movement patterns such as bear walking, sequencing of arm leg crawling (cross patterning) and some fine motor control hand movement patterns. All activities were logged by the physiotherapists and notes were also taken about particular problems a child might have had on that day, including behavioural problems. Exercises were recommended to parents for the children to practice at home. At the end of the 10 week intervention programme, the group was retested in an identical manner to that of the pre-test.

Statistics

Descriptive data of mean (±SD) for stature, body mass and age were generated as well as for the norm based test scores for each of the four sections. A paired t-test for pre-test post-test scores was performed for the DCD group. The significance level was set a priority $p<0.05$. No statistics were performed on the SG because of low subject number.

Results

The mean (SD) age of the DCD was 8.0±1.8 yr., the mean stature 1.3± metre and body mass 28.3±11.6 kg.

Table 2 presents the mean (SD) scores for the manual dexterity, ball skills, static and dynamic balance components and the TMIS score of the ABC Movement Test. A significant difference in the pre-test post-test TMIS score was found for the DCD group ($p<0.05$). A significant difference was found for all the ball skill scores ($p<0.05$). No significant differences were detected between the pre-test post-test manual dexterity and static and dynamic balance scores for the DC group ($p>0.05$).

Table 2. Mean (SD) pre-test post-test scores for manual dexterity, ball skills, static and dynamic balance and total motor impairment score.

	DCD group
Manual Dexterity	
Pre	8.0±3.0
Post	7.0±4.0
	NS
Ball Skills	
Pre	5.5±3.0
Post	3.0±2.5
	§
Static and Dynamic Balance	
Pre	5.5±4.5
Post	4.5±3.5
	NS
Total Motor Impairment Score	
Pre	19.0±8.5
Post	15.0±8.0
	§

§ significant difference in score pre-test post-test ($p< 0.05$)
NS no significant difference in score pre-test post-test ($p> 0.05$)

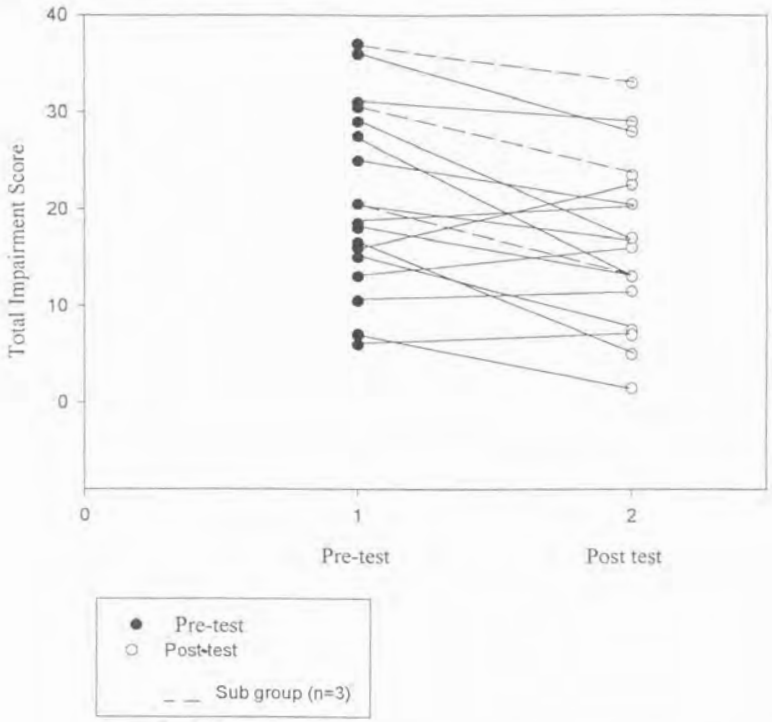
The mean pre-test post-test scores for the sub group (n=3) were TMIS 32±4.0 and 24.5±8.0;BS7.0±2.5; MD 10.5±4 and 11.0±3.0; SDB 14.0± 1.0 and 8.0±3.0 respectively.

Figure 1 shows the individual pre to post test TMIS scores for the DCD and the SG group

Discussion

The intervention group showed significant improvements in certain aspects of motor performance after the ten week programme. This type of information is extremeny important to paediatriceans and therapists working with DCD children to give some indicator about improvements in ABC scores.

Fig 1. Pre-test and post-test totalimpairment score for the DCD and SG (n=18)



As the present study was a clear case of applied research in action, the results from the study have had positive consequences on the rehabilitation programme. There was improvement in one of the component scores and the overall impairment score (TMIS), however, little improvement was seen in the manual dexterity score. This was attributed to the fact that during the sessions emphasis was placed on ball skills (hand/eye/feet co-ordination) and gross motor patterns. The lack of a large improvement in the manual dexterity score could be due to lack of movement experiences by the group outside of the therapy intervention programme. Similarly, children who are not exposed to motor movement experiences will often lack strenuous/risk taking experience and these often form the base for motor skills. Alternatively, it is possible that a lack of shoulder and hip girdle stability would prevent success at these gross motor skills patterns. It is unlikely that the increases in self-confidence and self-esteem would have been wholly responsible for the improvement in the total impairment score.

As a result of the lack of success in manual dexterity, an occupational therapist has joined the team of staff to concentrate on fine hand movement skills. These skills in the classroom are as important to the child as are the movement skills are in the games and P.E. lessons. Not only has the therapy

intervention changed but the length of each session has changed to accommodate the inclusion of the fine hand motor skills session. Instead of a 45 minute session, the weekly session has moved to 60 minutes with the first 30 minutes being devoted to gross and fine motor skills in relation to hand/eye/feet co-ordination and the following 30 minutes to the fine hand motor skills session. In addition, a 12 week intervention programme is being formulated to give guidance to mainstream school special educational needs (MSS SEN) teams to help co-ordinate problems.

Whilst it is accepted that there are many tests and methods of assessment, the fact that the ABC test can combine qualitiative information with the quantitative scores will aid the overall profile of the DCD child. Maeland (1992) contrasting two tests, the Test of Motor Proficiency (TMP) and the Test of Motor Impairment (TOMI) showed similar prevalence rates of DCD but not always the same child being diagnosed by both tests. The author concluded that for specific motor control assessment the TOMI was the preferred instrument but the TMP may be used as a general screening test. These comments merely accentuate the subtle difficulties practitioners have in assessing and diagnosing children with DCD.

Practitioners working with DCD children understand the difficulties in identifying clumsy children. Stott et al. (1986) commented that motor ability could not be considered as a fixed skill, or even the fact that motor ability should be broken into different component abilities which each child may or may not possess. This statement does not, however, help practitioners in the field who are increasingly under pressure to contribute to a statement of special educational needs so as to acquire additional help for that child and their parents. Additionally, practitioners are required to show evidence of effectiveness and justify their methods. Standardised motor tests can help with regards to some of these tasks.

The present study also highlighted the disproportionate number of boys to girls diagnosed as DCD. Previous work by Henderson and Hall (1982) and Keogh et al. (1979) has reported more boys than girls as being motor impaired. This finding, however, is not in agreement with work by Gubbay (1975) and Stott et al. (1984) who reported a similar proportion of boys and girls as having motor impairments. As the children in this present study were all diagnosed by paediatric consultants, only an analysis of the relative proportions of boys and girls seen by the consultants will answer whether there is a gender difference in DCD.

Conclusion

The present study examined the changes in the ABC Movement test scores after a ten week intervention programme for DCD classified children. The pre-test scores for TMIS improved significantly for the DCD group. The individual components of the ABC Movement test showed that there were ball skill improvements reflecting the large contribution of the ball

skills centred intervention programme. The balance and manual dexterity components were not improved. The baseline information for DCD children provides practitioners in the field with a guide to the possible changes over time. The individual variation in pre-test TMIS score reflects the difficulty in diagnosing and monitoring the condition. Practitioners working with DCD children need to know the variability in the ABC Movement Test and the magnitude of change due to an intervention programme. Overall, this programme showed that physiotherapists working with DCD can have a positive impact on motor co-ordination, in particular on ball related skills.

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THE ROLE OF THE PAEDIATRIC ORTHOPAEDIC PHYSIOTHERAPY PRACTITIONER

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As far as I'm aware, I am the first of only three paediatric orthopaedic physiotherapy practitioners nationwide. However, physiotherapists have been working as extended scope practitioners since the early 1980's, although mostly in adult back pain clinics.

Extended Scope Practitioners are clinical physiotherapy specialists with an extended scope of practice who see patients referred for assessment, clinical diagnosis and management of neuromusculoskeletal disorders(1). We work beyond the recognised physiotherapy scope of practice and have the autonomy to request investigations such as plain radiographs, isotope bone scans, haematological tests and use the results of these investigations to assist clinical diagnosis and plan appropriate management of patients. Some practitioners also list for surgery or refer directly to other medical and healthcare professionals (2).

Extended Scope Practitioner posts may be created for a variety of reasons.

- Reduce outpatient waiting lists thereby improving the service to patients by providing timely and relevant assessment.
- Ensure consultants only see cases requiring a surgical or medical opinion.
- Improve the service to local GP's.
- Enhance the profile of physiotherapists.
- Expand the role of the physiotherapist as an expert in assessment and management of neuromusculoskeletal disorders.

An interesting side effect of creating such posts may, in fact, be an associated increase in the consultants **surgical** waiting list!

The exact nature of the extended scope practitioner (ESP) role in clinic varies in detail according to the idiosyncrasy of the local service provision, but all have broad similarities.

The ESP physiotherapist ideally

- reviews all referral letters alone or with the consultant concerned and decides which patients are appropriate to see.
- ensures an appropriately worded appointment letter is sent which clearly informs the patients they will be seeing a specialist physiotherapist and **not** a doctor allowing informed consent.
- undertakes appropriate post-graduate education, e.g. radiation protection to allow them to fulfil their specific role's requirements.

The ESP physiotherapist is the first point of contact in the Outpatient Clinic. As already discussed, they assess, request the appropriate investigations and use the results to form a clinical diagnosis. They plan

the patient management which may include referral to other health professionals, referral to the consultant for a surgical opinion, the provision of orthoses, injection therapy or, indeed, advice and direct discharge from clinic.

My post was created just over two and a half years ago with waiting list initiative moneys as a fixed term contract to reduce paediatric outpatient waiting times for the newly appointed Paediatric Orthopaedic Consultant, Ms A Hulme. I'm delighted to say that following audit and evaluation, I am now an integral part of the physiotherapy establishment. I work exclusively with Ms Hulme and although my original remit was 2 outpatient clinics per week, my role has expanded significantly since its creation. It is a real advantage to work with one consultant and, therefore, one team, as although protocols are forever changing in the light of experience and new knowledge, our basic team philosophy remains constant.

Outpatient Role

I now run 3 outpatient clinics alongside Ms Hulme's in Paediatric Outpatients. The paediatric outpatient clerical team pull my notes and x-rays and deal with my appointments. Ms Hulme's secretary deals with my correspondence. Ms Hulme and I meet weekly to discuss the allocation of her referrals and my clinic caseload is a mixture of direct GP referrals, ward discharges and appropriate referrals from Ms Hulme's list.

Two of my clinics deal with congenital deformity, normal growth variants, angular and torsional abnormalities, foot problems and unusual gait patterns. My third clinic is the baby hip clinic, a joint clinic with Ms Hulme where we see all babies at risk of developmental dysplasia of the hip (DDH) at approximately 4 weeks of age and follow-up any babies who require our intervention.

In clinic, I have potential contact with the full paediatric multidisciplinary team and unlimited access to Ms Hulme. However, she also has unlimited access to me! We book joint consultation slots for complex patients and although my official slots are 4 NP and 4 FU I always see more than 8 patients per clinic! My FU slots may also be used for patients initially referred to Ms Hulme for a surgical opinion who do not need surgical intervention in the short term, but advice and monitoring till maturity when surgical options may again be considered.

I have the autonomy to request the following investigations:

Imaging	*Haematology*	*Chemical Pathology*
• Plain radiographs	Full blood picture	Bone biochemistry profile
• Ultrasound scans		
• Isotope bone scans		
• Computerised tomography		
• Magnetic Resonance Imaging		

Inpatient Role

Orthopaedic Neonatal Screening Programme
My expanded remit now includes responsibility for the Orthopaedic Neonatal Screening programme.

I am the first of the paediatric orthopaedic team to be contacted by the neonatal or maternity units.

I assess, organise appropriate investigations and refer on within and without the paediatric orthopaedic team as before. Any appropriate splinting or casting is carried out by me using POP, synthetic casting materials and low temperature thermoplastic splinting materials. If an orthosis, e.g. Pavlik Harness, is required, I will fit and monitor. All ward patients are followed up in the baby hip clinic as outpatients where I have direct access to Ms Hulme, as discussed.

Ilizarov Fixator programme
I am also responsible for managing the Ilizarov fixator programme.
My role involves the assessment of potential candidates, the appropriate selection of suitable patients and families and their ongoing management as both in and outpatients. This includes liaising with local physiotherapists, schools and other appropriate services required and keeping the whole team (patient, family and professionals) motivated, for what is always a long rehabilitation period.

I would describe the aforementioned as my pure practitioner remit. However, I also have what I would term a consultative role.

Consultative Role

Gait analysis clinic with Ms Hulme.
Simple video analysis and clinical examination to look at the appropriateness of and child's suitability for, surgical intervention, orthotic prescription and utilisation of Botulinum Toxin in their management.

Orthopaedic Clinics for the local Paediatric Physiotherapy Service.
Held at the Chelsea & Westminster Hospital, our outreach centres and nurseries and schools in our catchment area. Children can then be plugged into my practitioner clinic for further investigation, as necessary, or fast-tracked to Ms Hulme's clinic for a surgical opinion. This forms an invaluable link to the Paediatric Orthopaedic Team.

Professional resource for the Paediatric and Orthopaedic teams at the Chelsea and Westminster Hospital.
Advice on equipment, orthoses and latest treatment techniques.

Professional resource for Paediatric Orthopaedic Physiotherapists nationwide.

I aim to be a contact point for all paediatric orthopaedic physiotherapists - to know who they are and where they are and be aware of any study or research project, however small, which may lead to a change in clinical practice. To have access to all the latest information on orthotic innovation, splinting and casting materials and new texts. This is proving the most difficult area to devote time to as my own clinical caseload continues to increase rapidly.

So once again a plea for information from all paediatric orthopaedic physiotherapists - I can only act on what I know and, remember, from tiny acorns do mighty oak trees grow!

PROTOCOL FOR SCREENING AND TREATMENT OF DEVELOPMENTAL DYSPLASIA OF THE HIP (DDH)

An understanding of hip development in utero allows an insight into the vascular insults and dysplasia to which it may be prone. Within 3 weeks of fertilisation, primitive limb buds are already beginning to form. At 6 weeks the ilium ischium pubis and femoral shaft may be identified.At 7 weeks the acetabulum and femoral head have formed and by 8 weeks blood vessels have grown into the ligamentum teres,. At 11 weeks the femoral head is spherical and separate from the acetabulum and the vascular supply to the hip is established. By 16 weeks the hip muscles are individually recognisable and well developed so the fetus may kick and move. The fetal hip typically lies in flexion, adduction and lateral rotation, the left hip usually rotated most.

During the last 20 weeks of intrauterine life, the hip joint enlarges and matures. Le Damany (3) showed that during the last 12 weeks of gestation, the relative capacity of the acetabulum decreases and indeed recent studies have shown that acetabular depth and capacity are probably least at birth. However, ossification of the pelvis is well advanced and the femoral shaft is usually ossified to just above the greater trochanter. The greater trochanter and femoral head combine in a common proximal chondro-epiphysis. The ossific nucleus of the femoral head is occasionally present at birth, but usually doesn't appear for 3 to 6 months.

Ramifying through the cartilage of the femoral head lies an extensive cartilage canal and vascular network. Direct pressure may occlude these canals, the posterior vessels may be compressed between the short femoral neck and the acetabular margin if the hip is forced into extreme abduction and full extension and internal rotation may wring out the ventricular vessels - all leading to an ischaemic femoral head. Therefore the neonatal hip joint is fairly vulnerable to excesses of pressure and movement and, unfortunately, since the ball and socket articulation is far less stable than in adults - prone to displacement.

Although signs of neonatal hip instability are subtle, they are usually detectable by careful clinical examination in the first few days of life. Any required treatment in this neonatal period should then prevent established dislocation or varying degrees of DDH which would otherwise progress to deformation, loss of function and eventual osteoarthritis.

Aetiology

There is an enormous variation in the incidence of typical neonatal hip instability in orthopaedic literature, reflecting both the social and geographical differences and differences in interpretation of the presenting clinical signs. Barlow (4) showed 1 in 60 neonates had demonstrable birth instability but within 2 weeks 50% had stabilised without treatment and within 8 weeks 80% had stabilised.

Macnicol's (5) figure of 1 in 400 is the generally accepted British incidence with 1 in 5 in the North American Indian population and virtually none in the African Negro population.

The ratio of Male : Female is 1 : 3 and the left hip is more commonly affected.

Typical Dislocation

The position of the fetus in utero and events surrounding birth influence the stability of an otherwise normal hip joint.

- First born children are more vulnerable due to increased abdominal and uterine muscle tone.
- Oligohydramnios allows the fetus to move less freely thereby increasing the risk of dislocation.
- The hip that is relatively adducted in flexion is more prone to dislocate and this may explain why DDH is more common on the left.
- Prolonged or difficult labour may displace the femoral head and this will occur more easily if the capsule is lax or hip musculature hypotonic.
- Increased levels of maternal oestrogen, progesterone and polypeptide relaxin may be the cause of pathologically lax tissues (6) and this may be a reason for the incidence of DDH being 3 times more common in girls.
- Joint laxity may also be inherited (7) and may account for the familial form of DDH and again the high proportion of mother to daughter incidences.
- Breech presentation increases the risk of dislocation by a factor of 10 (8).

Atypical Dislocation

Neuromuscular imbalance may cause atypical or teratological dislocation in early fetal life in association with major chromosomal defects, arthrogryposis and a wide variety of syndromes (9).

Fortunately, this is rare, but this type of dislocation is invariably irreducible and requires a different therapeutic approach. Standard neonatal splintage is fruitless and open reduction later in the first year of life is usually the preferred treatment.

Pathology

Typical hip dislocation is usually a perinatal event where the only anatomical abnormality is elongation of the hip capsule and ligamentum teres The acetabulum and its labrum, the femoral head and the relative torsion of both bony components are usually normal (10).

However, if the hip is not reduced it may become permanently subluxated or dislocated.

Eccentric pressure on the femoral head leads to segmental flattening, uneven growth and increased anteversion. The acetabulum lacking the normal stimulus for growth of a contained femoral head, fails to develop anterosuperiorly especially if directly compressed by a displaced femoral head. This leads to lack of sphericity, shallowness and apparent anteversion. The labrum is typically stretched and everted and in time a secondary acetabulum develops within the anterosuperior part of the roof of the true acetabulum. Subluxation blends almost imperceptibly into dislocation and the labrum squashes and distorts and may invert and fold into the joint causing a soft tissue block to relocation. The cartilaginous margin of the acetabulum further deforms and the capsule may become adhered to the outer ilium. Once the hip is displaced the iliopsoas tendon invaginates the hip capsule anteriorly and the adaptive shortening of all the muscles which span the hip joint contribute to the maintenance of the displacement.

However, despite this, the articular cartilage of the femoral head and acetabulum remains viable and will remodel if the hip is adequately reduced. But the capacity for this remodelling is gradually lost through childhood and, therefore, the quicker treatment is initiated the better the results.

Aims of treatment

- Reduce hip into socket (open or closed).
- Hold hip in socket and allow growth and remodelling.
- Check stability ? surgery to femur +/- socket.
- Monitor progress.

As already stated best results are with early treatment, so how do we prevent DDH from going unnoticed and, therefore, not treated or not treated quickly enough?

Effective screening

As far back as 1879 Roser (11) noted that 'some children's hips could be dislocated by adduction of the leg and then reduced again by abduction'. However, it wasn't until Ortolani discussed his test in 1931 (12) and 'the snap of re-entry' of the hip as it was reduced, that any notice was taken of Roser's observations.

Routine screening of new borns was introduced in Sweden by von Rosen (13) in 1937 with its aim to prevent late presentation of DDH. This aim remains the same today and routine screening should be performed not only at birth, but also during the first 6 weeks and 8 months of life as advocated by Palmen in Sweden in 1984 (14). The effectiveness and efficiency of screening depends on alert professionals - Paediatricians, GP's and Health Visitors to a greater extent than orthopaedic personnel.

At Chelsea & Westminster we have adopted the following assessment protocol.

A good history must be taken first.

• Pregnancy details	problems	? oligohydramnios
		? maternal hypertension
	multiple births	
• Delivery Details	premature	
	breech presentation	
	caesarian section ? why	
	shoulder dystocia	
• Family history		
• Position in family	First born	

Then a thorough but gentle clinical examination looking for asymmetry from tip to toe ***-The Orthopaedic MOT!***

Ideally the baby should be warm, relaxed and just fed.

In supine

Test	C/spine ROM	? plagiocephally
		? sternomastoid tumour
	Upper limb ROM	? shoulder dystocia
		? campodactyly
		? syndactyly
	Rib angles	
	Hip ROM	? asymmetry

Flexion and abduction should be full but all new borns have a flexion deformity (of up to 40° as measured by Thomas' test) which may take several months to lose. This must be taken into consideration if fitting a rigid hip orthosis.

Observe	Hip position	? shortening ? external rotation
	Thigh & buttock creases	? asymmetry

Specific Clinical Tests for DDH

When examining a baby's hip all movements should be gentle and never forced.

Textbooks describe placing the middle finger over the greater trochanter (I find my little finger more comfortable) using the thumb and index finger to control the knee.

For Ortolani's test which demonstrates hip enlocation:

- flex hips to 90°
- fully abduct to bed

If full symmetrical abduction is obtained - hips are enlocated.

Now use the test first described by Le Damany, but now known as Barlow's test, which demonstrate hip instability.

- Flex hips to 90° in midline
- Adduct hip to be tested
- Apply a **gentle** lateral and posterior pressure

If instability is present you will feel the hip subluxate +/or dislocate posteriorly with a clunk. It may be more easily felt if you place your other hand behind the pelvis on that side.

A re-entry clunk is tested for next by using the finger under the greater trochanter to pull it forwards and lift the femoral head back into the socket. The sensation of reduction feels muffled if a soft tissue obstruction blocks complete reduction of the femoral head. You should now be able to fully abduct the hips again.

Asymmetry and a lack of abduction should alert you as much as the presence of a clunk. The click described is usually of little consequence and may represent either a transient vacuum phenomenon within the joint or a muscle or tendon snapping out of position outwith it.

If there is any uncertainty during initial examination, it should be repeated again before the child is discharged home.

Test	Knee ROM	? instability
	Calf	maximal circumference measure
		degree of tibial torsion
	Feet	general appearance and length ?
		symmetrical
		creases - posterior medial or both
		? cavus
	Hindfoot	? equinus fixed / correctable
		? varus fixed / correctible
		lateral malleolus ? posterior / mobile
	Forefoot	lateral border shape
	Toes	? syndactyly
		? fixed flexion
	Peroneal activity	
In prone		
Palpate		
	Spine	? anal pit
		? scoliosis fixed / mobile
Assess		
	Tone	

Then decide if further investigations (e.g. hip US) are appropriate and as already discussed referral onto any other members of the paediatric team to facilitate a clinical diagnosis and instigate the appropriate management.

Although careful clinical examination should detect neonatal hip instability it is clear that a proportion of children are not diagnosed by initial clinical screening. At The Chelsea & Westminster Hospital, our screening programme includes the use of ultrasound scans. However, we do not routinely ultrasound **all** babies hips although this is a national requirement in both Austria and Germany.

We select our babies by means of assessment of **risk factors**.

- Family history of DDH
- Complicated pregnancy - oligolydramnios perhaps most important factor.
- Firstborn
- Multiple birth
- Breech presentation
- Other clinical abnormalities
  - plagiocephally
  - torticollis
  - foot deformities (CTEV / CTCV)
  - congenital lesions (anal pit)
  - syndromic baby

As all have an associated increase in incidence of DDH

If one or more of the above risk factors are present then the baby will have a routine ultrasound scan at 4 weeks of age and be seen the following week with the result in our baby hip clinic.

Ultrasound Screening

The neonatal hip is largely cartilaginous and although plain radiographs may help they are often difficult to interpret. Therefore, ultrasound screening is the investigative mode of choice. It is non-invasive and gives both a static and dynamic portrayal of the hip joint and any soft tissue disorders.

In 1984 Graf (15) delineated the different appearances of the neonatal hip as 'seen' ultrasonographically. He described measuring angles on a standard sagittal plane to quantify the maturity of the hip and any dysplasia present.
However, at the Chelsea and Westminster we use the much simple and user friendly Morin classification first described in 1985 (16) which assesses acetabular cover and depth.

In this classification:

Gd	**I**	**Normal**	**50% or more femoral head coverage.**
Gd	**II**	**Borderline**	**35% - 50% cover**
Gd	**III**	**Shallow**	**< 35% cover**

This gives our static evaluation.

The dynamic test combines both a feel and a look at the hip. The ultrasonographer (or me!) applies a posterior and lateral pressure a la Barlow and watches for the femoral head to lift out of the socket by comparing the distance between the triradiate cartilage and the femoral head on the screen. These are tiny movements of 1 - 3 mm and as the ultrasonographer freezes the image, the maximum displacement can be measured and recorded.

In 1962 Barlow (4) showed that half the hips he considered unstable at birth became clinically normal within a couple of weeks and that 80% had stabilised within 2 months.

Unfortunately, there is no absolute way of predicting at birth which hip will remain unstable, although the hip which is frankly dislocated rather than dislocatable is more likely to remain displaced. Knowing the high spontaneous resolution of neonatal instability and the fact that all splintage carries a recognised risk of AVN if not monitored properly, it seems sensible to pursue a policy of splintage only for those children at risk of long term instability.

Our protocol for conservative treatment following clinical and ultrasonic examination is as follows:

Gd I	**Stable**	**No treatment**	
Gd II	**Stable**	**Advice**	**Radiograph 3 months**
GD II	**Unstable**	**Pavlik Harness**	**US 6 weeks**
GD III	**Stable**	**Advice**	**US 6 weeks**
GD III	**Unstable**	**Pavlik harness**	**US 1 week**

Ideally all treatment should be started within the first 6 weeks of life.

At the Chelsea & Westminster we use the flexible Pavlik Harness although other centres may use a more rigid orthosis, e.g. von Rosen splint.The harness is applied as soon as the clinical abnormality is detected and the child then scanned as soon as possible to ensure the hip is being held enlocated in the harness.The harness is worn 24 hours a day and checked weekly to ensure correct hip position, thereby avoiding the complications as defined by Bradley in 1987 (17).

- Skin rashes
- Foot deformities
- Temporary femoral nerve injury
- **But most importantly failure to reduce the hip properly, placing it in extreme abduction in the harness thus causing excessive pressure on the femoral head leading to avascular necrosis**

If selection for splintage is not rigorously adhered to then the whole screening process may be called into question.

If at follow-up the hip is found to be stable with more than 50% acetabular cover the child may be weaned out of the Pavlik Harness over a further 6 week period. All advice is given regarding positioning and activity and the children are followed up in our hip clinic till they are at least 2 years old. We monitor acetabular development by plain radiograph, ROM by clinical examination and function by observation.

As already stated, the ideal age for treatment of the unstable hip is at birth. But secondary screening and failed primary screening still lead to an appreciable number of infants presenting with dislocation later in the first year of life.

At this stage, ultrasound scanning is no longer the investigative mode of choice, but a plain radiograph is. In a normal hip, the following features can be noted:

- The bony acetabular contour can be assessed by measuring the acetabular index, i.e. degree of acetabular dysplasia. This should be < 25° in children under 1 year of age.

- The medial gap (18) should be no more than 5mm.
- Shenton's line (a continuous smooth arc between the inferior margin of the femoral neck and the inferior margin of the pubic ramus) should not be disrupted.
- The ossific nucleus of the femoral head should lie wholly beneath the triradiate cartilage.

While in the neonate it is exceptional for a typical dislocated hip to be irreducible, this situation rapidly changes in the first few weeks of life. The hip which fails to stabilise may well occupy an intermediate position of subluxation which may become fixed.

In a subluxated or dislocated hip, the radiographic signs are:

- **acetabular index > 25°**
- **Increased medial gap**
- **Disrupted Shenton's line**
- **Delayed ossific nucleus formation**

The clinical signs are similar.

- **Thigh +/or buttock crease asymmetry.**
- **Short and externally rotated leg.**
- **Restricted abduction in both flexion and extension.**

Treatment of the late Presenting Hip

Subluxated

In the child under 6 months whose hip is only subluxated, it is reasonable to pursue a course of flexible abduction splintage the Pavlik Harness is still suitable for this task with a check strap added between the knees to prevent any forced abduction. It is usually clear very quickly if a deep reduction has been gained as full symmetrical abduction is exhibited within 2 weeks. Serial plain radiographs then chart the progress of hip development.

Once again, it must be stressed that abduction splintage must never be used for the irreducible dislocated hip.

Irreducible dislocated hip / older child with subluxating hip

So for these hips and for the older child with a subluxating hip who has less than 30° of abduction, preliminary skin traction is advisable. This traction requires careful supervision and is usually undertaken in hospital. However, pressure on beds and increasing inpatient costs mean home traction is becoming a little more common.

In the younger child under 2 years, weighing less than 28 lbs, Gallows type traction is used. The child lies supine with the hips flexed to 90° and bottom held just clear of the bed by the appropriate weight. Progressive

abduction may be achieved by the addition of an overhead loop system.

In the older child traction in extension is much more effective and usually a modified Pugh's type is used. The child lies either prone or supine with hips extended on a 45° tilted mattress, with an appropriately placed 'table' to play or eat from and is usually more easily entertained.

It is very important that any progressive hip abduction is not attempted till the femoral head lies opposite the acetabulum.

After 2 - 3 weeks of such traction, the child should be examined under anaesthetic preferably with the aid of arthrography.

Arthrography

The injection of contrast medium into the hip defines what obstacles there are, if any, to full reduction. The advantage of arthrography is that the hip may be examined in a variety of positions and the optimum 'fit' may be assessed. The combination of clinical examination and arthrographic appearances allow the hips to be classified as:

1. Normal
2. Subluxating but with no block to reduction.
3. Dislocating but fully reducible.
4. Dislocated with an obstacle to reduction

Where the hip is subluxated or dislocated and arthrography confirms that full reduction is possible, it is most common to treat the child in a plaster of paris hip spica.

A preliminary percutaneous adductor tenotomy may be necessary to ensure that pressure on the reduced femoral head is kept to a minimum. The spica should be applied in the 'human position' as advocated by Salter (19). 'The hip is flexed to 90°, but is not abducted more than 45°'. This is a difficult plaster to apply and careful moulding around the greater trochanter is required to ensure posterior subluxation or re-dislocation does not occur in the cast. The cast extends to the ankles bilaterally to ensure better femoral control. The spica is then removed after 6 weeks and the hip re-evaluated under anaesthetic. If stable, a Pavlik Harness is again employed to allow gradual re-establishment of hip movement within a limited range. If unstable, a further 6 weeks in a spica is necessary and then harnessing as before to allow adaptive capsular shortening to occur. Careful initial follow-up is required and as soon as the hip is stable and acetabular development sufficiently advanced the child is weaned from the harness. The deformed cartilage of the acetabular roof should show signs of ossification before unsupported walking is permitted.

Prolonged follow-up of these children is essential to ensure secondary displacement or dysplasia does not occur.

For the infant with a teratological dislocation who has waited for the appearance of the femoral head ossific nucleus or whose hip has failed to reduce due to a defined obstruction - open reduction is mandatory.

If the child is less than 2 years old, generally no bony procedure is required and careful reduction of the hip and capsular plication usually allow satisfactory development. Again the child is immobilised in a plaster of paris hip spica, but this time the affected hip is held in approximately 40° flexion, 40° abduction and 20° internal rotation, the spica extending to the ankles on both sides as before. The time of immobilisation increases to 3 months with a subsequent period of abduction bracing if acetabular response is slow.

Over the age of 3 years a bony procedure to realign the acetabulum or femur becomes increasingly necessary. Usually, a redirection of the acetabulum by the Salter innominate osteotomy (19) or reshaping by the Pemberton pericapsular osteotomy (20) is required. It is safest to avoid undue pressure on the reduced femoral head by also performing a femoral shortening procedure which prevents the otherwise inevitable proximal epiphyseal compression when the hip is reduced. Once again the child is immobilised in a spica, but this time only the operated leg is fully enclosed and the unaffected leg has POP to the knee only - a one and a half hip spica. Following removal of the hip spica, it is important to mobilise these children as inpatients initially as the osteoperotic femur may fracture. A graduated approach to splintage should further reduce this risk and progression from hip spica to rigid abduction brace then flexible abduction brace is recommended.

Thankfully, it has become increasingly rare for children to present with a previously undiagnosed hip dislocation over the age of 3 years and those who do generally represent failures of earlier management. It is also rare for the untreated child to develop pain before adolescence and even then it is likely to be discomfort after exercise. In contrast, the child who has been treated unsuccessfully is likely to develop pain in early childhood.

Due to the deteriorating results of treatment with age many authors feel that a child over 7 years with bilateral typical hip dislocation should be left untreated as operative intervention has a high chance of increasing the likelihood of severe adolescent pain. Where the dislocation is unilateral most advocate reduction and reconstruction to preserve leg length and spinal symmetry. However, now more complex procedures are required and both femoral and pelvic osteotomies necessary. As these are mainly salvage procedures often the pelvic osteotomies used, e.g. Chiari (21)

allow compression screw fixation and free leg movement post-op and femoral osteotomy sites are generally compressed, therefore the patient may not require hip spica immobilisation and can simply be non-weightbearing.

Summary

- **The overriding principle of all DDH treatment is to achieve a stable reduction of the femoral head.**
- **Treatment is most effective in the neonatal period.**
- **With increase in age, there is a greater reliance on surgery.**
- **Prognosis becomes increasingly poorer as child becomes older, particularly after failed or inadequate surgery.**

And finally, my job as Paediatric Orthopaedic Physiotherapy Practitioner at the Chelsea & Westminster Hospital is varied and challenging. My role is ever expanding in response to service developments continuing to utilise my specific skills maximally, but most of all it's good fun!

I look forward to hearing from all you paediatric orthopaedic physiotherapists out there, very soon!

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FOOT PROBLEMS IN CHILDREN

DI COGGINGS

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INTRODUCTION

Foot deformities, such as intoeing, curly toes, metatarsus varus and flat feet are common complaints in children and causes for parental anxiety. As a result they make up a large part of the routine referrals to a children's orthopaedic clinic.

There are very few foot deformities that actually prevent walking, and if a child's motor development is delayed, another cause, such as cerebral palsy or spina bifida occulta must always be looked for. The treatment of the foot is not only rarely necessary but will not solve the child's walking problem.

METATARSUS VARUS OR ADDUCTUS.

This is the most common foot deformity producing an intoeing gait. It is very important to differentiate this condition from congenital talipes equino-varus.

In metatarsus varus, the hindfoot is in neutral or valgus, and only the forefoot is in varus. There may also be some supination of the forefoot. This condition is usually detected in the first few months of life, or later when the child first starts to walk. In the mild and moderate cases the forefoot is easily correctable by a simple finger pressure on the hallux. In the more severe cases, which are rare, there may be some fixed forefoot adduction.

There is considerable argument about the treatment of this common condition. It has been reported by Ponseti and Becker (1966) and by Rushforth (1978). Both these articles show that in the majority of cases spontaneous correction occurs with or without treatment. However, because of parental concern, it is probably a good idea to teach gentle stretching of the forefoot to the parents / carers, to maintain mobility, as there are some patients who can become tighter with growth.

Ponseti and Becker reported that approximately 1:9 patients needed treatment. However, Rushforth's series showed that 86 per cent corrected completely, 10 per cent showed mild persistent deformity and only 4 per cent required further treatment other than stretching. These are the patients that are probably best treated with serial casting, to try and correct the deep medial crease, followed by night splinting for at least two years. Very few patients will require surgical correction, and if this is so, it is advocated that surgery should not be carried out until the age of 3 to 4 years.

FLAT FOOT (PES PLANUS).

In the past there has been great concern among parents and doctors about flat feet, and unfortunately this is still so in many families and General Practitioners. It is very important that awareness of a knowledge of the natural history of foot development in the child and that the ordinary flat foot is very often associated with joint laxity should be considered as a normal variant.

Most joints in children are lax and supple, and the younger the child, the more lax their joints are. When standing, the supple feet tend to collapse down onto the inner border of the foot and therefore become "flat".

In almost all cases of flat feet, they are painfree and no particular treatment is required. The most important factor is to determine whether the feet are mobile or stiff. Morley (1957), in an unselected series of patients attending routine health clinics, showed that 97 per cent of children under the age of 18 months had apparent flat feet. By the age of 10 years, only 4 per cent had any evidence of flat feet. In this series, there was no evidence that any treatment such as shoe modifications, exercises or insoles made any difference to the natural evolution of the feet.

When a child with mobile flat feet stands, their heels tend to roll out into valgus when looking from behind. If the child is asked to stand on tip-toe, two things happen :-

- the heel rolls inwards into varus.
- a medial arch develops along the inner border of the foot.

In stiff flat feet, as the child stands on tip toes, the position of the heel does not change and more importantly, the medial arch does not develop. This type of foot should be further investigated by a Paediatric Orthopaedic Surgeon. Stiff flat feet are often painful, and depending on the cause, often surgery is required to improve the position of the feet and to try and reduce the pain.

CONGENITAL TALIPES CALCANEOVALGUS.

Postural calcaneovalgus is the commonest position of the foot in the newborn. In a neonate, it is quite normal to be able to dorsi-flex the foot so that the dorsum touches the anterior aspect of the tibia. There should aslo be a full range of plantar flexion.

In calcaneovalgus, the foot can be quite markedly dorsiflexed and everted, and plantar flexion is limited, often only to the neutral position. This can

be associated with Congenital Hip Dysplasia and the "moulded baby syndrome".

If there is no underlying abnormality, this condition will almost always respond to simple stretching into plantar flexion and inversion. If there is a failure of correction by the time the baby is three months of age, then some form of splinting may be used, but usually if correction has not occured, then there will be another underlying condition responsible for the foot deformity.

PES CAVUS.

This condition is probably one of the most serious of foot deformities if it presents after birth. A cavus deformity without any other deformity should always be fully investigated for spinal and other neurological abnormalities, such as HMSN.

CONGENITAL TALIPES EQUINO-VARUS

Introduction

Despite club foot being a "known" condition as far back as the time of ancient Greeks, it still probably remains one of the most difficult of all common congenital anomalies to treat fully successfully, its cause remains unknown and its treatment empirical. Confusion can arise because of a similar failure to distinguish between conditions that can produce a similar deformity, whilst the underlying cause can be very different. It is therefore of the utmost importance to try and rule out any underlying cause, as the latter can affect the outcome of the type of treatment chosen. The fundamental problem is one of treating a deformity that is in three planes and can involve several joints at the same time, and probably one of the most important things not to forget is that the deformities can constantly charge under the influence of growth.

Aetiology

The incidence of club foot is approximately 1-3:1000 live births.
The male : female ratio is 2.5:1 and 50% are bilateral.

Multiple theories of cause have been proposed, and although these remain unclear, new views are beginning to emerge.

There are three aspects of the aetiology which should be considered :-

(1) The Effects Of Intrauterine Moulding.
This would not explain the calf-wasting usually present. It would however, acting as an environmental factor, increase the chances of more severe deformity if the foot was unable to move.

(2) Nerve and Muscle Imbalance.
Handelsman and Badalamente (1981) and others have identified differences in muscle fibre type, with a high proportion of Type 1 fibres compared with controls. In addition, there is an increased amount of fibrosis and reduced excursion of these muscles. The common association between foot deformities and such conditions as meningo-myelocele makes neurological imbalance a probable primary aetiological factor.

(3) Delayed Development.
Studies have shown that as a foot develops in utero, it passes from a position of equinovarus to calcaneovalgus. The vascular anatomy at this time also changes, and if the growth of the foetus is arrested for some reason, then the foot is deformed.

On conclusion, there is no single cause for club foot. There is a high familial incidence, suggesting an inherited anomaly. The anomaly could be vascular or neurological, resulting in a delayed maturation of the foot, and a subsequent imbalance between the dorsi and plantar flexors of the foot, and the resulting position could be made worse by a form of intra-uterine moulding.

Pathology

The pathology of club foot consists of four components, and these are always important to remember when considering the type of conservative treatment :-

1. Bony abnormalities.
2. Muscle imbalance.
3. Reduced muscle excursion.
4. Joint deformities and subluxations within the foot.

Diagnosis and Assessment

Like most orthopaedic conditions. Club Foot is treated differently in different centres. However, it is of the utmost important to be able to assess the foot, prior to treatment. Methods of treatment also vary, often relating to the person/people looking after the baby and what they believe "is right" and they feel most experienced in carrying out. Strapping, manipulations or plaster correction may be started early, followed by early or later surgery, depending on the ideas of the surgeon. These operations car vary, from being extremely limited in some centres and radical in others. I believe that as most club feet are different, the need for ongoing assessment is essential.

A diagnosis of club foot is usually (and should be) made at the time of the baby's birth, and can be made pre-natal with routine ultra sound. The latter diagnosis enables parents and professionals to prepare themselves for what is to come.

It is important to be able to describe the foot at birth in terms of mobility and fixed deformities, and secondary, to be able to notice and record changes that occur as a result of treatment.

Various methods of measurement of the deformities have been reported, but probably the easiest two to follow are :-

(1) Harold and Walker. (1983).

Group 1 = No fixed deformity.
Group 2 = Less than 20° fixed equinus/varus.
Group 3 = More than 20° fixed equinus with varus/cavus/supination.

(2) Catterall. (1991).

Type	Resolving Pattern	Tendon Contracture	Joint Contracture	False Correction
HIND FOOT				
Lateral Malleolus	Mobile	Posterior	Posterior	Posterior
Equinus.	No	Yes	Yes	Yes
CREASES				
Medial	No	No	Yes	No
Posterior	No	Yes	Yes	Yes
Anterior	Yes	No	No	Yes
FOREFOOT				
Lateral Border	Straight	Straight	Curved	Straight
Mobile	Yes	Yes	No	Yes
Cavus	+/-	+/-	+/-	No
Supination	No	No	Yes	No

Examination Findings

The clinical picture of club foot is characterstic, but can vary from being "mild" to "severe", the former being relatively mobile and the latter fixed and rigid, or as in Catterall's definition, from a "resolving pattern" to that of "joint contracture". A "false correction" will be discussed later.

Treatment

Parents have to come to terms with the birth of the baby with club foot, which can often be dramatic and difficult, especially when the child is first born.

Parents will nearly always ask if the child will walk. The child may be a little late, usually due to their lower limbs being in plaster, either following surgery or due to conservative treatment, but the child will always walk

unless there is an underlying neurological problem. Time for discussion with parents/carers must always be put aside, not only to describe plans of treatment, but also to explain that the foot may always be small, with some restricted movement, and the calf thin.

Conservative Treatment

Conservative treatment should be started as soon as possible, after initial assessment has been made. It is also useful to have a photograph taken to remind "all" what the foot was like at birth.

The question is what method should be used and if using, what sort of splintage? The main aspect of conservative treatment are :-

1 To try and correct the deformity.
2 To try and restore movement.
3 To maintain the correction obtained.

Whatever type of conservative treatment is decided upon, it should be initially concentrated on the forefoot, and no attempts should be made to correct the hindfoot equinus. Movement should be centred in the mid-tarsal area and at the talo-navicular joint. Only if and when mobility has been restored in the mid-tarsal area,with straightening of both the medial and lateral borders of the foot, should correction be started on the hindfoot. Too much force, especially attempted on all joints at the same time, can produce swelling, (when strapping and/or splintage should always be removed immediately), persistent equinus, breeching of the foot in the mid-tarsal area and often an anterior ankle crease. This type of false correction is often called the "bean - shaped" foot or "rocker - bottom", and should be avoided at all times.

There are various methods of conservative treatment, the most common being :-

1 Gentle Stretching and Manipulations

For the tendon and joint contracture type of club foot, I believe that at least the first 5 - 7 days should be treated using this method. A newborn baby's club foot can be extremely stiff and rigid and applying strapping or plaster enables no movement at all. By teaching parents/carers the exercises below, repeated several times per day, will improve mobility prior to applying strapping and reduce the risk of swelling, which only means that the foot has been traumatised.

Techniques

A. Midtarsal Abduction

Fix proximally anteriorly (over talus and navicular).

★ Mobilise forefoot into abduction.

★ Mobilise forefoot into abduction and eversion.
★ Apply traction to forefoot with correction into abduction.
★ Pronate forefoot if supination is present.

B. Hindfoot Eversion

(1) Fix proximally posteriorly around malleoli.

★ Mobilise navicular forwards and downwards.
★ Apply A/P pressure to talus.

(2) Fix proximally anteriorly around malleoli and talus.

★ Mobilise calcaneus into eversion.
★ Mobilise calcaneus into eversion and apply downwards traction.

C. Dorsiflexion

Fix proximally around fixed knee.

★ Move foot into dorsiflexion mobilising with pressure through heel not through forefoot.

D. Tactile stimulation of lateral border of foot and lower leg

2 Robert Jones Strapping

I find this method is best used on the resolving club foot, where the forefoot is reasonably mobile. The parents/carers are taught gentle stretching as in 1., which are done regularly throughout the day. Care must be taken not to over-correct the foot, and the tightness of the strapping itself must only be put on to where the foot can he held with 1 finger, so there is no force used on the foot. A bean-shaped, or rocker bottom foot, is usually produced by attempted hindfoot correction, using the forefoot as a lever, and this is very easily down using this type of strapping on a rigid foot.

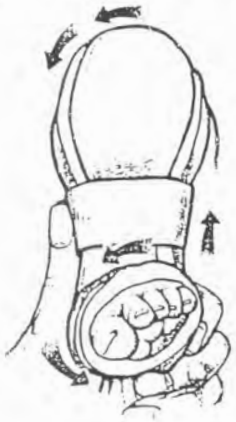

Diagram 1

Application of Robert Jones Strapping

Materials

Tinc. Benz. Co.
Cotton Wool.
7 mm thick adhesive surgical felt.
2.5 cm wide zinc oxide strapping.

Method

Apply Tinc. Benz. Co. liberally over :-

1 The dorsal and plantar aspects of the foot.
2 The thigh, above the knee to a depth of 3 cm, or more if a larger child.
3 Both sides of the lower leg.
4 Around the anterior and posterior aspects of the lower leg, between the knee and the malleoli.

Felt

(a) FOOT Take a piece at least 2.5 cm wide and put it round the foot, the distal edge level with the base of the toes, and with the join in the midline of the dorsum of the foot.

(b) KNEE Put a longer piece of felt of the same minimal width over the top of the **fully flexed** knee and down either side of the lower leg, leaving a space of at least 2 cm above the malleolus on both sides.

Fixation

Apply the strapping over the felt, starting at the lateral edge, crossing to the medial and round the plantar aspect; then up over the knee, still fully flexed, and down 2/3 of the medial aspect of the lower leg. In doing this, pull the foot with eversion into dorsiflexion. If necessary a second piece of strapping may be applied on top of the first, to increase this correction.

Then put another piece of strapping round the calf, further to tighten and to anchor the vertical pieces. This piece should go round twice, one on top of the other.

Circulation

The peripheral circulation must be checked before the child leaves the Department. If after 10 minutes and with the child at rest, the foot, or any part of it, is dusky, check to find the impediment and make the necessary adjustment. If the foot remains dusky after this, take everything off **gently** and start again.

Frequency

Felt and strapping are applied once a week and the correction tightened by strapping on top twice or more during the following 4 days. On the 7th day remove the strapping and felt, leaving the leg free for 24 hours.

The main correcting force is applied around felt-protected forefoot, so that the free end of the strapping emerges on the lateral side to continue

up, above and over the flexed knee to be fixed to the medial side of the calf. Sometimes a second strip is placed from medial to lateral around the heel and again continued over the knee. The prolongation over the knee is used for added security of fixation and in the belief that when the child kicks an added dynamic force is transmitted to the foot.

Parents/Carers can usually be taught how to overstrap after a few weeks, reducing the number of visits.

3 Velcro - Strapping

This is a modified type of Robert Jones Strapping. I prefer to use this method until the forefoot is reasonably mobile. It allows the position of the foot to be adjusted on a daily basis and stretchings/manipulations are easier to perform once the velcro has been removed, thus attaining more mobility.

Tinc Benz and Felt are applied as in Robert Jones Strapping, but then instead of using Zinc Oxide Tape, velcro is used as below :-

Self-adhesive velcro - hook strip is placed on top of the felt. Gently stretching the foot into its corrected position, attach a pice of velcro-loop strip onto the velcro - hook, starting medially inferiorly on the lower leg, over the flexed knee, down onto the lateral border of the forefoot, underneath and around the foot and back up over the whole dorsum, finishing laterally. The lateral and medial ends below the knee are then anchored down. This is the opposite way to applying the Zinc Oxide with Robert Jones, thus avoiding over correction, as in Diagram 2.

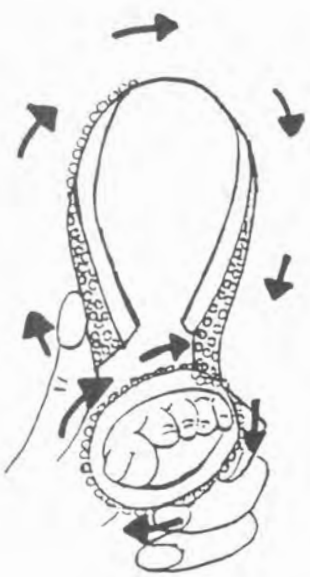

Diagram 2

4 Plaster of Paris

This is still a fairly common technique used, especially by Orthopaedic Surgeons who do not work alongside Physiotherapists. However, I believe that this method has its limitations. The main contradictions to this method are :-

★ Stiffness.
★ Inability to do stretching/manipulations.
★ Skin problems.

I do not believe this method should be used initially, and the preferred usage is either when trying to maintain a corrected foot, or in the foot that has relapsed minimally, does not require surgical correction, and the foot it too big to strap. The plaster must always be applied over a flexed knee to the top of the thigh in a child who is not walking. If a below knee cast is applied in the younger child, it is likely he/she will either kick it off or the foot will slip inside the plaster.

5 The Articulating Ankle-Foot Orthosis

This is a fairly new orthosis, made by Camp, designed to be adjusted in all three planes to the deformity. The splint is made up of :-

(a) A sole plate-anterior and posterior.
(b) A leg strap.
(c) A thigh strap.

These structures are connected and hinged to one another by complex mechanical systems, allowing firstly adjustment according to the morphology of the lower limb to be treated, then the mobilisation and fixing of each segment of the limb in relation to the other on all three planes, apart from the flexion/extension of the knee, which is obviously only on a sagittal plane. The foot is strapped onto the sole-plate using non-elastic adhesive tape (preferably Zinc Oxide), and usually changed weekly.

The advantage of this device is its three dimensial adjustment.

6 Neuromuscular Stimulation

This is still being used minimally, however I believe that if the parents will allow and if the foot is reasonably mobile, it can be used as part of the Physiotherapy Progamme. Small electrodes are placed on the skin over the dorsi-flexors and weak impulses stimulate the muscles.

7 Ilazarov Technique

This is always done by an Orthopaedic Surgeon. The Ilazarov frame comprises of a series of metal rings held together with rods and fixed to the bone from several directions by thin wires under tension. By adusting different components of the frame over a period of time, the foot can be

moved into a new, acceptable position. The preference for using this is usually on the stiff, uncorrected foot that has already undergone surgery.

Complications of Non-Operatic Treatment

1 Failure of correction - recognised.
- unrecognised.
2 "Bean Shaped" or "Rocker-Bottom" foot, caused by attempted hindfoot correction using the forefoot as a lever.
3 Skin problems.
4 Stiffness.
5 Delayed surgical correction, resulting in additional surgery +/- stiffness.
6 Insufficient surgery.

CONCLUSION

Although the cause of club foot is unknown, there is nearly always a degree of muscle imbalance from an early stage. The variability of this imbalance implies that a standard method of treatment is not appropriate for all cases.

I believe that the amount of mobility that the foot gains with conservative treatment is as important as the correction of the deformity itself. Conservative Treatment can cause stiffness, leading to more radical surgery, likely to cause fibrous tissue, and the result is a vicious spiral of increasing stiffness.

Assessment and a means of recording the club foot of a newborn baby is of utmost importance. If the "type" of deformity can be identified, specific treatment can be established and hopefully the predicte outcome more reliable both for those treating the foot, and not least, for the parents.

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Catterall A. 1991 - A method of assessment of the clubfoot deformity. *Clinical Orthopaedics and Related Research*. **264**:48-53.

ANNUAL GENERAL MEETING 1999

The 26th Annual General Meeting of the Association of Paediatric Chartered Physiotherapists was held on the 17th April 1999 at The Royal Victoria Hospital, Newcastle-upon-Tyne

LIZ HARDY

MCSP

CHAIRMAN'S REPORT

I am delighted to welcome you all to the 26th Annual General Meeting of the Association of Paediatric Chartered Physiotherapists.

As I hope you will already have realised, this meeting is being held in conjunction with a study day, rather than as part of our National Conference. This is because, as Lyn Campbell informed you last year, we decided to participate in the CSP's new style Congress, to be held in Birmingham in October, and so, this year, APCP Conference will be an integral part of this exciting new event.

National Committee have met 4 times, as usual, with three meetings being held at CSP headquarters in London, and one yesterday, here in Newcastle-upon-Tyne. Gwyn Owen, who is the CSP's professional adviser with responsibility for CIG's, attended the January meeting. These meetings always have very full agendas, and much lively discussion and debate takes place, focusing on current issues in paediatric physiotherapy and looking towards the future of the Association. A summary of these meetings has continued to be published in the Journal in order to keep all members informed. In addition regular meetings are held of the executive committee, the regional representatives, the education liaison committee and the editorial board. All National Committee members work very enthusiastically on behalf of the Association, and I know you will wish me to thank them for this.

The CSP continue to use APCP as an 'expert' resource, asking for our input in the creation of reports and documents, and for comments on consultative documents from other bodies. This has covered a very diverse range of topics from the NHSE draft guidance on commissioning of specialised services to issues related to the CSP membership database. We are also regularly asked, by the editor of Physiotherapy to provide book reviewers for texts with a paediatric theme. In their 'Strategy for Clinical Interest and Occupational Groups', the CSP demonstrate that they recognise the value of and work undertaken by CIG's such as APCP.

Several National Committee members have attended external meetings on APCP's behalf this year. I would like to tell you a little about a selection of these.

Terry Pountney represented APCP on the external advisory audit group to the Audit Commission, as part of it's major study of rehabilitation and

remedial therapy. I understand that this report is due for release later this year.

Sue Whitby was one of 6 physiotherapists who took part in a pre-pilot study by the National Casemix Office, considering issues surrounding the delivery of therapy in a community setting.

Kate Mackinnon attended a meeting called by CSP to discuss the role of junior physiotherapists working in the community.

Angela Glyn-Davies, Terry Pountney and Carol Hurran had a fruitful meeting at the House of Commons with Vince Gable, who is Liberal Democrat MP for Twickenham. The purpose of this was to enlist his backing for the issue of getting appropriate therapy support for children with special educational need in mainstream school.
As you can see, quite a variety!

During her time as Chair, Lyn Campbell, supported by Di Coggings, initiated the development of the 'Communication, collaboration and co-operation' document. This was published in December in the APCP Journal and in the publications of all participating organisations. We hope that this will assist all therapists who have any difficulty when a child is receiving more than one kind of therapy, and make working together with other professionals a constructive experience.

Central mailing of the Journal is, as you will be aware, 'up and running', with only the odd small hitch. The Journal continues to go from strength to strength, and is becoming recognised by other CIG's as an example to strive towards. Producing the Journal is a huge undertaking and Lin Wakley works tirelessly in order to maintain it's quality. She and indeed, the whole Editorial board, must be congratulated.

Eileen Kinley took over as Publications Officer upon the retirement of Carol Foster, and has already stamped her own mark upon the job. A new publication 'Human Postural Reactions' by Dr John Foley was launched this year, and the long-awaited, brand new APCP publicity leaflet is available for you to take away today. The 'Tests and Measures Resource Pack' has been updated, and the committee are considering how best to enable those people who have already purchased a pack, to access the additional pages. Julia Graham and colleagues, both from within National Committee and outside have, after 2 years work, completed the Paediatric Manual Handling booklet. This is currently being printed and will be available very soon. This has been a particularly complex booklet to produce, given the legislative minefield of load management, and our thanks go to Julia and her team for their commitment and dedication to this task.

Today also sees the launch of the 'Working Together' file - produced as the result of a joint venture between Scope and APCP. Jill Brownson and Fiona Corkhill were our representatives to this project which has taken around 3 years to come to fruition. A copy of this loose-leaf file is to be sent, by Scope, to every Trust which has a paediatric physiotherapy service. I am sure this will soon be established as a valuable record and resource file for families and therapists.

Terry Pountney heads the Education Liaison Committee and has had a very busy year. Many members are now involved in the earliest stages of developing 'Evidence based guides to paediatric physiotherapy. This is going to involve a considerable amount of work, and require financing by APCP, but we feel that this is just the sort of venture you would like us to work on, as it will improve our clinical practice.

This year has seen considerable work in the area of post-registration education. The 4th 'Introduction to Paediatrics' course is to be held in Glasgow in June, organised by the Scottish committee. There has been considerable enthusiasm for this course, and only a few places remain. At a different level, the proposed double module in paediatrics, which is to be part of an MSc Physiotherapy course, has now taken shape, thanks to a small working party of National Committee members. This will commence at Queen Margaret College Edinburgh in October 2000. The collaboration between the University and APCP is very exciting. We are especially grateful to Lyn Campbell who has done much of the groundwork for this project, and to Dr Marie Donachie from QMC who has injected us all with her motivation, enthusiasm and commitment to the project.

1999 was a year tinged with sadness, as we learned of the death of Jenny Bryce. I wrote, on behalf of the membership, to offer our condolences, and Eileen Kinley represented the Association at a celebration of her life.

On a happier note, we received two nominations for Honorary Membership of the Association. Both nominees more than exceeded the requirement for this, and so I am delighted to announce that Eva Bower and David Scrutton have accepted this honour. Both are well recognised for their enormous contribution to paediatric physiotherapy, and, as they are here today, I know that you will wish to join with me in congratulating them now.

There are three members of National Committee who are retiring this year, that I would like to thank.

Fiona Corkhill has worked very hard for APCP for many years, first as secretary and more recently as CIG Liaison Officer. Fiona has a knack of sifting complex and detailed reports in order to present us with just what

we need to know. Her experience and knowledge have proved a valuable asset to the Committee and we will miss her common sense and dry humour. Ann Shanks is taking over as CIG Liaison Officer.

Alex Winney proves that we don't like members to stagnate in one position. Alex was initially regional rep for the North West region. She then promoted APCP very effectively as PRO, particularly being remembered for her support to the regional reps. Alex has recently been an active member of the education liaison committee.

Kate Mackinnon joined the committee for only a short while before moving abroad, and we wish her well.

Mary Goy, our secretary, also retires today. Mary agreed to be co-opted, last year, in order that there was a smooth transition for the all-new executive committee. I cannot thank her enough for easing me fairly gently into the Chairman's role. She has been an extremely efficient and organised secretary, and it is mainly thanks to her preparation that National Committee meetings, and indeed many of the workings of the Association, have run so smoothly. At yesterday's National Committee meeting, Christine Shaw was elected as Mary's successor. I am pleased to say that both Mary and Fiona have agreed to be part of the organising committee for Conference 2000.

As we move forward to 'The New Millennium', APCP is strong. We have over 1300 members. We have exciting plans for future development, many of which you will hear about in the following reports. National Committee are answerable to you, the membership. We hope we meet your expectations.

JULIA GRAHAME
MCSP

TREASURER'S REPORT

I have bound copies of the full National and Regional Accounts for members to view if they wish, but for the purposes of this report you have three sheets to view :

- The National Account Balance Sheet
- Details of Income and Expenditure
- The Conference Accounts for 1998

Firstly, I should like to thank Angela Glyn-Davies for her help and support during my first year as National Treasurer. Her organisation of the accounts and all the associated paperwork meant a relatively smooth and painfree handover in June of last year.

I would also like to thank all the regional treasurers who completed their accounts successfully, in the standard format and returned them to the Accountant on time.

I will try to explain the balance sheets and answer any queries at the end of my report if there are any.

The following describes the income and expenditure :

Income

Courses - The difference in income between 1997 and 1998 on courses is due to the fact that there was no Introduction to Paediatrics Course run in 1998. This is usually the National Account's only income from courses.

Capitation Fees - These remain at £1 per member payable from CSP. The capitation fees appear on the balance sheet under - Current Assets "Debtor", as they were paid after the December 31 1998 deadline. They amount to £1391 which reflects the membership numbers at the time of submission of the invoice to the CSP.

Subscriptions - This is the bulk of our income and these were raised to £21 in 1998 (voted for at AGM 1997). This income reflects the high numbers of members - over 1300 - and the hard work carried out by everyone, especially the regional representatives - my thanks to them.
I am happy to report that because of the relatively healthy state of the National Accounts the subscription level will remain at £21 for a further year.

Publications - This figure represents the sale of APCP publications and I would like to thank Eileen Kinley, Publications Officer, for her hard work dealing with these.

Other items are self explanatory - advertising being charges made for adverts placed in the APCP Journal.

Expenditure

Catering/Accommodation/Committee Travel etc. - This is much less than in 1997 and the difference is due to the fact that the Committee did not hold a residential working weekend during 1998. The figure reflects the cost of National Committee Meetings - four times per year, which combine Editorial Board Meetings, Educational Liaison Meetings, Executive Committee Meetings and any other sub-group meetings.

Lectures Fees - Once again the difference is due to the fact that there was no Introduction to Paediatrics Course in 1998.

Honorarium - This is slightly increased on last years figures due to the fact that it was raised to £130. There are nine committee members who

receive this : Chairman, Vice-chair, Secretary, Treasurer, PRO, Editor, Membership Secretary, Research Officer, and Education Liaison Officer.

Publications - This includes printing costs for the production of the Journal. It also includes costs for updating and reprinting the Haemophilia booklet.

Payments to NE Region - This is the amount paid to the Region who organise the Conference and was for 1997. The region had received an earlier payment of £500 which was included in last years Accounts, making a total of £1000.

Depreciation on Computer - This is calculated over three years and amounts to approximately one third of the total value of the equipment. The accountants do this to accommodate the ever progressive nature of the computer industry and the fact that equipment is almost outdated by the time you buy it! As can be seen by the next entry on the expenditure sheet APCP had to replace and update the computer held by the membership secretary this year at a cost of just over £1000.

Corporation Tax - This entry has seen the biggest change over the last year and this is due in part to the Association being a victim of its own success. Corporation tax is paid on the profit made on non-members participating in courses. For the first time all the regions except one have made a surplus for the year and thus we pay more tax.

This fact highlights the importance of anyone running courses for APCP to identify a difference in cost for members and non-members and to identify them on the accounts sheets separately.

As you can see there is a healthy surplus for the year of £11,569.

The third sheet shows the Conference Account for 1998 and it is fairly self explanatory.

The profit made to National Account was £3463. My thanks go to the organising committee in Birmingham for all their hard work in making the Conference a great success.

Although the surplus for the Accounts looks healthy I need to be able to think ahead to the Association's financial status and plan for the future.

The Association changed the distribution of the Journals mid-way through the year last year and these are now distributed centrally. I shall be reviewing the cost implications of this on the National Accounts once a full year has been completed in June '99.

The establishment of the clinical guidelines group may also have large cost implications for the Association and this too will need to be monitored although I strongly believe it will be money well invested.

I have now completed almost a year as National Treasurer and it has been an honour to do so. I would like to thank the other National Committee members for their support during this time - it has been greatly appreciated.

After the adoption of this report I would be happy to take any questions about the Accounts.

Julia Graham MSCP BSc
Honorary Treasurer
Adoption of Accountants to Inspect our Accounts

I would like to propose that Neill Hill, our present Accountants, be adopted for the next financial year.

NATIONAL ACCOUNT
BALANCE SHEET AS AT 31ST DECEMBER 1998

	Note	1998 £	1998 £	1997 £	1997 £
FIXED ASSETS					
Computer Equipment	1		727		1,014
CURRENT ASSETS					
Stocks		537		537	
Cash at Bank		38,475		27,086	
Debtor		1,391		-	
		40,403		27,623	
CURRENT LIABILITIES					
Corporation Tax	2	924		-	
			39,479		27,623
			40,206		28,637
ACCUMULATED FUND					
Balance brought forward at 1.1.98			28,637		24,935
Add: Surplus for the year			11,569		3,702
Balance carried forward at 31.12.98			40,206		28,637

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER 1998

	Note	1998 £	1998 £	1997 £	1997 £
INCOME					
Courses		-		9,515	
Capitation Fees		1,391		1,303	
Subscriptions		28,421		22,921	
Publications		3,486		4,827	
Bank Interest Received		1,813		1,355	
Sundry		32		81	
Received From Conference		3,463		1,675	
Advertising		17		225	
			38,623		41,902
EXPENDITURE					
Catering & Accommodation		2,501		9,028	
Committee Travel & Subsistence		5,303		7,185	
Lecture Fees		-		1,870	
Clerical & Computing Services		42		80	
Honorarium		1,170		1,080	
Postage, Stationery & Telephone		2,894		2,481	
Accountancy Fees		1,110		1,058	
Course Fees & Materials		75		508	
Publications		10,889		13,118	
Bank Charges & Interest		89		151	
Sundries		42		26	
Payments to South East Region		-		1,000	
Payment to North East Region		500		-	
Computer Expenses		-		89	
Gifts		59		89	
Payments to Conference		-		500	
Depreciation on Computer Equip		363		-	
Loss on Disposal of Computer		1,014		-	
			26,051		38,200
			12,572		3,702
Corporation Tax	2		1,003		-
SURPLUS FOR THE YEAR			11,569		3,702

SUE WHITBY MCSP

PRO REPORT AGM 1999

Good afternoon - all of you.

Another year already! I can hardly believe that it's a year since I spoke to you all at our Birmingham conference. Time rushes by when you are enjoying yourself! Lots of people have contacted me, on your behalf, to get an opinion on various subjects. These include newspapers, magazines, radio and TV.

The CSP are trying to raise the profile of physiotherapy, wherever and whenever possible, so the Communications department have been very busy, and have contacted me about lots of things, including treatments, toys, reports and equipment. Some of my comments have been quoted in Frontline, Therapy Weekly and the daily press.

When press releases are issued the newspaper reporters, T.V., radio, etc. usually want an expert to speak to within minutes! When this happens I try to find someone or give what I hope is a general opinion. I am gradually gathering a network of contacts.

Last year I went on a bit about collecting photographs for displays and this year's no different. With the 50th anniversary of the NHS celebrations my set of photos was in regular use and I had to let people down on some occasions. I still need more photos.

I was interviewed for Radio 4's 'You and Yours', which is on every day now, from 12 noon to 1 o'clock. I had to comment on 4 and 5 year olds doing Karate.

The producers of 'You and Yours' are keen to do items ona huge range of general interest subjects and want me to contact them if we have something to say.

Liz Hardy and myself represented APCP, at the East Anglia Board CSP conference last Autumn, which was run using the same format as the CSP conference in October this year, where we are holding our own APCP conference. It was a great idea and we got a real buzz from being part of such a big event. I had an APCP stand at the conference and there was a fair amount of interest from non-APCP members.

I also set up a stand at the University of Hertford SIG, for the final year physiotherapy undergraduates. It was an excellent forum to promote APCP, as well as encouraging your staff into paediatric work.

Last month I was invited to attend a workshop, organised by the European Academy of Childhood Disability, to bring together professionals working

with disabled children, to try and discover how they are trained.

From time to time I get requests for APCP clothing - usually polo shirts or sweat shirts, for paediatric physios to wear whilst working with children. We often have conference speicals but we have not, so far, had any APCP clothing. I am investigating the possibility of some sort of corporate image.

We have had various flurries of activity on the ongoing baby walker saga, but it all seems to have gone quiet again. I have produced a leaflet with my local Health Visitors, which is called 'Playing and Moving Safely' an informative leaflet for families, which includes information about baby walkers. We will pilot it and it may be developed as a leaflet for APCP and the Health Visitors and Community Practitioners Association, with CSP backing.

As PRO I co-ordinate the Regional Representatives committee. We meet regularly at National Committee meetings and are able to keep you all in touch with the work of APCP. APCP is a wonderful organisation and I rely on all of you to tell all your colleagues to join us.

TERRY POUNTNEY
MCSP

EDUCATION LIAISON OFFICER'S REPORT - AGM 1999

This has been my first year as Education Liaison Officer and has proved to be extremely busy and exciting. I have thank to the education committee for all the support they have provided through the year and help in finding my feet. The committee has met four times during the year as well as attending meetings for related activities. The Research Officer, Carrie Jackson, has worked closely with the committee this year and this has proved very beneficial.

The Association of Paediatric Physiotherapists Introduction to Paediatrics Course will be held in Glasgow in June of this year and thanks are due to the Scottish team for organising this.

The need for evidence based guidelines for treatment is high on the NHS and CSP agenda nationally. APCP with input from the CSP has decided to develop guidelines for three areas of practice in paediatric physiotherapy: Erb's Palsy, Hip Management in Cerebral Palsy and Developmental Co-ordination Disorder. This is a large and expensive project to organise and fund but the committee has agreed to support it as an extremely important step in ensuring that children and families are receiving the most appropriate interventions.

Coordinators for each subject have been appointed and have begun gathering literature. A meeting to develop critical appraisal skills is being

run in May, after which members who have volunteered to take part in the project will begin reviewing the literature. The support from the membership for this project has been tremendous and emphasises the need for this type of information to support our work.

The second new development is the joint venture between APCP and Queen Margaret College in Edinburgh to run a double module in paediatric physiotherapy. The module will run from September 2000 and requires 4 weeks of study at the college. The course offers a student centred approach where students are expected to present their knowledge, views and experiences and undertake a substantial amount of independent study. The modules will be based around cases which will explore the theoretical basis for clinical interventions alongside communication, psychosocial, legal and ethical and professional issues. Assessments will include a literature review of the student's choice and a report on a focus group session to determine user's opinions. It is hoped that the modules will be launched in October at the CSP conference.

I attended a course on Continuing Professional Development in May 1998 and the CSP is currently seeking members views on CPD. The national committee has responded to the first stage of the consultation exercise. CPD is an important issue for paediatric physiotherapists as so little undergraduate training is available. As an organisation, however, at local and national level we provide many excellent courses and study days for members and should be rightly proud of our achievements.

Following Carole Hurran's work on the Government Green Paper on Special Educational Needs last year we were invited with Scott Davidson(Press Officer of the CSP), to the House of Commons to meet Vince Gable, Liberal Democrat MP for Twickenham. He had previously asked questions in the House regarding child disability issues and the CSP approached him to add his support to the issue of therapy support to children with special educational needs in mainstream school. The meeting was worthwhile and explored a variety of issues around the subject. Three areas of concern were identified as possible avenues to pursue: the development of designated schools in each locality which are properly resourced to meet the needs of SEN children; the problems of interagency funding between health, education and social services regarding the provision of services & equipment ; the recruitment and retention of paediatric physiotherapists. Scott Davidson will continue to liaise with Mr Gable on these matters.

The paediatric manual handling book is (hopefully) complete and available for purchase????

My thanks go to Di Coggings, Sue Walmsley, Alex Winney, Carrie Jackson, Teleri Robinson and Liz Hardy and all the national committee for all their hard work, support and friendship during the year.

Terry Pountney

ELECTION OF COMMITTEE MEMBERS

There were three vacancies for the National Committee and more than three nominations so an election was held. The successful candidates were:

Christine Shaw
Adare Brady
Terry Pountney

HONORARY MEMBERS

David Scrutton and Eva Bower were nominated for and accepted Honorary membership of the Association.

HANDLING PEOPLE WITH SPECIAL NEEDS. Course with Video.
Centaur Training Ltd. The Station Business Centre, Station Road, Redcar, Cleveland TS10 2RD.
Tel. 01642 478478.
Cost: £699

This course covers very comprehensively all aspects of manual handling - legislation, anatomy and mechanics of the spine, pathology of spinal injury and correct lifting and handling techniques for people working with children and adults with special needs.

The course can be used in two forms, presenter led or open learning. It is divided into units, some use videos, some are demonstrations for practical sessions. There is a Workbook with revision questions, written exercises and a training record. The presenter led course supplies overhead transparencies, master photocopies and all documentation required to organise a course. The open learning course has 2 course books that the learner works through with the videos at their own pace with the help of one or more supervisor. This is essential not only for overseeing the practical work but also to ensure that the learner is working at the right level.

Some of the work on spinal anatomy and injury although beautifully explained and illustrated, uses medical terminology and anyone without previous knowledge may find this section difficult without help. A physiotherapist colleague working with musculoskeletal problems was concerned about the emphasis on the negative side of backs - how small the back muscles are compared to the large leg muscles and how disastrous it was to have a back injury as one may never recover. While taking the point that back injuries are to be avoided at all times, modern rehabilitation is more positive, encouraging people to move their backs without fear and to expect to resume their normal lives. Anyone who has ever had some back pain (and who hasn't?) may lose confidence in their manual handling ability after watching this.

The units on hoisting and slings was well done, providing a very useful library of techniques and equipment.

The units on handling special needs people addressed the question of how much the person should do for themselves as part of their therapeutic programme and how much they should be mechanically handled for the carers' sake. Many examples of people with special needs moving or being moved safely as part of their therapy programme or ADL were covered. However, I was at a slight loss to know to whom the information was addressed. Was this intended to be a refresher for occupational and physiotherapists or an initial training course for carers? Or both? Surely carers would not instigate these techniques without an assessment and care plan from a trained therapist. I think an explanation would have been appropriate that these were examples of how a therapist may wish carers to help and supervise their clients but that the therapist should teach them initially with their particular client. However, properly supervised the information could be used at any level.

Overall a very thorough guide to handling people with special needs provided it is used with supervision from people who are aware of the learners' needs and abilities as well as those of their clients'.

Sue McKechnie MCSP
Superintendent Paediatric Physiotherapist

HUMAN POSTURAL REACTIONS
Lessons from Purdon Martin By John Foley
Available from APCP - Publications Officers or Friends of Cheyne Centre for Children with Cerebral Palsy.
Cost £5. (incl. p&p)

The author, John Foley, is the renowned Neurologist who worked at the Cheyne Centre until 1986, he became consultant to a range of hospitals thus gaining experience of neurological disability from infancy to old age.

This publication is a good theoretical book describing human posture and postural reactions, useful for all therapists working in the neurological field. It gives clear explanations of postural reflexes including antigravity mechanisms, mechanisms of postural

fixation, tilting reactions, protective reactions, righting reactions, locomotive reflexes, reactions to falling and ocular postural reactions.

Whilst the book is not wholly specific to children, it relates to the broad spectrum of difficulties which can be encountered in people with neurological impairment.

In summary, it is a useful publication to hold particularly in reference facilities for the revision of posture and its complexities. It would be useful for students and therapists new into paediatrics to gain a baseline knowledge of the subject.

Ann Peters MCSP

LOOK AT IT THIS WAY
Toys and Activities for Children with Visual Impairment
Author : Roma Lear
Published by Butterworth Heinemann in 1998.
ISBN Number 07506 38958. 129 pages.

For those therapists, carers and others who work with children with Special Needs - Roma Lears "Play Helps" series will be a familiar sight on the bookshelf.

This volume deals specifically with aspects of play for children who have varying degrees of visual impairment. It is likely to be used as a resource to dip into for ideas on toys to make and activities and games to play with the finished items. However, the book takes you from the first chapter which sets out the preparatory materials of paper, thread, tapes etc and gives useful contact addresses for crafts and educational toy suppliers. It then proceeds through the senses of hearing, touch, smell and vision and expands on each of these with relevant suggestions for toys and games to develop the child's sensory awareness in line with their visual abilities.

Each chapter is written in easy to understand language - no medical or technical jargon anywhere. There are lots of delightful sketches to accompany the step by step instructions, which also tell you whether the toy is quick to make, long lasting etc. and in which situations it is useful. All of the games and toys are said to be in the low technology bracket - easy to make and using materials available through everyday recycling i.e. cardboard tubes and boxes or from High Street stores or mail order.

The author uses a story tale style to illustrate how some of the toys have been created and subsequently enjoyed - thus making each chapter an adventure in itself.

References are made to children and their carers but as the Author quotes in the introduction "The process of play is far more important then the toys". This book is about having fun with only a whiff of therapy.

It is published in paperback with a bright colourful cover. The inside is just black and white - no coloured sketches or pictures.

This book would be a useful resource of Paediatric Therapists (Physiotherapy and Occupational Therapy), teachers, nursery nurses and families and carers of young children with visual impairment.

Susan K. Walmsley MCSP

The Association have produced this new leaflet.

Its aim is to promote the Association . It gives a short explanation about the management of the association and details of some of the services we provide for members and the projects we undertake on their behalf.

You can obtain copies free of charge from your regional representative.

ORGANISATION FOR ANTI CONVULSANT SYNDROME

We are an Organisation built totally to give help and support to Anti convulsant Syndrome sufferers and their families.

The Syndrome is caused by the effects of Anti Convulsant medication which is taken during pregnancy.

The first three months of your pregnancy are vital and so we urge women taking anti convulsant drugs to consult their G.P. or consultant if they want to plan for a family!

It has been recognised that most A.C.S. children have problems such as Learning difficulties and Behavioural problems, a vast majority also have Dysmorphic features such as a flat broad nose and epicanthic folds, there are also major malformations involved such as Spina Bifida.

It has been found that several of these children may also suffer with Dyspraxia, Dystonic type movements and a number of other disabilities.

As a support group, we are here to give as much advice as possible, covering all aspects of A.C.S. in the form of booklets, information or by giving contact names and addresses including phone numbers of other Societies or Support Groups.

Janet Williams, whose two children suffer with the syndrome to varying degrees, set up the Organisation in January 1999.

Lee, aged 9 has learning difficulties while Philip, aged 8 has physical disabilities. They both are very determined children and we as a group, are here to help parents with children like Lee and Philip to lead an easier and more productive life.

O.A.C.S. has been set up with the help and advice of "Contact a Family" to whom we owe many thanks!

For further information - call us now on 0161 343 6079 or Contact Janet Williams, 10 Bakewell Ave., Ashton-under-Lyne, Lancs. OL6 9BP between 9 a.m. and 9 p.m.

Medical Advisor : Dr Helen Kingston, Consultant Clinical Geneticist.

SUMMARY OF ISSUES DISCUSSED AT THE APCP NATIONAL COMMITTEE MEETING HELD AT THE ROYAL STATION HOTEL, NEWCASTLE ON 16th APRIL 1999.

1. ASDA/Portage Trolley
   The walker is to be 'CE' marked. Members advised to read recent correspondence in March issue of APCP journal.
2. APCP Logo Polo Shirt.
   Sue Whitby seeking members views on a corporate image for paediatric physiotherapists.
3. APCP Web-site
   National Committee to investigate feasibility of setting up a web-site.
4. APCP Honorary Membership
   Eva Bower and David Scrutton have accepted honorary membership of APCP.
5. Treasurer's Report
   The Treasurer presented the Financial Accounts for the year ended December 31st 1998. The committee discussed the reasons for the additional Corporation Tax.
   (Please see relevant paragraph in the Treasurer's AGM report in this journal.)
   APCP subscription remains unchanged for a further year.
6. Publications.
   New APCP leaflet now available. The Paediatric Manual Handling Book is currently being printed and will be available shortly at a price of £10.00 (including postage and packing.) All APCP publications on sale at CSP congress.
7. Public Relations
   PRO reported that most regions have now adopted the new regional constitution.
   Some delay reported in the distribution of the SCOPE folders. Jill Brownson attempting to sort this problem out.
   BIBIC (British Institute for Brain Injured Children) now have a web-site – Brain-Net which highlights information for parents with brain injured children.
   Therapists are advised to read and also advise parents to read the report on the BIBIC approach to treatment commissioned by the Child Development and Disability Group (a sub group of the British Association for Community Child Health.)
8. Education
   Clinical Guidelines – CSP literature searches now completed. Three chosen subjects are :- Hip Management in Cerebral Palsy, Developmental Co-ordination Disorder, and Erb's palsy. Anyone aware of any recent developments in these areas to contact Terry Pountney.
   MSc at Queen Margaret College will now commence in October 2000.
9. Research
   Jenx Award for Innovation – two entries received. Award to be presented at CSP Congress.
   APCP research database – all members involved in research encouraged to complete form published in March journal.
10. CIG Liaison Committee
    SIG review – CIGLC strongly recommend that the current structure should be retained. Committee urged by Pen Robinson to keep this under review.
    Health Resource Groups/Health Benefit Groups being set up around the country.
    Members are urged to become involved within acute care, in care pathways and protocols.
11. Journal
    The editorial board are actively seeking new members. Contact the editor Lin Wakley if interested.

12 Membership

Currently stands at 1356.

Subscription renewal notices and direct debit forms to be distributed by Regional Representatives in late October/early November.

13 APCP Conferences

a 1999. Members reminded to book early to take advantage of cheaper rates.

b 2000. Conference committee have viewed venue and assessed possible cost.
Title: Partnership for Change.

c 2001. No firm decisions yet made concerning the location and timing of this conference.

14. Committee Members

Four nominations received for three vacancies on the National Committee.

Retiring members Fiona Corkhill, Kate McKinnon Alex Winney and Mary Goy (co-opted member) were thanked for their considerable contribution to the working of the committee by chairman Liz Hardy.

15 The next meeting of the National APCP Committee will be on Friday July 9th at The Chartered Society of Physiotherapy.

Mary Goy.

PROFILE

CHRISTINE SHAW
Honorary Secretary

Christine lives in Edinburgh with her partner, two sons and three dogs! Other than work, family and A.P.C.P. her main interests are golf and travelling.

She qualified from the School of Physiotherapy at the Royal Infirmary of Edinburgh in 1971. For two years she returned to her native West of Scotland and worked in a small general hospital going through the departmental rotations. On returning to Edinburgh to be married she noticed a school which was run by "The Scottish Council for the Care of Spastics". When she wrote asking if there were any posts available little did she realise she was beginning a long career in paediatrics.

For five years she worked in an out-patient neurology clinic, in the community, in a day centre and in Westerlea School.

In 1977 she gave up full time employment for the job of bringing up two sons.

She returned to Westerlea School, part-time at first, gradually increasing her hours until she became Superintendent 111 in 1991. She is totally committed to working in the field of paediatrics.

She has been closely involved with A.P.C.P. for many years. She joined the Scottish Committee in 1991 and for the last two years has been Chairman and Regional Representative for Scotland.

She is thrilled and not a little daunted at the prospect of being National Secretary. Mary Goy has been an excellent Secretary for four years, hers will be difficult footsteps in which to follow!

She has found that membership of A.P.C.P. has been a huge learning experience and the chance to meet with professional colleagues regularly has been invaluable. She feels she now has the opportunity to give a little back to the Association and is thoroughly looking forward to the challenge!

SUE WHITBY

Public Relations Officer

Recently lots of people have contacted me, on members' behalf, to get an opinion on various subjects. When press releases are issued the newspaper reporters, T.V., radio etc. usually want an expert to speak to within minutes! When this happens I try to find someone or give what I hope is a general opinion. I am gradually gathering a network of contacts, but it would be really useful if members could let me know their areas of expertise and the names of experts, or specialists, or just people who could make a few comments about their favourite subjects.

The CSP are trying hard to raise the profile of physiotherapy, wherever and whenever possible, so the Communications department have been very busy. If any of you are holding any events or have newsworthy issues, please let me know and we can tell people about them.

Last year I went on a bit about collecting photographs for displays and this year's no different. With the 50th anniversary of the NHS celebrations my set of photos was in regular use and I had to let people down on some occasions. I still need more photos. Once I get them I can scan them, photocopy them or whatever we need, but I do need the pictures first. I can let you have the originals back if you still need them. So please let me have photos, to show everyone what we do. I can then loan these to members who are putting on a display.

I was interviewed for Radio 4's 'You and Yours', which is on every day now, from 12 noon to 1 o'clock. I had to comment on 4 and 5 year olds doing Karate, from both a physiotherapist's and a parent's point of view.

The producers of 'You and Yours' are keen to do items on a huge range of general interest subjects and want me to contact them if we have something to say, so you must let me know, if something newsworthy is happening.

In Birmingham, this year, from the 8th to the 10th of October, I will have an APCP stand, at the CSP conference, where we are holding our APCP conference. Please let me have any information you want to share with all the delegates.

From time to time I get request for APCP clothing – usually polo shirts or sweat shirts, for paediatric physios to wear whilst working with children. We often have conference specials but we have not, so far, had any APCP clothing. Do you all want me to investigate a corporate image for APCP members, or does this make life too complicated, involving department budgets or expecting members to buy things they don't want?

Last month I was invited to attend a workshop, organised by the European Academy of Childhood Disability, to bring together professional working with disabled children. The aim was to gather information, on how all the

different European nationalities and disciplines tackle the difficult task of training all the different people, involved with the treatment of children. I was asked to co-ordinate the group researching 'how do we get hands on experience?' – a question that leads to many more questions. I need to know about good models of training, as well as your thoughts about the future of training. At the meeting there was a fair amount of talk about the different levels of qualifications – both those required to work with children and what is actually available in different countries.

It was interesting to note that Holland now has a register of accredited paediatric physiotherapists, which has been organised by a very enthusiastic physio. from Amsterdam University.

Please get in touch, if you would like to discuss this new European contact with me.

I need as much information as possible

My secretary at work will always take a message for me. Please phone 01480 415203.

Many thanks,

Mrs. Sue Whitby

APPLICATION FORM FOR APCP PUBLICATIONS

TITLE	PRICE	QUANTITY
Serial Splinting in Hemiplegic Cerebral Palsy by Margaret Jones (2nd Edition)	£3.50	
The Children Act 1989 'A Synopsis for Paediatric Physiotherapists'	£2.50	
Paediatric Physiotherapy Guidelines for Good Practice	£2.50	
Dyspraxia - A Handbook for Therapists by Michelle Lee and Jenny French	£5.50	
Guidelines for Calculating Caseloads	£1.00	
Baby Massage	£1.00	
Standards of Practice for Paediatric Physiotherapy	£2.50	
Statutory Assessment of Children and Special Educational Needs	£4.00	
Tests and Measures Resources Pack (2nd Edition)	£3.50	
Haemophilia Booklet	£3.50	

TOTAL BOOK ORDER £
*POST AND PACKING £

TOTAL : £

* Post and Packing		
	Single Copies	£0.50
	2 - 5 Copies	£1.00
	6 - 10 Copies	£2.50
	over 10 copies on request	

NEW PUBLICATION

Human Postural Reactions - Lessons from Purdon Martin by Dr. John Foley £5.00 (incl. of P&P)
AVAILABLE IN MAY : Manual Handling Booklet £10.00 (incl. of P&P)

TERMS: **STRICTLY CASH WITH ORDER**
**Cheques and postal orders should be made out to "APCP Publications" and included with order.
(International Money Orders accepted)

SEND ORDERS - WITH PAYMENT to :
Eileen Kinley, Superintendent Physiotherapist,
Royal Liverpool Children's NHS Trust, Alder Hey Hospital,
Child Development Centre - Physiotherapy Department, Eaton Road, Liverpool L12 2AP

Name and Address for delivery: .....

.....

.....

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EAST ANGLIA

We would like to start the '99 — '00 year by introducing our new chairperson - Janet Durrant, who hails from King's Lynn. Janet has been on the committee for some years and we are very pleased she has agreed to take on this position.

Our A.G.M. and Study Day in Cambridge on 6th March was very successful. Martin Matthew, an orthotist from Camp Ltd. gave us an extremely informative day, taking us through the past 200 years of orthotics, discussing what we have to-day, and his thoughts on future developments.Thanks to Sue Coombs from Norwich for organising this.

Liz Waugh, from Bedford,is organising a study day on 'Postural care for children' in conjunction with Symmetrikit. This will be held in the Bedford area. When we have a firm date, we will send out a flyer with the information, hopefully July time.

Dr. J.P. Lin, from the Newcommen Centre, has agreed to come to Cambridge with his team on 9th October to talk to us about Gait Analysis. More details will be issued later.

The committee have agreed to make a bursary available for the Birmingham A.P.C.P./C.S.P. Conference in October, for £115 s. Please apply to Kishan Kooner, secretary, Tel. 01480 415266 (work) if you are interested.

TRICIA BROSNAN

WEST MIDLANDS

Well done to those of you who have recently renewed your membership, this means that we now have well over one hundred members of APCP in the West Midlands, and you have plenty of colleagues with whom to share ideas and exchange information.

Your committee are busy finalising the details of our summer lecture programme and these will be circulated locally, so keep your eyes open. If you do not see or hear what is going on around the region in the next week or two, contact any committee member who will be happy to up date you, but please remember to spread this information around to your colleagues.

May I take this opportunity to ask you all, if you are taking part in any research, however small or insignificant you feel it may be, try writing it up for this journal, or at least let your regional committee know about it, so that we can link it up with things other people may be doing nationally. Physios are not good at telling others about the good things they are doing. There is lots of good work going on out there. It would be really nice to share it.

SALLY BRAITHWAITE

SCOTLAND

Our AGM in February was extremely successful. Three members talked on topics of current interest. "Positioning in the neonatal unit", "The relationship between physiotherapists and teachers in special schools in Glasgow" and "Autogenic Drainage". The afternoon was a fascinating and more lateral perspective on the complimentary therapies.

Plans for The Introduction to Paediatrics Course in Glasgow in July are progressing well. The programme is complete, the venue all organised and prospective delegates continue to contact Lyn Campbell who is co-ordinating the registration process.

This is my last report as Scotland's Regional Representative. Following the National AGM I am handing over the reigns to Lesley Smith. I have thoroughly enjoyed my years on the Scottish Committee and have made many new friends. I was thrilled that at the National AGM I was elected onto the National Committee and then asked to be National Secretary. Mary Goy has done an extremely efficient job over the last four years and I only hope I can keep up her standards!

CHRISTINE SHAW

OVERSEAS

I am delighted to say that we now have about 50 overseas members. Although we probably will not meet very often we can keep in touch. Several members have written to me asking for help and information. I think that we are a wonderful network of paediatric physiotherapists, working throughout the world. As the world gets 'smaller' now that the Internet has spread so far and wide, we have even better opportunities to keep in touch. I would like to use e-mail more. If you have an e-mail address, please let me have it. If enough people have one, maybe we could have the occasional electronic newsletter.

In October our APCP conference is being held alongside the Chartered Society of Physiotherapy conference in Birmingham, which is in the centre of England. It's really easy to get to! If anyone is going to be there, please let me know and we can meet. See the centre of the March APCP Journal for all the details.

If you have any questions or ideas you want to share with the rest of the members, as well as writing to me, you could post a letter for publication to the editor of this journal.

SUE WHITBY

NORTH WEST

Our AGM/study morning was well attended and has kept the North West members updated with the Botulinum toxin trial.

We hope to report a successful Erbs Palsy day in May.

A change of plan for Autumn - Pat Alexander will be leading a Moving and Handling day - very topical - watch out for details and dates nearer the time. Thank you to those of you who have given us useful suggestions for future topics.

Following the AGM your committee are : Carole Williams - Chairman, Karen Leslie - Secretary, Lorna Stybeska - Treasurer.
Gill Holmes at Alder Hey runs the Video Library.

Study Bursaries are still available for members from the Treasurer at R.M.C.H.

SUE WALMSLEY

WALES

Firstly, apologies for having to postpone our follow-up discussion afternoon on Critical Appraisal Skills and guidelines. Another one is due to be arranged.

In April we held a very interesting and informative course on Gait Analysis in conjuction with our AGM. Lively discussions were had but it was a thoroughly enjoyable two days. It was lovely to see so many at our social night of wine tasting at Llanerch Vineyard. Not surprisingly, the wine went down rather well, even though the tour seemed to last for ever and a day, every step anticipating that first well-balanced sip!!

On May 21st, there was a study afternoon on Normal Variations in Orthopaedics with Lyn Horrocks at the Caerphilly Children's Centre, which again led to interesting discussions.

We're hoping to organise another social evening over the Summer, possibly a boating trip on the canals around Pontypool, which should be fun!

In September, a serial splinter course will be held in Swansea and on October 29th, there will be a Study Day on Cerebral Palsy and Hips with David Scrutton. Ideas to add to our 1999-2000 programme, following the AGM, included

- Muscular Dystrophy
- Podiatry
- Neurological assessment of the preterm infant

Any others? - please contact me.

P.S. Perhaps we should start thinking about how we are going to celebrate the Millennium?

SIAN HOWELLS

NORTHERN IRELAND

The current programme of evening meetings came to an end at the AGM on the 17th March 1999. The committee said goodbye to Heather Bell, Sandra Morrison and Caroline Welsh and welcomed Dororthy Irwin, Tina Weston and Alison Gilpin.

The Michelle Lee Study Day on 'Development Co-ordination Disorder,' and the 2 day 'Introduction to Bobath Course' were both very successful, so the new committee are discussing ideas for courses and evening meetings for the incoming year to keep the members up to date with current physiotherapy issues.

ADARE BRADY

SOUTH WEST

The AGM/Study Day was held in Dorchester on 13 March and our new Constitution was adopted. The AGM was reasonably well attended, thank you to all who came and it was nice to meet so many of you. We have welcomed a new member onto the committee, Ruth Davies, who works at Taunton and Yeovil. It is particularly pleasing to have a more westerly member and there is room on the committee for another member if there is anybody else who would like to join us, (especially someone else in the Western part of the Region). Please contact me.

The Wessex CP Workshops are continuing with one at Lord Mayor Treloar College on the older child and one being planned on Conductive Education and collaborative working. Do any other groups in the SW Region run similar workshops?

We are planning a Study Day in the late Autumn, probably at Taunton, on topics including scoliosis, torticollis and pain management. There will be further details nearer the time in the APCP Journal and in the SIGs section in Frontline.

The SW Region now has a very healthy membership, following the reminder letters sent out. Please help to save our postage next year by remembering to rejoin or by paying by Direct Debit. There is some money available for study bursaries and we are hoping to set up a video library soon which members will be able to borrow for a small fee. Please continue to send me your news and views, suggestions for video titles, ideas for future courses or volunteers to host study days.

PAM EVANS

NORTH EAST

For those members or your colleagues wishing to attend the Study Day on 'Developmental Co-ordination Disorder' on 3rd July 1999 in Harrogate, do apply as soon as possible as places are very limited (see recent flier for details).

Also a reminder that it is time to apply for a place at the CSP/APCP Conference, 8th-10th October 1999, at Birmingham I.C.C. I look forward to seeing many of you there. Do remember that you can apply for financial help towards the cost from your committee, by applying to Georgina Thornton Keighley - Secretary.

'Chronic Fatigue Syndrome' is our next Study Day on 18th September 1999 in York. Details will be available later on in the summer. So please keep that Saturday free.

We are still hoping to receive suggestions on future Study Days and also video titles.

MARY HARRISON

NORTH WEST SEMINAR ON PAEDIATRIC MOVING & HANDLING

20th September 1999
Venue : Booth Hall Children's Hospital, Blackley, Manchester

This course aims to provide an over-view of Paediatric Moving and Handling whcih will include legal implications, demonstrations and practical problem solving sessions.

Course Leader : Pat Alexander MSc Grad Dip Phys MCSP MIOSH

For further details and an application from please send an S.A.E. to
Liz Roylance,
10 Pool End Road,
Macclesfield,
Cheshire SK10 2LB
Tel. 01625 423415.

Fee : APCP Members £35. Non-members £45. Places are limited.
Lunch not included. Canteen facilities available or bring your own.

SOUTH WEST ORTHOTICS

Date : 26 June 1999
Venue : Poole General Hospital

Cost : APCP members £20, non-members £25
For application form and further information please contact :

Gill Smith,
Superintendent Physiotherapistist
Physiotherapy Dept.,
Poole General Hospital,
Longfleet Road,
Poole, Dorset,
BH15 2JB. (01202) 448251.

PRACTICAL MANAGEMENT OF CHILDREN WITH NEUROMUSCULAR DISEASE

Date : Friday 12th November
Venue : Physiotherapy Department, Hammersmith Hospital, London W12

A hands on course for physiotherapists currently working with children with neuromuscular disorders.

The course will cover passive stretching, active excercises, the use of orthotics, splinting and serial casting.

Places will be limited to 20 but a second course will be arranged if there is sufficient demand.

Tutors : Marion Main, Head Paediatric Physiotherapist and Denise Watson, Senior Paediatric Physiotherapist, Hammersmith Hospital Neuromuscular Team.

Cost : £50 to include refreshments.
(Lunch available on site or bring your own).

For further details and/or an application form contact Marion or Denise on 0181 383 4734
(24 hour ansaphone).

THE BOBATH CENTRE

Paediatric Courses being run by THE BOBATH CENTRE in 1999-2000

1 DAY MEAL TIME ASSISTANTS COURSE (£40) (Eating & drinking for mealtime assistants)	16th September 1999
INTRODUCTORY COURSE FOR SLTs (£175)	20th-22nd September 1999
ADVANCED COURSE ON PERCEPTION (£395)	6th-10th December 1999
REFRESHER COURSE, LONDON (£345)	13th-17th December 1999
2 DAY THERAPY ASSISTANTS COURSE (£80)	28th-29th February 2000
	20th-21st September 2000
1 DAY MEAL TIME ASSISTANTS COURSE (£40)	1st March 2000
1 DAY CARERS COURSE (£40)	2nd March 2000
1 DAY TEACHERS COURSE (£40)	3rd March 2000
3 DAY INTRODUCTORY COURSES (£175)	10th-12th April 2000
	25th-27th September 2000
REFRESHER COURSE, SCOTLAND (£345)	22nd-26th May 2000
ADVANCED ADULT CP COURSE (£395)	4th-8th December 2000
REFRESHER COURSE, LONDON (£345)	11th-15th December 2000

8 WEEK PAEDIATRIC COURSES IN 2000 (£2350)

WINTER 2000	Part I:	10th January-11th February
	Part II:	2nd-19th May
SPRING 2000	Part I:	6th March-7th April
	Part II:	5th-23rd June
SUMMER 2000		3rd July-25th August

FURTHER INFORMATION AND ENROLMENT FORMS ARE AVAILABLE FROM *RACHEL WOOLFSON, COURSE ORGANISER,*
THE BOBATH CENTRE, 250 EAST END ROAD, LONDON N2 8AU.
tel: 0181 444 3355, fax: 0181 444 3399, email:rach@bobathlondon.co.uk

Tower Hamlets Healthcare Trust - London

CLINICAL LEAD IN PAEDIATRICS

Superintendent IV - Superintendent III Salary - depending on experience
(part time- 0.6 wte)

This exciting new post offers an excellent opportunity for an experienced Physiotherapist to further their skills. Our department of 16.5 WTE staff covers both acute Paediatrics based at The Royal London Hospital, Whitechapel, and community Paediatrics, based at Mile End Hospital.

You will be expected to maintain a clinical caseload in your area of expertise and act as deputy to the Superintendent already in post. In addition, you will take a lead role in post-graduate training and clinical effectiveness across the service.

For further information or to arrange an informal visit, please contact

Di Coggings, Superintendent Paediatric Physiotherapist, at Children's Physiotherapy,
Mile End Hospital, Bancroft Road, London, E1 4DG,
or telephone 0171 - 377 - 7874 / 7700.

Closing Date : 18 June 1999.

UCL HOSPITALS

The University College London Hospitals

Directorate of Therapy and Rehabilitation

CLINICAL SPECIALIST

Adolescent Unit (Supt III). Two Year Fixed Term Contract.

Situated in the heart of the West End, UCL Hospitals is one of the country's leading Trusts. We offer friendly and supportive departments and are fully committed to an integrated Therapy Service with a multi-disciplinary approach. In-service education and continuing professional development are considered to be key.

A unique opportunity now exists for an experienced paediatric physiotherapist to develop and expand the role of clinical specialist in adolescent medicine.

The Middlesex Hospital Adolescent Unit opened in January 1999 and is a collaborative venture between University College London Hospitals and Great Ormond Street Children's Hospital. It provides the first multi-specialist in-patient and out-patient service in this country catering for a variety of disorders.

The Adolescent Team provides multi-specialist expertise including an Adolescent Consultant, specialist registrar, psychiatrist, psychologist, occupational therapist, youth worker, activity co-ordinators, specialist nurses and social workers.

The unit consists of 19 beds, day case, clinic and out-patient facilities, classroom, recreational areas, a gym and access to hydrotherapy.

You will be responsible for the adolescent physiotherapy team currently including a Senior I paediatrics, a rotational Senior II, a junior physiotherapist and an assistant.

Effective organisational, managerial and counselling skills, paediatric experience and an understanding of rheumatic disorders, chronic illnesses and family dynamics in childhood and adolescence are essential.

For further information, please contact Mandy Tottman, Therapy Services Manager, on 0171 380 9137.

For an application form and job description please contact the Personnel Department on 0171 837 3611 ext. 3125/8715, quoting ref: THS/0287.

Closing date : 25th June, 1999.

An employer committed to equal opportunities
Staff benefits include: pension scheme, nursery, playscheme, flexible working and subsidised catering.
All jobs are open to job sharing with or without a partner. We actively discourage smoking at work.

Notes for Contributors

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

Manuscripts should be sent to Lin Wakley, 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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