

JOURNAL AND NEWSLETTER OF THE ASSOCIATION OF
CHARTERED PHYSIOTHERAPISTS INTERESTED IN NEUROLOGY

SPRING 2001



Syn'apse

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ASSOCIATION OF CHARTERED
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Contents

ACPIN'S AIMS

1. To encourage, promote and facilitate the exchange of ideas between ACPIN members within clinical and educational areas.
2. To promote the educational development of ACPIN members by encouraging the use of evidence based practice and continuing professional development.
3. To encourage members to participate in research activities and the dissemination of information.
4. To develop and maintain a reciprocal communication process with the Chartered Society of Physiotherapy on all issues related to neurology.
5. To promote networking with related organisations and professional groups and improve the public's perception of neurological physiotherapy.
6. To encourage and participate in the setting of guidelines within appropriate areas of practice.
7. To be financially accountable for all ACPIN funds via the Treasurer and the ACPIN committee.

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IN NOVEMBER 2000, the Department of Health published a document entitled 'Meeting the Challenge: A Strategy for the Allied Health Professionals'. This document identifies that physiotherapists are integral to the modernisation of the NHS and social care, and sets out measures being put in place by the Government to support therapists' development. As a profession whose contribution is sometimes overlooked, this document should be welcomed. With this in mind, together with the feedback from Congress 2000, ACPIN reviewed its current business plan, updating some of the aims so as to be more effective in meeting the members' needs. (See section 1)

Membership continues to flourish. We ended the year 2000 with 1,250 members, of which 850 have so far renewed. ACPIN remains one of the largest clinical

From the Chair...

interest groups and therefore can act as a powerful voice.

I would like to remind you that the membership year runs from January to December.

Synapse continues to develop, providing a valuable resource for exchange of information. The standard improves with each issue, but as always we rely on you as members to forward articles, case studies etc. to the *Synapse* coordinator for inclusion.

Since last year ACPIN has had two major achievements:

- Setting up of the website – www.acpin.net – which is updated on a regular basis.
- Publication of the *Manual Handling* document that is included free with this issue of *Synapse*.

A huge thank you to Anthea Dendy for co-ordinating the working party, and Monica Busse, Vikki Sparkes and Dot Tussler for their involvement. We hope these guidelines will assist members with the problems encountered with manual and therapeutic handling.

This issue of *Synapse* has a full report from Congress 2000 and comments received by members have certainly been noted.

We have submitted a programme for congress 2002, and have provisionally included several international speakers. As I mentioned in the last issue, ACPIN will not be hosting a programme for 2001, as it was understood that each CIG could only host two consecutive programmes.

By the time you receive this edition of *Synapse*, approximately 200 delegates will have attended our second residential conference, 'Balance and Posture', at the Hilton Hotel, Northampton. The programme has proved to be extremely popular, in conjunction with the fact that ACPIN has subsidised the conference fees

considerably to enable as many members to attend as possible.

Our autumn conference will have the theme 'Medico-legal Issues' and will take place on Saturday 10th November at Leeds Metropolitan University. Watch out for further details.

As a national committee, we feel that ACPIN should provide a small bursary on a yearly basis to its membership in order to support research and project work. However, we acknowledge the fact that we could not provide full funding to a complete research project. A proposal is currently being written and will be discussed more fully at the May meeting.

Good news from the communication sub-group – both motions for the conference have been accepted, the first being related to seven day working and the second on equal access to rehabilitation.

Following discussion recently, it was felt by some committee members that ACPIN was slightly behind with the times! It was decided that our logo and stationery required a makeover! ACPIN's graphic designer Kevin Wade has come to the rescue, designing a new image for ACPIN, with those members at the March conference voting on the new design.

This spring sees several changes to the Executive Committee. Tricia Moffitt, Honorary Treasurer, has resigned after many years on the committee. She has controlled the finances with a rod of iron! Honorary Research Officer Pam Evans has also stepped down, both members will be sorely missed and we thank them for their hard work and support.

I would like to thank all the hard working members of the ACPIN committee, particularly Margaret Lewis (Northern Ireland regional representative) and Liz Britton (South West regional representative) who have both resigned from the committee to pursue career opportunities.

Finally a huge thank you to the dedicated members of the National Committee and to you its members for your continued support and encouragement.

ACPIN will continue to rise to any challenges that it is faced with, in the pursuit of excellence in the neurological field.

Linzie Bassett MCSP SRP
Chairperson ACPIN

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ARTICLES

An investigation into the factors physiotherapists consider when deciding to stand stroke patients for the first time

Louise Kilby and Rosie Hitchcock

(This project was undertaken in partial fulfilment of the BSc(Hons) Physiotherapy degree undertaken at the School of Health Professions and Rehabilitation Sciences, University of Southampton.)

Abstract

There is a lack of research on the decision-making process involved in standing stroke patients and CSP/ACPIN guidelines remain unspecific. The clinical reasoning of 49 ACPIN members for this process was examined via a postal survey.

All participants considered the patient's current medical status before standing. 92% took the patient's wishes into account, although only 12% thought it inappropriate to stand without consent. Factors commonly considered when deciding the number of people needed were: patient ability, patient size and tone/associated reactions. Space was the main environmental consideration, however 18% did not take manual handling regulations into account. 39% considered CSP guidelines and only approximately half had encountered relevant policies/protocols. The amount of experience with stroke patients made no significant difference as to whether other health care professionals or CSP guidelines were consulted.

This study has shown that there are a substantial number of factors to consider before attempting to stand stroke patients, suggesting that clarification may be needed to ensure that physiotherapists consistently consider factors essential to safe and effective standing.

Introduction

Sitting to standing (STS) is an important prerequisite to the achievement of functional goals (Baer and Ashburn 1995). Carr (1987) stated that most patients with motor impairment following a stroke have difficulty generating sufficient force to stand, however 'deficits

are layered on a complex mix of pre-existing pathology, personality, social and environmental factors' (Warlow et al 1996).

Partridge and Edwards (1988) monitored 368 hemiplegic stroke patients, finding that 29% could stand on referral, 43% at week 1, 63% at week 4 and 71% at week 8. A follow up study by Partridge et al (1993) produced similar figures, suggesting recovery follows a predictable pattern, however standing was recorded as 'does or does not perform', failing to discuss different ways of standing.

The beneficial effects of addressing standing in a treatment programme as cited in the literature (Davies 1994; Kotake et al, 1993) are: preventing contractures, decreasing spasticity, preventing osteoporosis, improving motor performance, reducing fear, increasing circulation, relieving areas of pressure and improving bladder function. There are very few contraindications to standing (Davies 1994), but prior correction of abnormal tone may be required (Howe and Oldham 1995).

Sackley (1990) discovered 79% stroke patients put more weight through their unaffected leg and Pedersen et al (1996) found 10% acute stroke patients pushed away from their non-affected side. There is no one agreed method for assessing motor aspects following stroke (Wade et al 1985a), although STS is featured in assessment scales such as the Motor Assessment Scale (Canning 1987).

Certain considerations prior to moving a patient have been outlined by Scott (1995). Scott believed the situation should be assessed as a whole, identifying the problem and method, checking the environment, organising yourself and assistants and explaining the procedure to the patient. Scott also advocates specific factors that include: the patient's age and size, the medical condition, the stage of rehabilitation, functional ability, patient confidence and co-operation, and the staff and equipment required and available.

A variety of manual standing methods are cited in the literature, using varying degrees of assistance (Swaffield 1990; Ada and Canning 1990; Davies 1994).

The Chartered Society of Physiotherapy (CSP 1998) have produced a booklet to inform physiotherapists of the factors to consider under the Manual Handling Operations Regulations (1992) when performing a manual handling procedure, however these factors are not specific in relation to sit-to-stand.

It is not known precisely what factors are taken into account and whether guidelines are considered. Therefore this study aimed to seek clarification by asking physiotherapists to provide information on their decision-making process.

Method

The chosen research design was a postal survey.

- **Measurement Device** A questionnaire was compiled with the help of a clinician. Two local ACPIN members completed a pilot questionnaire and provided written feedback. The questionnaire asked participants to provide demographic data, tick factors they consider and give an indication of timescale for intervention. Questions asked for more information about: benefits/therapeutic effects, contraindications, preparation, amount of assistance, methods, policies and guidelines.
- **Sample Selection** In order to obtain the selected sample size of 30, 100 ACPIN members were selected using systematic/quasi-random sampling (Flanagan, 1994), selecting every 10th name from the membership list.
- **Data Analysis** Descriptive statistics were used to illustrate sample characteristics. Qualitative answers were coded, subjected to thematic analysis and pertinent comments were highlighted. Frequencies and percentages were also calculated from the closed questions. For the answers potentially related to experience, cross tabulations were done and the chi-squared test was applied using the SPSS computer package.

Results

- **Demographic data** The response rate was 49% (n= 49). There were: 0 Juniors, 5 Senior IIs, 28 Senior Is, 13 Superintendents and 3 private practitioners. 92% (n= 45) were currently working with stroke patients and the amount of experience with stroke patients ranged from 2 to 30 years. The most popular relevant course listed was Bobath, attended by 94% (n= 46).
- **General factors** See Table 1.
- **The benefits/therapeutic effects** Promoting normal movement was the most frequently reported therapeutic effect (38%). 57% wrote that standing prevents complications such as contractures, atrophy and pressure sores and 73% felt that standing was psychologically beneficial.
- **When is it inappropriate to stand a stroke patient** The most common reasons included: medical instability (47%), safety (29%), insufficient help (27%) and associated reactions (27%). A participant stated: 'I would not attempt to stand patients with severe overactivity of the sound side'. Only 12% thought it would be inappropriate to stand without patient consent.
- **Preparation of the patient** See Table 2.
- **Preparation of the environment** The most common consideration was space (49%). One participant felt there needs to be: 'minimal space for

Table 1
A table showing factors considered prior to standing

FACTOR	% PARTICIPANTS (FREQUENCY)
Current Medical Status	100 (n = 49)
Benefits of Standing	98 (n = 48)
Staff/Equipment Available	98 (n = 48)
Preparation Needed	94 (n = 46)
Patient's Wishes	92 (n = 45)
Past Medical History	82 (n = 40)
Manual Handling Regulations	82 (n = 40)
Potential Secondary Problems	78 (n = 38)
Short Term Rehabilitation Potential	65 (n = 32)
Long Term Prognosis	61 (n = 30)
Colleagues' Opinions	59 (n = 29)
Departmental Policies	49 (n = 24)
CSP Guidelines	39 (n = 19)
Other (time, physical impairments, psychological needs, relative's wishes)	24 (n = 12)

Table 2
A table to show the main tasks employed to prepare the patient

PREPARATION	% PARTICIPANTS (FREQUENCY)
Explanation	55 (n = 27)
Help patient to adopt starting position	47 (n = 23)
Normalise tone/decrease associated reactions	37 (n = 18)
Ensure barefeet/shoes on	35 (n = 17)
Ensure adequate joint mobility	27 (n = 13)
Work on sitting balance	27 (n = 13)
Obtain patient consent	4 (n = 2)

falling but enough space to walk the patient'. Other environmental factors considered include: seating (41%), surface/floor (24%), manual assistance (33%) and manual handling equipment (20%). 10% also checked whether the brakes were on.

- **The amount of assistance** One respondent wrote that they gave: 'As little as possible, as much as necessary, to ensure that patient feels safe'. The main factors considered when deciding the number of people needed were: patient ability (51%), patient size (45%) and tone/associated reactions (41%). Others factors were: medical status, assessment/prior knowledge, previous attempts, sitting balance, cognitive/perceptual deficits, compliance, anxiety, therapists abilities and assistants available.
- **Methods** 55% stood stroke patients with a second person for the first time; within this group 45% have one person in front and one behind and 29% have one either side. 49% stood patients alone; 63% assisting from in front and 37% from the side. Only

one person stated that if more than two people are required then mechanical methods should be used. The most common piece of equipment was a standing frame (used by 71%), however tilt-tables and adjustable plinths had also been used by many (63% and 59% respectively).

- **Consultation with people/guidelines** 76% sought the opinions of other health care professionals, 90% of the less experienced compared to 66% of the more experienced participants, although there was no significant difference at the 5% level (p value 0.105). Approximately half the participant group (n = 24) had encountered relevant policies or protocols. 48% of the more experienced (over 8 years experience with stroke patients) and 25% of the less experienced participants (under 8 years) consulted CSP guidelines, although there was also no significant difference at the 5% level (p value 0.179).

Discussion

The physiotherapists in this study demonstrated that they consider many factors before standing stroke patients for the first time. Clinical decision-making is developed through experience and although the majority of the participants were Senior I's and Superintendents (possibly reflecting the ACPIN group as a whole), the range of experience, and therefore the answers, varied.

Almost all of the sample had attended a Bobath course, suggesting that this was the most popular treatment approach. The influence of the Bobath philosophy was apparent in the results as promoting normal movement was the most frequently reported therapeutic effect and many of the other benefits/therapeutic effects listed are linked to normal movement (normalising tone/decreasing associated reactions, promoting extension).

The participants do not seem to solely concentrate on physical aspects of the procedure. Before moving a patient, Scott (1995) felt that the most important preparation was explanation of the procedure, reflected in the results. Psychological benefits were mentioned by three-quarters of the participants and one participant was even concerned that if standing was unsuccessful the patient may not be able to mentally cope with failure. Responses were inconsistent because over 90% of the participants claim they took the patient's wishes into account. However, on closer examination very few stated that it would be inappropriate to stand a patient without consent and only two include obtaining patient consent in their preparation. Contemplating the patient's wishes and gaining informed consent is linked to Rule II of the CSP Rules of Professional Conduct (1995).

As expected, every participant considered the patient's current medical status, calculating the risks of a manoeuvre as recommended by the CSP (1998), however more than half failed to state that medical instability would contraindicate standing. Many participants also considered the patient's past medical history, recognising that deficits may be complicated by pre-existing pathology (Warlow et al 1996).

Some of the popular preparatory tasks are treatment techniques commonly used when treating hemiplegic stroke patients. Participants mentioned normalising tone (as Howe and Oldham 1995, suggested), decreasing associated reactions, gaining sitting balance and ensuring joint mobility. These goals may need to be reached before some physiotherapists assist a patient to stand, as over a quarter of the participants would not stand a stroke patient with associated reactions.

The most common factor used to decide the number of people needed was patient ability, an important consideration according to Scott (1995). A theme that often emerged was that there is never a 'typical' patient. Patient size was also considered by many in accordance with Manual Handling Regulations. The CSP (1998) state that it is the clinician's responsibility to consider manual handling issues, however 18% implied that they do not take manual handling regulations into account (by failing to tick this factor in the list in the questionnaire) and it is unknown whether the rest of the group fully consider them.

The most common method was with two people, one in front and one behind, but concerns were raised by the participants that the person behind was in danger of damaging their back. If there are doubts regarding the safety of this method, it is not understood why this method was so popular. Assisting in front was the most frequently specified method when standing a stroke patient alone, therefore it could be assumed that participants did not agree with Ada and Canning (1990) who thought the therapist may be encouraging abnormal movement.

Environmental factors that should be considered according to the CSP (1998) include: space, floor, working height, temperature, lighting and equipment. Half the participants considered space and almost a quarter considered the floor and equipment, but no-one considered all factors listed by the CSP. Only five participants would have checked to see if the brakes of the chair/bed are on, raising safety issues.

- **Limitations** The sample size was limited to 100. A larger pilot would have been preferable to gain more feedback on the questionnaire. The tick list of possible factors could have led to exclusion of other relevant information. It may also have appeared that the physiotherapists' own practice was being ques-

tioned, leading to evaluation apprehension and social desirability bias. Most importantly, it is unknown whether this type of methodology has actually led to an accurate presentation of the overall decision process, as it is acknowledged that subconscious, automatic decision-making must occur.

Conclusion

This study has identified some of the factors considered by physiotherapists when deciding to stand a stroke patient for the first time. The main factors (considered by over 90%) were: current medical status, benefits, staff/equipment available, preparation and patient's wishes. Although there were recurrent themes in the answers of the 49 participants, decision-making is unique to the individual and data should not be separated from work settings.

This survey also demonstrated the potential hazardous nature of this decision-making process shown by the inconsistent responses of some of the participants, although it is recognised that subconscious automatic thought processes for this clinical activity will not have been fully tapped by this study. It is hoped that this research will increase the awareness of aspects of this procedure and the effectiveness of intervention. Further investigation of the influence of experience, the work environment and patient diagnosis on this decision-making process is needed.

I would like to thank all ACPIN members who took the time to complete the questionnaire.

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Constraint induced movement therapy: a single case study

Ros Wade BSc MCSP

Senior physiotherapist

October 2000

Introduction

Stroke is the leading cause of disability in the adult population and is frequently accompanied by substantial loss of motor function. One study of long term follow up (Wilkinson et al 1997) found that at five years post stroke, 56% of patients still had pronounced hemiparesis.

One possible explanation for this ongoing level of motor deficit may be the occurrence of a phenomenon described by Taub (1980) of learned non-use of the upper extremity. In this condition, the person realises that he/she is not as effective when using the more involved upper limb and therefore learns not to use it. It would appear appropriate that if the persons' attention was directed to the more involved limb, by restricting the use of the dominant, less involved hand, then this could help counteract some of the learned non-use.

Several studies have looked at this, by applying a form of intervention described as constraint induced movement therapy. The principles of this are based on early research on monkeys (Taub 1980), where movement was induced in a deafferented arm following a period of immobilisation of the intact arm. This was done for a period of consecutive days, or by training of the affected arm.

Wolf et al (1989) studied 25 patients with constraint but no concurrent training. The result showed a significant improvement in the speed of a functional task but no improvement on other scales such as looking at quality or range of movement.

More recent studies in man have shown successful outcomes using constraint induced movement therapy with supervised behavioural training for the affected upper limb in adult chronic stroke patients (Kunkel et al 1999, Miltner et al 1999). In most of these studies the patients were a minimum of two years post stroke, with no 'serious' sensory, cognitive or aphasic deficits. A minimum motor criteria of 20° active wrist extension and 10° active individual finger extension is described. Following immobilisation of their unaf-

ected limb by a resting splint and/or sling for up to 90% waking hours, they were also encouraged to participate in supervised activities for six hours per day for the affected arm and hand. This programme was continued for 14 days. Overall, the result shows significant improvement in objective measures, which also persisted after the splint had been removed (Crocker 1997, Blanton et al 1999).

There are fewer documented cases of this intervention being used with more complex cases and at an earlier stage in rehabilitation.

A single case study was carried out to determine the effect of 'constraint induced movement therapy' with an in-patient, four months post stroke, wearing a splint to immobilise the unaffected arm, whilst continuing with active rehabilitation from the multidisciplinary team. The hypothesis was that immobilisation of the unaffected arm in an in-patient rehabilitation setting would result in increased functional use of the affected limb.

Method

MP was a 56 year old lady who suffered a stroke in October 1999. CT scan showed a right fronto-parietal infarct. She had previously had a left frontal tumour and radiotherapy, but this was no longer evident now on scan. She was admitted to the rehabilitation unit in November 1999, and the single case study was commenced in February 2000, four months post stroke.

MP presented with a left hemiparesis, with good sensation and motor recovery in her upper limb. She had at least 10° active finger extension and 20° active wrist extension, but with minimal functional use. The unaffected right hand was favoured in completing all personal tasks. MP was undergoing active multidisciplinary rehabilitation, and had achieved independent sitting but required assistance of one to stand and transfer. Her performance was variable, but she did not have any neglect. She had 'mild' cognitive deficits, as assessed by a clinical psychologist. MP was well motivated and very keen to participate in the study.

Procedure

An ABA design (one week baseline, two weeks treatment intervention, one week post treatment recording) was used. The affected upper limb activity was measured using the nine hole peg test (NHPT picture 1), Frenchay upper limb test, and a functional task of doing up three buttons on a blouse (picture 2). The NHPT requires the patient to place nine wooden dowels into a base with nine holes and the time is recorded for the patient to place all the pegs. A normal time would be 18 seconds. The Frenchay arm test requires the patient to complete five tasks which include picking up a glass half full of water and combing hair. Each activity is rated as a pass or fail



picture 1



picture 2

and allocated one point. In addition measures of Barthel index (mobility score) and time tolerated in an Oswestry standing frame (OSF) were also recorded as baseline measures of recovery. On the Barthel, mobility is rated on a four point scale where 0 = immobile and 3 = independent (but may use any aid).

MP wore a resting splint on her unaffected arm for seven hours per day, except for washing and during mealtimes. She did not have specific supervised upper limb exercises but continued with her multidisciplinary rehabilitation programme. During those times when she was not in therapy sessions, she was encouraged to use her affected arm by the nursing staff.

Results

- The nine hole peg test with the left hand showed no change over the four week period.
- The Frenchay arm test improved to the maximum score by the end of four weeks.
- The time to do up three buttons improved over the treatment period.
- The Barthel index in terms of mobility was unchanged, and the time tolerated in the standing frame was also unchanged throughout the test period.

Discussion

Constraint of the unaffected limb without the specific additional exercise for the affected arm in a patient

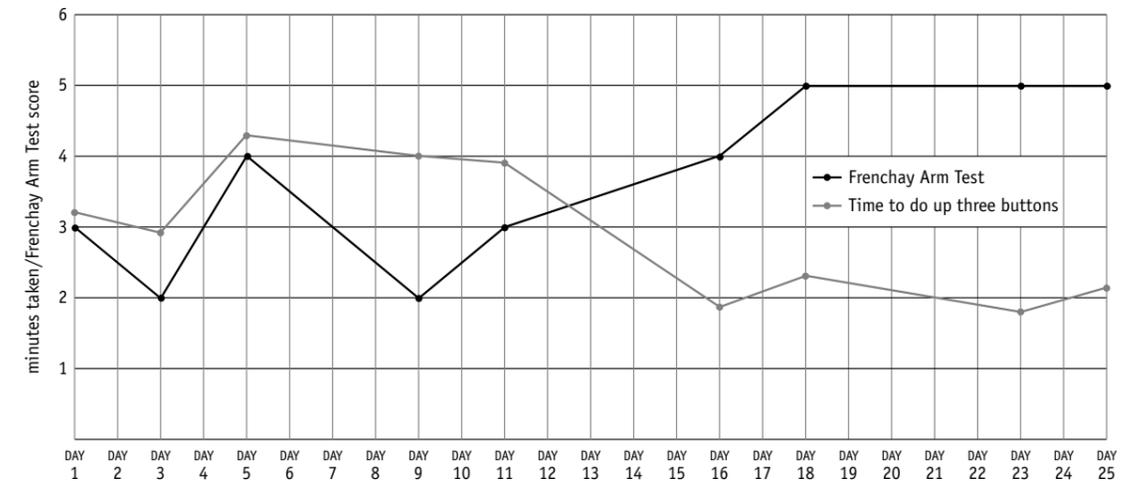
four months after stroke, was associated with improvement in upper limb function. It is unlikely that this change was due to spontaneous recovery as there was no improvement in the lower limb function as measured by the Barthel mobility index and the length of time the patient was able to stand in the Oswestry standing frame.

Improvements were seen in functional measures of arm and hand function, measured by the Frenchay arm test and the time to do up three buttons, rather than in a measure of hand function (nine hole peg test). This suggests that the treatment effect was task specific and resulted from increased use of the limb in everyday tasks following constraint of the unaffected limb.

Many previous studies advocate the importance of the supervised upper limb therapy given for six hours or more daily as part of the therapy programme. In this case functional improvements were seen without the additional formal exercise programme, and it maybe possible that such a programme may not add much value to the outcome in terms of function. If so, this would simplify the delivery of constraint induced movement therapy.

Obviously this was one individual case and took place over a very limited period. However, it has shown that this type of intervention can be applied successfully in a patient in the post acute phase of their rehabilitation and with input from a multidisciplinary team.

		PEG TEST SCORE (seconds)		FRENCHAY ARM TEST (max score 5)	Do up three buttons on blouse mins:secs	BARTHEL MOBILITY (max score 3)	TIME IN OSF (mins)
		LEFT	RIGHT				
WEEK 1 No splint	DAY 1	66	34	3	3:12	1	15
	DAY 3	59	21	2	2:54	1	
	DAY 5	71	30	4	4:17	1	15
WEEK 2 Splint on	DAY 9	66	34	2	4:00	1	15
	DAY 11	89	30	3	3:53	1	17
WEEK 3 Splint on	DAY 16	73	30	4	1:51	1	15
	DAY 18	62	25	5	2:18	1	14
WEEK 4 No splint	DAY 23	65	32	5	1:47	1	17
	DAY 25	72	28	5	2:08	1	15



Conclusion

In a patient who presented four months after a stroke, constraint of the unaffected upper limb without additional exercise of the affected upper limb resulted in improvements in functional upper limb activities. This form of therapy could be applied in an in-patient rehabilitation setting. Further work is required to examine the effect of constraint without exercise and the supervised exercise programmes that are suggested without the constraint.

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Ros Wade completed this study whilst working at the Regional Neurological Rehabilitation Unit at the Homerton Hospital. She is now based at the Mardon Neurological Rehabilitation Centre in Exeter.

I would like to thank Dr Andrew Bateman and Dr Richard Greenwood for their support.

Parkinson's Disease

Physiotherapy Evaluation Project UK Executive summary October 2000

Research Team: **Professor Rowena Plant** Project Director, **Diana Jones** Research Fellow, Institute of Rehabilitation, University of Northumbria, **Professor Ann Ashburn** Health and Rehabilitation Research Unit, University of Southampton, **Dr Brenda Lovgreen** Senior Lecturer, Manchester School of Physiotherapy, **Felicity Handford** Ex-Chair, Physiotherapy Working Party, Brussels, **Eleanor Kinnear** Integrated Neurological Services, London

Key Messages

1. Physiotherapy service provision for people with Parkinson's disease in the UK is variable even within the practice of specialist physiotherapists.
2. The appropriate timing of physiotherapy, including early referral, is likely to have an impact on an individual's ability to manage both the primary symptoms and the secondary complications of the disease.
3. There are four core areas of physiotherapy practice in Parkinson's Disease: gait, balance, posture (including range of movement), and transfers (eg getting into and out of a bed, chair or car).
4. Physiotherapy treatment methods are selected from an extensive battery to address the four core areas of practice. These areas form the principle foci of physiotherapy assessment and evaluation and have their impact primarily on functional performance.
5. Physiotherapy treatment in Parkinson's disease can best be described as *Movement Enablement Through Exercise Regimes and Strategies* (METERS) – the promotion, maintenance and use of quality functional performance – and this should form the basis of clinical practice and research.
6. Patients and carers value physiotherapy as a positive contribution to managing a deteriorating condition.
7. The application of the model of physiotherapy in Parkinson's disease, which brings together core areas of practice, treatment concept and functional performance outcomes, will maximise the specific contribution of physiotherapy within the overall management of Parkinson's Disease, for example drug therapy, neurosurgery and nursing care.

Background

Mary Baker MBE, then National and International Development Consultant of the PDS and President of the EPDA, made three observations regarding physiotherapy and Parkinson's disease on behalf of her constituents to a specially convened meeting at the Chartered Society of Physiotherapy in 1996. Those three observations were that people with Parkinson's disease:

- found it difficult to access physiotherapy services
- wanted more physiotherapy than was available, and
- the limited physiotherapy provided in the UK was likely to come under threat due to the paucity of evidence, a scenario already being experienced in North America.

From the meeting a research team of academic and clinical physiotherapists was formed in order to establish a consensus on best practice and articulate a baseline model of physiotherapy provision for purchasers, providers and patients.

A research project using consensus and case study methodology was designed and undertaken by the team coordinated by the Institute of Rehabilitation, University of Northumbria at Newcastle.

Aims

The Parkinson's Disease: Physiotherapy Evaluation Project UK aimed to develop:

- a consensus on best practice physiotherapy management
- a validated model for describing and analysing physiotherapy
- robust baseline knowledge to enable meaningful future evaluations of physiotherapy

Method

Stage One of the project was a Delphi consensus survey in which specialist physiotherapists (Senior I or above; at least two years' experience with Parkinson's disease patients; a current caseload, n = 49) rated and re-rated a series of statements generated from a literature review performed by the research team.

The statements fell into four topic domains – the **context** of physiotherapy (how it should be organised), the **reasons** for physiotherapy (why it should be undertaken); the **actions** undertaken in physiotherapy (what approaches should be used); and the **effects** of physiotherapy (what outcomes should be measured). Statements in the same domains relating to case histories of individuals at three different disease stages were used to add richness to the data.

Stage Two of the project used case study methodology to extend and explore the results of the Delphi survey. Nine Trusts with proactive physiotherapy services for Parkinson's disease patients were identified

from Stage One and formed case study sites. In three geographically distant Trusts site visits were made during which physiotherapists, managers, multidisciplinary team members and patients were interviewed. The physiotherapy notes of the patients were reviewed. In six further sites telephone interviews were undertaken with physiotherapists and managers.

The foci of the case studies were service structure, clinical activity and patients' views.

Data was analysed using a qualitative analysis software package NUD*IST (Non-Numerical Unstructured Data Indexing Searching and Theorising). Data from each source was analysed individually and together (triangulated).

Results

Even within the practice of specialist physiotherapists, provision for people with Parkinson's disease was variable. The Delphi survey reported early referral to physiotherapy happened rarely. Case study data identified a trend to earlier referral with more recently diagnosed patients, which was strongly welcomed by therapists. Patients and carers could be proactive in seeking referral, especially if supported by a local Parkinson's Disease Society branch.

Commitment to Parkinson's disease management and to continual service improvement were perceived by professionals as the main strengths of services included in the case study phase; a lack of formal policies, for example on referral and review, was cited as the main weakness.

Four core areas of physiotherapy practice – gait, balance, posture (including range of movement) and transfers – formed the main foci of evaluation and treatment.

Exercises emphasising extension and rotation and movement strategies employing a range of cues were the principal treatment methods employed. These have been encapsulated into the concept of *Movement Enablement Through Exercise Regimes and Strategies* (METERS) – the promotion, maintenance and use of quality functional performance.

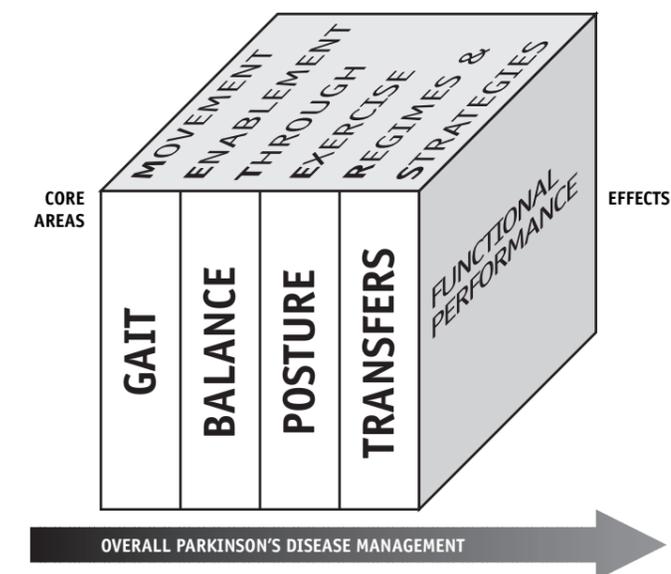
The effect of physiotherapy should be measured in relation to clearly specified aims of treatment, and principally in relation to its effect on functional performance.

A model of physiotherapy in Parkinson's disease, situated within an overall context of education and support for the whole person, has been proposed (see diagram above).

Once or twice weekly physiotherapy over a course of 6-8 weeks was the most common pattern of service delivery but it is not known whether this is an optimal episode.

Physiotherapists reported that specialist nurses and

Model of physiotherapy and Parkinson's disease
Physiotherapy Treatment Concept



occupational therapists were the main team members charged with home visits, underlining the importance of multidisciplinary team communication. Most patients had been visited at home.

Patients would have liked a choice of individual or group sessions. Those treated in a group setting expressed the desire to have the opportunity to focus on their personal needs within the session.

Carers identified needs in relation to involvement in therapy, advice, support and information.

Recommendations

- The use of knowledge generated within this study to form the baseline for future evaluations of physiotherapy in Parkinson's disease.
- The use of the model of physiotherapy in Parkinson's disease (see figure) to maximise the specific contribution of physiotherapy within the context of overall management for example drug therapy, neurosurgery, nursing care.
- The development of guidelines on timing and source of referral to physiotherapy.
- The identification of optimal patterns of contact and review for physiotherapy.
- The identification of reliable and valid measurement tools which (a) relate to core areas of physiotherapy practice – gait, balance, posture and transfers; and (b) identify functional performance strategies, (performance strategies relate to the organisation of motor, sensory and perceptual information in order to undertake a functional task such as sitting down or rolling in bed, under different conditions).

- Increased understanding of the changes in functional performance strategies with the development of the condition in order to maximise the impact of physiotherapy intervention.
- The development of the concept of Movement Enablement Through Exercise Regimes and Strategies (METERS) – the promotion, maintenance and use of quality functional performance – as the basis for physiotherapy treatment and a focus for research.
- The incorporation of an individual focus within group work sessions, together with the development of criteria for inclusion, content and delivery of group work.
- The implementation of mechanisms to ensure knowledge about the home environment and individual aspirations impact on physiotherapy treatment.
- The recording in the physiotherapy notes of discussions and decision-making with other professionals, patients and carers in relation to disease management.
- The establishment of the roles and needs of carers in relation to involvement in physiotherapy.
- The development of physiotherapy specific evidence based education packages.

Summary

The Parkinson's Disease: Physiotherapy Evaluation Project UK has:

- **1.** Developed a robust transferable methodology for investigating practice
- **2.** Articulated clear recommendations for the development of practice (treatment and service) and the direction of research
- **3.** Undertaken a proactive dissemination programme.

For details of how to obtain further copies of the Executive summary, Short report and Full report please contact: **Professor Rowena Plant**, Professor of Rehabilitation/Therapy, Institute of Rehabilitation, Hunters Moor Regional Neurological Rehabilitation Centre, Hunters Road, Newcastle Upon Tyne, NE2 4NR. Email: rowena.plant@unn.ac.uk

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CONSENSUS CONFERENCE ON STROKE TREATMENT AND SERVICE DELIVERY

Royal College of Physicians of Edinburgh
7th and 8th November 2000

DELEGATE REPORT 1

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INTRODUCTION

I was lucky enough to be sponsored by ACPIN to attend this Consensus Conference and what follows are some of my personal impressions. Having been out of clinical physiotherapy for six years I was surprised at how some things had changed dramatically eg the move to admitting all new strokes to hospital instead of managing them in the home. I was also surprised at how little had changed – the patients and carers views were still being asked but little was being done to provide what they felt they needed in terms of social and psychological support. The quotes in italics that follow are extracts taken from the 2000 Consensus statement with the consent of the RCPE. The complete Consensus statement is found at www.rcpe.ac.uk/news.html#strokeunits

WHAT IS A CONSENSUS CONFERENCE AND WHAT DOES IT AIM TO DO?

It is a Conference attended by acknowledged experts and others where specific issues are considered relating to a particular diagnosis or treatment approach. A consensus panel considers the evidence based

on published research, augmented by presentations given at the meeting and expert opinion. A written statement is produced and published that provides recommendations.

AIMS OF THE 2000 CONSENSUS CONFERENCE

In 1998 a Consensus Conference convened by the Royal College of Physicians of Edinburgh (RCPE) considered the medical management of cerebrovascular disease in the UK. This time the RCPE

Consensus Conference moved on from considering the medical management of stroke and aimed to answer four questions related to stroke treatment and service delivery:

- Whom to admit and when?
- How should hospital care be organised?
- Where should rehabilitation take place – hospital or home?
- Can we reduce the emotional impact of stroke?

WHOM TO ADMIT AND WHEN?

• *'Stroke is a medical emergency'* Evidence now suggests that Stroke should be considered a medical emergency – just like an MI – patients with moderate or severe symptoms should be referred with the expectation of admission to a stroke unit.

• *'Patients with suspected acute stroke should gain access to specialist care by the fastest route possible'* It is suggested that all patients with symptoms suggestive of a stroke should be referred to the stroke service for assessment including CT brain scan, ideally within 24 hours. The policy of not admitting acute stroke patients is no longer recommended.

This is a complete turn

around from a few years ago when it was considered that the assessment and management of stroke was best done in the community by the primary health care team. In the 1980's the Oxford Community Stroke Project estimated that 55% of stroke patients were admitted to hospital; nowadays that figure is nearer 90%. This change has obvious service implications for hospital based physiotherapists. How will the hospitals cope? How will remote, rural and even some urban communities with fewer and perhaps more widely distributed resources cope with the implementation of these recommendations?

HOW SHOULD HOSPITAL CARE BE ORGANISED?

• *'Strong evidence exists in favour of care being provided in dedicated stroke units'*

There has been a wealth of recent studies that have clearly demonstrated the value of stroke units. There are huge benefits to being admitted to a stroke unit in terms of both morbidity and disability. In spite of this stroke units have largely not been taken up by Health Boards and Politicians. Less than 25% of patients receive specialist care in a stroke unit. It is hoped that the Consensus statement will help to persuade 'the powers that be' to provide dedicated stroke units.

WHERE SHOULD REHABILITATION TAKE PLACE – HOSPITAL OR HOME?

The 2000 Consensus Conference agreed that an effective community based acute stroke service has never been and probably never will be established. It appears now

that hospital is the optimal place for initiating organised health care services for each patient.

• *'Management in a stroke unit which combines both acute assessment and the full range of rehabilitation should be the pathway of choice ... Discharge planning should begin early in the course of admission and should consider the needs of patients and carers.'* This move away from acute rehabilitation in the community is a major change. It was interesting to listen to Professor Derick Wade who has in the past been a keen advocate of stroke care in the community. He believes it has proved to be too complicated and impractical to

organise multitudes of stroke experts in the community. He has now come to the conclusion that stroke patients have to be admitted promptly to a hospital with a well organised stroke service including an outreach service to facilitate early discharge into the community. In this way patients and carers get into the system of 'organised stroke care' from the start.

Will rehabilitation become too hospital orientated? There is already a danger that stroke patients managed in hospital are not well enough prepared for living in the real world. A quote from someone in the audience that I found particularly perceptive: 'Being in hospital with a stroke is like being on a cruise ship – there are no bills to pay, you play quarts and go home and then have to learn to live with the residual disability.' Patient and Carers surveys show that their needs are still not being adequately met: *'Patients and carers want timely, meaningful, accessible, reliable, co-ordi-*

nated and supportive rehabilitation, which both incorporates and is driven by their goals and is carried out by well trained and knowledgeable staff.'

Starting in hospital we should be helping the patients to work towards functional goals that are meaningful to them and help them to live their lives more fully eg going shopping, using the bus, going swimming with the grandchildren etc.

CONCLUSIONS

The 2000 Consensus Conference organised by the RCPE produced a statement with a number of important recommendations regarding Stroke treatment and service delivery. The statement should be used and distributed widely for the recommendations to have an effect.

- The key points included:
- patients with acute stroke symptoms should be admitted to hospital
 - care should be provided in designated stroke units
 - stroke care in the community (primary care and social services) should be integrated with hospital stroke services

There is talk of a further Consensus Conference on stroke which could examine rehabilitation services and their role in stroke care. The panel would need to consider perhaps three questions relating to rehabilitation. This Conference could only go ahead if it is felt there is sufficient research evidence available upon which the panel could base their recommendations.

In the 2000 Consensus Conference many studies described used the technique of the Systematic Review to

produce sufficient data to determine a significant effect. This has increasingly become the research technique of the moment. Therapists need to become involved in determining the most appropriate questions to ask and undertake appropriate Systematic Reviews. In some circumstances, in the absence of a definitive trial the Systematic Review screens the data from a number of similar published studies, excludes the inappropriate studies and then performs a meta-analysis on the remaining pooled data. A number of Systematic Reviews are now being undertaken in the area of Physiotherapy eg the intensity of therapy following stroke; different approaches to physiotherapy treatment after stroke.

If therapists are willing and able to undertake pertinent Systematic Reviews, it may help us to define appropriate research questions that need to be addressed. It may even allow therapists to contribute to a much greater extent to determine what questions would be valid to address at a future Consensus Conference on Stroke Rehabilitation. It would be extraordinary if this conference were to be organised without the medical domain, however the resources for such a major undertaking are beyond the scope of most voluntarily run professional organisations such as ACPIN. While it is unlikely that we could convene such a conference we must be prepared to undertake and evaluate research that will contribute to the body of knowledge and will be considered when attempting to determine a consensus.

DELEGATE REPORT 2

Anthea Dendy Vice Chair ACPIN

Approximately 300 people attended this conference including doctors, nurses, therapists, psychologists and social workers. It was an excellent experience, with high quality presentations, discussions and an extensive poster display. Most of the presentations were systematic reviews of the current literature to answer the session question. The emphasis was on the scientific strength of the evidence to allow an appropriate *Consensus Statement* to be formulated. After the presentations there was 30-40 minutes for questions and discussion.

The audience included a consensus panel whose role was to listen to all the information and use this to review and update the *Consensus Statement* from November 1998 as appropriate. As the original statement from 1998 was mainly concerned with the medical management of stroke an additional section on *Stroke Treatment and Service Delivery* was included. The panel then reconvened and modified the statement as appropriate for a second discussion session.

The final statement is a document that anyone involved in strategic or organisational issues in terms of development of stroke services may find useful to support appropriate resource provision and service development.

The final afternoon was a 'sweetener' for the next planned conference in 2002 which hopes to achieve production of a Consensus Statement on rehabilitation provision. The reason for this timing is that it is anticipated several current

research projects will be published by then.

The session was chaired by Dr Peter Langhorne and he opened the afternoon by asking the audience to consider how as a 'rehabilitation-ist' would you use research to inform your clinical practice. He talked about the disadvantages of some of the traditional approaches such as relying on experience or expert advice which can sometimes be idiosyncratic and often misleading, and personal knowledge where there are always bound to be gaps and there is the possibility that this knowledge will deteriorate over time.

He used a flowchart (see Figure 1) to illustrate how *Evidence Based Practice* should be carried out.

In rehabilitation he suggested that intervention treatment and comparison intervention are difficult to define. He went on to say that rehabilitation is complex, multi-faceted and difficult to classify and evaluate. Comparisons are frequently ill defined and rehabilitation can operate at different levels of complexity, as outlined in the table (see Table 1).

He summarised by suggesting that to date rehabilitation trials have highlighted the need for particular services and now we need much more reliable information on specific treatments which is achievable.

Other speakers during this session included members of the STEP (Stroke Therapy Evaluation Programme) team, Ms Lynn Legge and Dr Alex Pollock, and Mr Ian Wellwood, Dr Marion Walker, Dr Anne Forster and Prof Philip Bath. There was plenty of food for thought for 2002.

As at our own Congress this

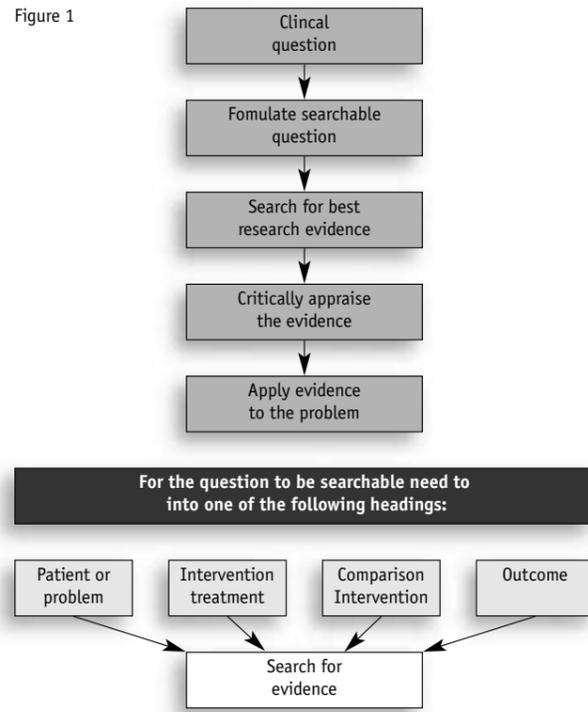


Table 1
Levels of complexity

LEVEL	CHARACTERISTICS	EXAMPLE
Service	Several individuals interacting Specific context/setting Multiple specific treatments	Stroke Unit ESD team
Operator	Single unique individual Package of care	Family care worker OT
Treatment	Single reproducible treatment (varying levels of complexity)	Information AFO FES

year the essential message at this conference was that clinical practice must be evidence based. In this environment, as at our own conferences, opinion and anecdotal evidence was completely unacceptable to the audience.

The work that was presented at this conference was very important and very exciting. As physiotherapists working in neurology we must ensure that we are involved in the next stage of the development of the Consensus document. We need to be aware of it, able to express an informed opinion on its content, value, and how it

should contribute to the ongoing development of our clinical practice and ultimately our profession. Without doubt the conference in 2002 is one that I and I am sure many others feel strongly that they do not want to miss. We hope that ACPIN will be able to be actively involved in the next conference.

THE CONSENSUS STATEMENT

The needs of stroke patients are not being adequately met in the UK at present. Wide variation exists in the quality of services and, in many parts of the country, fewer than 25% of patients receive specialist care in a stroke unit. The organisation of services needs to improve, particularly since the burden of the disease is set to increase due to demographic changes.

As a first step, each health district should develop a comprehensive, integrated specialist hospital and community-based stroke service for all patients. Routine data collection by health districts should include information about all stroke patients whether in hospital or at home in order to be able to determine the incidence locally and how their needs are met.

A public awareness campaign should also be mounted, alerting both the public and health professionals to the symptoms of stroke to ensure that early attention is sought. Services must therefore be organised to enable patients to be 'fast tracked' to appropriate specialist investigation and treatment.

While most of the attention is on specialist care, equal importance needs to be given to high quality, community based primary and secondary prevention. The integrated primary care team approach to chronic disease management, including the modification of risk factors, and the maintenance of local disease registers to support the delivery of high quality care, is now well established for conditions such as coronary artery disease, hypertension and diabetes. Such an

approach should be developed and adopted for stroke disease.

Patients should be treated with dignity and respect at all times. It is disappointing that patient surveys consistently show this is still not the case.

While trials of the efficacy of novel drugs in acute stroke and secondary prevention are vital, there is an urgent need for greater funding for non-drug treatment and, in particular, into aspects of stroke service delivery and organisation.

This statement is directed at services in the UK but will have relevance elsewhere.

WHOM TO ADMIT AND WHEN?

1. Stroke is a medical emergency. Patients with suspected acute stroke should gain access to specialist secondary care by the fastest route possible.

2. All patients with symptoms suggestive of a stroke should be referred to the stroke service for assessment including CT (computerised tomography) brain scan ideally within 24 hours. Any patient with moderate or severe symptoms should be referred with the expectation of admission to a stroke unit. Exceptions may include those relatively few patients for whom the diagnosis will make no difference to management.

Inequalities in access to health care in remote and rural communities and some urban areas need to be addressed. Evidence from the development of managed clinical networks (eg cancer services) should be used to inform the development of similar networks for stroke.

3. For patients with symptoms suggestive of TIA (transient ischaemic attack), all clinicians should have rapid access to specialist advice and investiga-

tion. If assessment in a neurovascular clinic is agreed to be appropriate by the referring clinician and the specialist, this should be carried out within a week.

HOW SHOULD HOSPITAL CARE BE ORGANISED?

4. Strong evidence exists in favour of care being provided in dedicated stroke units. The key elements of such units are coordinated expert interdisciplinary team working in a geographically-based setting with regular team meetings. All staff, qualified and unqualified, should undertake ongoing training and education in stroke management.

5. The tasks of the team are to establish an accurate diagnosis, including quick access to appropriate diagnostic services, observe vital signs, maintain homeostasis, provide acute treatment prevent complications, implement early rehabilitation and initiate secondary prevention strategies. These patients often have complex medical problems and staff should be equipped to manage comorbidity.

6. Stroke unit care should combine acute care, including early rehabilitation, with longer term rehabilitation. However, local circumstances may dictate separation of these functions. All patients regardless of age, sex and stroke severity should be able to gain access to stroke unit care. The size and composition of its should reflect local needs.

7. The management of patients should adhere to national clinical guidelines. The quality and quantity of services should be evaluated on an ongoing basis and participation in research encouraged.

8. The particular needs of

certain groups, for example younger patients and those from ethnic minorities, should be taken into account when planning management.

WHERE SHOULD REHABILITATION TAKE PLACE – HOSPITAL OR HOME ?

9. Rehabilitation following stroke is an interdisciplinary process which provides interventions to reduce impairments, optimise abilities and increase participation. The aim is to improve quality of life by reducing emotional, functional, cognitive, physical and communication disorders. Stroke rehabilitation includes specialist, detailed assessment, involving the patient and carer in goal planning, providing information, monitoring progress and implementing specific therapies at an intensity appropriate to the needs of the patient. This should lead to long term support and follow-up by a knowledgeable and familiar team.

10. Management in a stroke unit which combines both acute assessment and the full range of rehabilitation should be the pathway of choice.

11. Discharge planning should begin early in the course of admission and should consider the needs of patients and carers. A clear plan for implementation of secondary prevention and further rehabilitation if necessary should be formulated prior to discharge and the patient given a named contact who can help coordinate care. Good discharge planning will involve full collaboration with primary health care and local social services. Uncoordinated discharge is unacceptable.

12. Integrated (hospital, primary care and social ser-

vices) early supported discharge schemes have been found to reduce length of stay without compromising outcome. For those stroke patients able to be rehabilitated at home after initial management in hospital, there is evidence that this is preferred by some patients.

Rehabilitation of a diffuse and uncoordinated nature, whether in hospital or in the community, has been demonstrated to have poor outcomes and should be discouraged. For this reason, community-based rehabilitation services should develop partnerships with stroke services. Special attention should be given to minimising carer stress where patients are being rehabilitated at home.

13. Patients and carers want timely, meaningful, accessible, reliable, coordinated and supportive rehabilitation, which both incorporates and is driven by their goals and is carried out by well trained and knowledgeable staff.

14. Whether the benefits achieved by stroke units can be replicated in settings outside district hospitals such as community hospitals or nursing homes needs to be evaluated.

15. The expertise of the specialist rehabilitation services should, where appropriate, inform and support the wider community services.

16. Patients and carers value a stroke co-ordinator/liaison personnel and practical local information wherever they are.

CAN WE REDUCE THE EMOTIONAL IMPACT OF STROKE?

17. The importance of mood disorders after stroke needs recognition. The emotional impact of stroke can include: anger, denial, anxiety, depres-

sion, emotionalism and post-traumatic stress disorder. These states have been found to be present in approximately 40-50% of stroke patients in hospital and 25% in the community and are associated with worse outcomes.

18. Stroke patients and their carers may require emotional support and should be given the opportunity to discuss concerns and ask questions of those involved in their care. In addition, some patients with mood disorder may require treatment by staff skilled in psychological approaches.

19. There is a need for a coordinated approach requiring the development of validated assessment tools for mood disorders which can be practically applied in all healthcare settings to stroke patients with cognitive and language disorders.

20. Evidence to support the widespread implementation of therapies is limited. It is not yet possible to recommend specific therapies to treat and prevent mood disorder after stroke. There is evidence to support an individual intervention which could be drawn from the following:

- anti-depressants for depression or emotionalism;
- psychological therapies;
- support approaches (including patient and carer support groups);

21. Carers may experience considerable stress and there is evidence that this can be reduced by interventions such as family support services.

22. There is a need for systematic research, including dose-finding studies, leading to RCTs (Randomised Controlled Trials) at different time points after stroke.

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THE BOBATH MEMORIAL WORKSHOPS

June/July 2000

WRITING CASE REPORTS

Jackie Newitt Clinical Practice and Audit Subgroup, ACPIN

The Bobath Memorial bank account was established from profits made following the ACPIN course organised in memory of Dr and Mrs Bobath. At the 1998 AGM in Chester the ACPIN membership were asked how this money should be used. The National Committee then considered each suggestion against the following criteria:

- It was of practical use and accessible to clinicians
- Awareness of the importance of evidence based practice
- It was affordable within the resources
- A significant piece of work dedicated to the memory of Dr and Mrs Bobath

A final decision was made that ACPIN would support and encourage members to write up and share their clinical experiences in the form of case reports. Through this members would be encouraged to reflect on their own practice, review relevant literature and be supported in producing a piece of writing that could be considered for publication.

Advice was sought on planning for this and it was decided to run a series of one-day workshops on 'Writing Case Reports' across the country. The workshops were to be free to ACPIN members and places would be allocated to regions according to their membership size.

The aim of each workshop was that each participant should gain sufficient knowledge and confidence to be able

to write a case report. They were therefore limited to 15 places with two facilitators assigned to each day. All the facilitators were physiotherapists with a wealth of writing experience.

In return for a funded place participants were expected to carry out a small amount of preparation work and to write up a case report that could be submitted to ACPIN for publication in *Synapse*.

In June and July last year three of the courses took place. Participants were selected by Regional Committees and any unallocated places were opened up to other regions.

The facilitators planned their own workshops and the programmes reflected their own styles. They all gave practical instruction on how to write a case report and provided participants with the opportunity to discuss and present their ideas with guidance and feedback. Participants were also offered continued support from the facilitators after the workshop in order to complete the task of writing the report up.

The first workshop was held on 15th June 2000 at Birmingham Heartlands Hospital. Members from South Trent, Oxford, East Anglia, South West and West Midlands regions attended. The facilitators were Dr Sue Mawson from Sheffield Hallam University and Paulette van Vliet from the Stroke Research Unit at Nottingham City Hospital.

On the 27th June Professor Cecily Partridge from University of Kent at Canterbury and Dr Jennifer Freeman facilitated the London workshop at St Bartholomew's Hospital. Participants were from the

London, Kent, Sussex and Wessex regions.

Sue Mawson kindly agreed to facilitate a second workshop and this was held at St James' Hospital, Leeds on 5th July. Professor Anne Parry from Sheffield Hallam University joined Dr Mawson to lead the group from North Trent, Merseyside, Yorkshire, Manchester, Northern and South Trent regions.

All three workshops ran very smoothly. The post course evaluation from the participants was extremely positive and encouraging. They had found the days both informative and inspiring. The majority felt able to have a go at writing a case report but appreciated the offer of ongoing support from their facilitators in order to complete the task. The facilitators were impressed by the enthusiasm demonstrated by the participants and felt that there was the potential for some excellent reports to be produced.

Unfortunately the enthusiasm appeared to have waned after the workshops and we are aware of only a couple of reports from each of the groups that are near to or have been completed. Local feedback indicates that some participants, many with no previous experience of writing, found writing up their case report too big a challenge and lost momentum with it. They have asked for a follow up session to discuss problems and regain motivation.

In order not to waste the effort that has been put into the project so far by all the facilitators and participants, and providing there is sufficient interest and commitment, it has been

agreed that a follow on session could be organised shortly.

In addition to this a fourth workshop has still to take place. It will be run in spring 2001 in Belfast. Instead of the one-day format the Northern Ireland committee is planning to organise the workshop over a series of days to allow follow up and with a slightly smaller number of participants. As part of their role the facilitators produced their own guidelines for the participants to write case reports. The following are two examples of these guidelines.

GUIDELINES ON WRITING A CASE REPORT – EXAMPLE 1

Cecily Partridge

In selecting a case report remember that it should illustrate some aspect of patient treatment or management that will be of interest to others, perhaps an unexpected response. There is often a surprise element to what happened.

Identify the key focus, the point of the case report (and only one point) you want to make. This will dominate the presentation of your case and decide what clinical details should be included. Think why you selected this case and what was interesting about it.

Check the relevant literature, has a lot been written about the subject? Does your case agree or disagree with it? What new insights has your case to add to the present state of knowledge?

Discuss and check with others that you have an interesting point to make.

Start writing. Describe the patient in appropriate detail

for the focus of your case, don't include unnecessary details from the case notes. Only give sufficient detail to illustrate the point of your case report. The style should be prose with proper sentences, telling the 'story' of your point.

You may want to mention relevant social, psychological, or environmental details.

Describe the examination of the patient and any assessments taken before treatment.

Describe the aims of treatment, actual interventions and patient goals if relevant.

Include the results of treatment, outcomes, what happened, were results expected or unexpected.

Reflect on possible reasons for what happened in relation to the point you are making.

Think of a catchy title that will make people want to read the report.

These are guidelines for writing a case report about an interesting patient but case reports can also be written about management or departmental procedures, the underlying process will be the same but content will differ as will stages of the process.

When submitting your case report to a journal for publication first read the *Guidelines for Authors* and look at a published case report. The required length is usually between 1,000 and 2,000 words. Make sure layout and reference style are right for the journal. Writing and rewriting are necessary at this point, show drafts to others preferably someone who has published already, and take their comments on board. Send off the required number of copies. If it comes back take careful account of all comments,

rewrite and re submit to the same journal if they agree or elsewhere. Hardly any titles are accepted first time off without alterations.

GUIDELINES ON WRITING A CASE REPORT – EXAMPLE 2

Paulette van Vliet

Title Should convey succinctly to the reader the essential point of your report.

Introduction Place topic in a context:

- Start with a general description about the background to the topic.
- Review the relevant literature – try to integrate the information rather than simply describing studies one after the other. Papers covered should be up to date.
- Provide the reader with some theoretical explanation for these findings.

Then, having highlighted why you have chosen this particular topic or intervention:

- State the purpose of the specific treatment intervention and also the long-term functional goal for the patient.

Procedures Describe treatment intervention and measurements with sufficient clarity so that other therapists could reproduce it. Things to include:

- Subject details – eg age, sex, diagnosis, previous medical history, history of present illness, previous treatment, etc.
- Describe any equipment and materials used so that anyone wanting to replicate your treatment can obtain the same equipment.

- Describe how the measurements were made (include level of measurement).
- Describe the treatment procedure – ie a step-by-step account of what was done in the appropriate order, duration of treatments over a period of intervention.
- Your plan for presenting the findings. May include graphical presentation, descriptive statistics (eg raw scores, means, medians, number of correct attempts, etc), photographs or videotapes of performance before and after intervention.

Findings

- Start general, then describe more specifically.
- Include tables and figures where appropriate
- Explain tables and figures verbally, in a logical order
- Write so it is easy to read and assimilate.
- Only include necessary information.

Discussion

- Relate to the initial aim of the treatment – was it achieved?
- Explain how your findings influenced your clinical decision making during this episode of care.
- Interpret findings, acknowledging other factors that could have influenced the result.
- Explain how your findings fit in with research in the field.
- Discuss the limitations of the report.
- Include suggestions about further developments

Key findings

- Was the purpose of the treatment intervention achieved?

■ Did it contribute towards achievement of the functional goal?

References

■ Include every paper you have mentioned in your report, but not those you may have read but not mentioned.
■ In alphabetical order usually.

RECOMMENDED REFERENCES

McEwan I (1996) *Writing Case Reports A How-To Manual For Clinicians* **Alexandra, Virginia: APTA** ISBN: 1-887759-09-03

DeSouza L (1997) *One case at a time* **Physiotherapy** 83(3), 107-108

Parry A (1998) **Physiotherapy** 84(7): 330

MOVING AND HANDLING IN NEUROLOGICAL REHABILITATION ACPIN STUDY DAY

Louise Gatehouse ACPIN Executive Committee

This stimulating and thought provoking day was held on Saturday 9th December 2000 at the Hatfield Campus, University of Hertfordshire.

The main aim of the day was to provide the attendees with a global overview of the issues faced by physiotherapists relating to today's manual handling challenges. Not surprisingly the course proved to be very popular and the original number of predicted places soared from 50 to a staggering 140 plus! The participants were from a varied background consisting of physiotherapists, occupational therapists, back care advisors, manual handling advisors and stroke co-ordinators.

The format of the day was similar to that which had proven popular at the study day in Leeds. The programme comprised of a series of short lectures touching on the main important aspects of manual handling. Each speaker had been allocated a period of 30-45 minutes with the exception of Arjo, the study day's generous sponsors, who had one hour to deliver the key issues. Each participant received a delegate pack which contained a biography of each speaker plus abstracts and a reference list.

This theoretical day was lightened by an equipment review and demonstration by Arjo, and a splendid lunch.

ACPIN were delighted to welcome the following

speakers: Pat Alexander, Freelance Back Care Advisor, Vikki Sparkes, Senior Lecturer in Physiotherapy at the University of Hertfordshire, Anthea Dendy, Clinical Specialist in Neurology at St George's Hospital, London, Dot Tussler, Superintendent Physiotherapist, Stoke Mandeville Hospital, Aylesbury, Heather Thornton, Senior Lecturer at the University of Hertfordshire, Monica Busse, Senior Lecturer at St George's Hospital Medical School and Kingston University, Bruce Somerton and Steve Oldershaw, Design Engineer and International Product Development Manager, Arjo, Mark Spreckley, Back Care Advisor and Sue Hignett, Ergonomist at Nottingham City Hospital.

After Monica Busse introduced the day's programme, Pat Alexander set the scene for the day with a lecture titled 'Legal implications of the Manual Handling Operations Regulations (1992) and current neurological physiotherapy practice', which outlined the legal influences on the moving and handling of people with disabilities. After providing the attendees with an introduction to the professional and legal implications of handling patients, Pat discussed the duty of care imposed on staff during rehabilitation. She highlighted that one of the main concerns was that the impact of strict interpretation of the laws regarding manual handling could have a strong influence on the development of safer approaches to rehabilitation. She finalised her talk by asking the participants to consider 'where do we go from here?' and suggested more emphasis on the avoidance of

unnecessary manual handling in training, adherence to professional guidelines, reflective practice, being more goal focused, liaison with the manufacturers and being innovative. Thus Pat encouraged physiotherapists to explore a range of options that allow them to use their skills in a safe way, so that when research produces evidence to the benefits of certain treatment concepts, these can be adhered to with confidence.

Vikki Sparkes followed on with a lecture entitled 'Manual handling in neurological rehabilitation, concepts, techniques and low back pain'. This lecture presented some of the results of a national survey conducted in 1998 which encouraged us to consider the need for the integration of safe manual handling practices within neurological rehabilitation. Vikki informed us of the staggering 80% of therapists who have suffered from low back pain from the 79% who returned questionnaires. She challenged the audience through a series of results and outcomes to consider the findings of the research and to continue this investigation further. She highlighted that therapists needed to investigate the causative factors of low back pain, work load demands and investigate historical practices to neurological rehabilitation so that the most effective method of manual handling training is provided.

Anthea Dendy and Dot Tussler then teamed up to deliver the lecture entitled 'Tackling manual handling in treatment – ACPIN's approach'. This session provided the participants with an introduction to the ACPIN pilot information

pack, *Neurological Physiotherapy – Manual Handling in Treatment*. Anthea provided a very clear overview of the development and contents of the pack and encouraged the audience to observe the poster presentations of flowcharts developed by groups using this pilot pack. She challenged us to go back to our places of work and develop this system of safe practice further. Dot supported Anthea's talk by discussing the audit undertaken by Superintendents from the UK spinal injury centres in 1999 entitled 'Physiotherapy management of the Spinal Cord Injury Patient' which had highlighted the need for risk assessments and the dramatic impact of manual handling on the long term management of such patients. She encouraged us to formulate flow charts of manual handling procedures which could encourage clinical reasoning and decision making.

This session led on to question time and it was obvious from the number of questions that the first sessions had been very well received and had immediately provided thought provoking material to the audience.

Both Heather Thornton and Monica Busse presented very interesting case studies entitled 'A patient with a brainstem infarct – balancing treatment aims and the issue of moving and handling' and 'Access to appropriate hoisting equipment can be essential for effective rehabilitation'. These concise and comprehensive lectures allowed the participant an overview of the main issues facing the therapist when dealing with this type of client within a community

setting and highlighted how handling equipment such as hoists could be used to access rehabilitation to the severely disabled individual. The use of slides clearly demonstrated the pros and cons of using equipment but provided us with some options of how manual handling equipment can be used to aid treatment as well as ensuring a safe transfer.

The sixth session was entitled 'Arjo product design process' and was presented by Bruce Somerton and Steve Oldershaw. This session provided the listeners with insight into the history, the market and the challenges faced by Arjo with product design. There were many questions from the audience relating to equipment and how Arjo attempted to match the product design with the required design specification of the users. Arjo explained clearly how regulatory issues impacted on the fulfilment of user's requests/suggestions.

This session should have been followed by Carole Bannister but unfortunately she was unable to attend at the last minute. ACPIN would like to acknowledge Mark Sprackley who was kind enough to agree to fill in at very short notice! His session was entitled 'A multidisciplinary approach to risk assessment' looked at the idea of MDT working well together if the team developed strong communication pathways and clear documentation in line with defined team objectives to ensure an ergonomic problem solving approach was used to assess and re-assess each potential risk. Mark hoped that his overview would assist therapists who face these issues on a day-to-day basis.

Sue Hignett provided a very dynamic session on 'Ergonomics of physiotherapy practice and equipment'. She provided the audience with a clear overview of ergonomics and with the use of slides highlighted how certain adopted postures used within rehabilitation can potentiate problems. She introduced an analysis measure, the REBA (Rapid Entire Body Assessment) which could allow postures to be measured and scored. She suggested that such evidence may be the way forward for the alteration/modification of conventional therapy practices, an important topic in terms of rehabilitation today.

The last speaker was Anthea Dendy who undertook the role of summarising ACPIN's activity and concluding the day. She questioned the audience as to the way forward for manual handling and placed much emphasis on work that was still undone and delivered this proposition directly into the participants' laps encouraging therapists to develop further the work ACPIN has started.

EVALUATION

Overall there was a very positive response to the thought provoking day from delegates. The evaluation forms for the day were divided into a section per speaker and asked the course participant to score each speaker on level of delivery, relevance and interest. The responses received were extremely positive, and ACPIN would again like to thank all the organisers and speakers for presenting such a stimulating day.

Abstracts can be found on p36.

HEAD INJURY: REHABILITATION CHARTERED SOCIETY OF PHYSIOTHERAPY Edited for inclusion in Synapse

The Health Committee is undertaking a short inquiry into Head Injury Rehabilitation. The Committee invited written evidence from individuals and organisations. The CSP submitted a report, following advice from ACPIN.

BACKGROUND

The Health Committee is a Select Committee of the House of Commons appointed to examine the expenditure, administration and policy of the Department of Health and associated public bodies. The Committee has the power to require the submission of written evidence and documents, to send for and examine witnesses, and to make Reports to the House.

The Committee has a maximum of 11 members, of whom the quorum for any formal proceedings is 3. Members are appointed by the House and unless discharged remain on the Committee until the next dissolution of Parliament.

The Committee may meet at any time (except when Parliament is prorogued or dissolved) and at any place within the United Kingdom. Reports and evidence are published by The Stationery Office by Order of the House, and are on the Internet at www.parliament.uk/commons/hsecom/htm.

The terms of reference of this inquiry are:

■ The Committee will examine the availability, organisation and resourcing of rehabilitation services for head

injured adults following medical stabilisation.

■ The Committee will consider rehabilitation services in the hospital and in the community, and wishes to establish the extent to which agencies in the statutory and non-statutory sectors collaborate to provide seamless care.

The Chartered Society of Physiotherapy (CSP) therefore submitted evidence to the health select committee on head injury rehabilitation, (the CSP is the professional, educational and trade union body for the UK's 35,000 chartered physiotherapists, physiotherapy assistants and students).

The evidence submitted highlighted the following issues:

- the current situation;
- rehabilitation and head injury;
- what makes a model of good practice in rehabilitation for people following a head injury;
- the added value of physiotherapy;
- recommendations;
- models of service delivery.

The Society wishes to acknowledge the assistance of its members who work with head injured clients in developing this submission.

THE CSP'S SUBMISSION

EXECUTIVE SUMMARY

The complex needs of adults following head injury require a co-ordinated inter-professional and inter-agency approach which is customised to meet an individual's needs from the acute phase through resettlement in the community and beyond.

The current provision of high quality co-ordinated rehabilitation services is inconsistent in the UK. The government's commitment to addressing social exclusion and addressing the inequities in health and welfare service provision is welcome, but it is disappointing to note that services for adults with head injuries are not being targeted for action.

The CSP proposes a range of action points for consideration:

- a national mapping exercise of what rehabilitation services are currently available for adults with head injury would help services recognise the gaps in service provision as well as highlighting models of best practice;
- development of processes to encourage inter-professional and inter-agency collaboration, eg joint post-graduate training programmes, formation of regional networks;
- development of a whole-systems approach which is client focused;
- investment to develop the evidence-base to underpin practice;
- investment to ensure the workforce is fit for purpose;
- investment in the necessary highly skilled, specialised staff to improve recruitment and retention.

1 THE CURRENT SITUATION

1.1 More than one million people in the UK present to hospitals each year with head injury, almost half of these are under 16 years old (RCS 1999). The frequency of subsequent disability ranges from two or three to 45 per 100,000 population per year (Thornhill et al 2000). This variation reflects the lack of data on patients with apparently mild injury, who account for 80% of admissions, 63% of adult patients who sustain moderate head injury, and 85% of patients with severe head injury remain disabled at one year post-accident (RCS 1999).

1.2 Those with residual deficits may have to cope with these for a life-time, the length of which has not necessarily been substantially reduced as a result of the head injury.

1.3 The subsequent burden is therefore significant in terms of cost to the individual (eg loss of employment, change in self-esteem, change in status within society) and to the state (eg healthcare provision, provision of welfare benefits).

1.4 The public is subject to a massive variation in healthcare standards and service across the country (McMillan and Greenwood, 1993). The CSP welcomes the government's recognition of the inequities in service provision and the introduction of policies, eg clinical governance, National Service Frameworks, to address these issues. It is of concern that certain sections of the population eg adults with head injury, are not included in the Government's priorities and are therefore subject to further inequity.

1.5 The provision of support and rehabilitation for disabled survivors of traumatic head injury is inadequate (Thornhill et al 2000). This view was also made in the Royal College of Surgeons' report (1999) which highlighted the significant reduction in resources available for managing head injury between 1993 and 1999.

1.6 Certain individuals with head injuries are further discriminated against by the shortage of specialist beds eg those with complex physical disability, significant behavioural needs. Placement for young people following head injury is also problematic, the individual is often given little choice as to whether or not to remain with the family unit.

1.7 The provision of equipment remains problematic. Equipment is funded by different sectors; in reality this has caused delays in provision as organisations argue over the funding priorities. It is hoped that the flexibilities introduced by the Health Act 1999 (pooled budgets) will be used positively to resolve these issues.

1.8 Services for people with head injury have traditionally adopted a 'hub and spoke' model, which aims to facilitate an effective allocation of resources (eg specialized manpower) throughout a geographic region. Whilst this model is appropriate in theory, reflection on practice suggests it has suffered considerably from fragmentation of services during the 1980s/90s.

1.9 A frequent example of this is the secondary problems which occur when patients are transferred from excellent neurosurgical centres (the hub) to their local service (the wheel) whilst awaiting a rehabilitation

bed. The drive towards managing waiting lists within the NHS has impacted on services' abilities to provide ongoing rehabilitation to clients with head injury.

1.10 There is an urgent need for investment and organisation of rehabilitation services both locally and centrally for those who have suffered a head injury (RCS/BOA, 2000).

2 WHAT IS REHABILITATION FOLLOWING HEAD INJURY?

2.1 There are many definitions of rehabilitation (eg Beveridge 1942, Laidler 1994). These reflect the values, political attitudes and resources available within society at any given time (eg growth of rehabilitation services immediately post-war, medical v social model).

2.2 Alan Milburn has clearly identified the importance of the link between health, access to healthcare services (including rehabilitation) and the country's economic performance: '...investment now to prevent ill-health and to promote fast and effective treatment and rehabilitation may be as important economically as it is socially' (LSE Annual Lecture 08.03.00).

2.3 Headway defined head injury rehabilitation as a 'process of change through which a brain injured person goes, seeking to regain former skills and to compensate for skills lost. Its aim is always to achieve the optimum levels of physical, cognitive and social competence followed by integration into the most suitable environment.' (www.headway.org.uk)

2.4 Despite the different perceptions of rehabilitation, there are a number of common elements, which include:

- a process aimed at maximising functional capacity and role within society;
 - an active ongoing process;
 - a client-focused approach.
- 2.5** The physiotherapy profession embraces the original meaning of rehabilitation, the restoration of skill and ability: 'Physiotherapy is a health care profession which emphasises the use of physical approaches in the promotion, maintenance and restoration of an individual's physical, psychological and social well-being, encompassing variations in health status.' CSP, CPM (1996).
- 2.6** A range of factors complicates the management of head injury. These include:
- Wide range and severity of the neurological involvement with consequent physical disability; some patients are highly dependent and unable to respond in any way, others have mild and transitory disturbances (McMillan and Greenwood, 1993)
 - Protracted course of recovery;
 - Effects of co-morbid trauma;
 - High rate of unemployment pre-injury;
 - Devastating effect on the family (BSRM 2000).
- 2.7** Rehabilitation for people with head injury therefore needs to be considered in a broader context, such as described by Schian 1994 which illustrated that following head injury, return to work, for example, will be dependent on a number of factors including:
- the impact of the head injury on the individual (physical, psychological and social);
 - the nature of the employment;
 - the attitude of the employer. Additional barriers may exist

concerning access to appropriate rehabilitation services and perverse incentives in situ as a result of legislation or welfare benefits.

3 WHAT MAKES A MODEL OF GOOD PRACTICE IN REHABILITATION?

3.1 While this has not been exhaustively studied, it is interesting to note that three separate models published in the UK, Australia, and USA all have similar features (Burke 1987, McMillan and Greenwood 1993, NIH Consensus Statement, 1998).

3.2 A client-centred, whole systems approach

3.2.1 Effective rehabilitation helps people to stay at home, or return home after hospital, and reduces admissions to residential and nursing homes (The Audit Commission, 2000). This report concludes that provision of effective rehabilitation requires a whole systems, multidisciplinary, and inter-agency approach. The CSP supports this conclusion.

3.2.2 The outcome must be to maximize the physical and social functioning of patients to allow a planned return to the community and to recognize cognitive and emotional complications of brain injury, even in the absence of physical sequelae (RCS/BOA 2000). Proactive rather than reactive delivery is crucial, whether this is to avoid the development of contractures and pressure sores, or maladaptive behaviours, psychosocial isolation or unemployment (McMillan and Greenwood, 1993). To assess and preempt these possibilities, and given the complex nature of head

injury, an inter-professional whole systems approach is vital.

3.3 Advocacy. An advocacy service is also available to act on behalf of the client eg providing information about certain services, facilitating access to services or acting as a representative for the client in times of conflict.

3.4 Inter-professional collaboration. Clients benefit from real inter-professional collaboration because it has a multiplicative effect – the whole being greater than the sum of its parts (Rawson 1996).

McGrath's 1991 study supports this view in the context of inter-professional teams working with people with learning disability in the community.

3.5 Rehabilitation is a dynamic partnership. A goal-oriented approach to rehabilitation helps produce the best outcome (Wade 1998). The team must set meaningful medium and long-term goals in partnership with the client. Given the changing needs and aspirations of clients over time, it is vital a flexible approach is adopted.

3.6 Working across boundaries

3.6.1 Taking this model a stage further, it is inevitable the healthcare rehabilitation team works with the client across agency boundaries, ie hospital inpatient, intermediate care, sheltered accommodation, nursing home, own home etc, yet retain accountability to their parent organisation (NHS/Social Service/Voluntary sector).

3.6.2 Given the different underpinning philosophies adopted by the range of agencies involved with a client with head injury, the

whole team must have a clear vision as to the outcome of rehabilitation in order to ensure a consistent approach. This would be the result of effective inter-agency working and client-centred goal setting.

3.6.3 Elements of this rehabilitation model for people with head injury are evident in practice (examples were given in full document).

4 ADDED VALUE OF PHYSIOTHERAPY IN REHABILITATION FOR HEAD INJURY

4.1 There has been little research undertaken into the effects of rehabilitation following brain injury. Appropriate experimental methods such as randomisation and controlling for a heterogeneous population is logistically problematic and ethically difficult in practice (McMillan and Greenwood 1993). Evidence is available and recommendations have been made for future research methodologies (Chesnut et al 1999).

4.2 This problem is compounded by difficulties in receiving research funding. Brain injury rehabilitation has limited funding opportunities, and the nature of the methodologies required demands large-scale investment in multi-centre trials to find evidence of effectiveness.

4.3 One temporary, short-term solution would be to undertake a mapping exercise of service delivery; the results of which could be used to determine best practice.

4.4 Several recent reviews of the literature have been made which highlight the implicit need for physiotherapy (Chesnut et al 1999, Rice-Oxley and Turner-Stokes 1999).

5 ISSUES OF CONCERN

5.1 Access to physiotherapy services

5.1.1 Currently, access to physiotherapy is all too variable. This can be for two reasons. Firstly, the organisation of referrals differs so that while some services only accept referrals from medical practitioners, others adopt an open system and accept referrals from a range of other professionals and clients. Secondly the availability of staff with the required specialist skills varies markedly; on inpatient district general hospitals and acute specialist centres as well as in sub-acute rehabilitation and outpatient clinics, staff with such skills as splinting for patients with complex physical disabilities. Patients referred to physiotherapy are not then seen by staff with sufficient post-graduate skills (Schlenz et al 1995).

5.1.2 Therapists are central to the delivery of rehabilitation services, yet staffing is often calculated on a historic basis rather than a service being commissioned to reflect the needs of the local population (The Audit Commission 2000). More thought must be given to how resources are allocated at a national level for rehabilitation. One example of the complexities of this is that offering vocational rehabilitation reduces the financial burden to the Social Security budget, yet this benefit is not forwarded to the DoH budget that initially funded the treatment.

5.2 Inter-professional issues

5.2.1 The drive for greater inter-professional collaboration has intensified since

the late 1980s. Despite policy changes aimed at reducing the duplication of services, identifying unmet needs, and greater co-ordination of available services, the evolution of true inter-professional collaboration remains inconsistent. Discussion is necessary at a local level to clarify the nature and extent of inter-professionalism in practice, eg making telephone contact, shared documentation, joint assessment and goal setting a reality.

5.2.2 Major obstacles to effective inter-professional teamwork are the serious cultural and professional differences (Higgins et al 1996). Given the fundamental nature of these issues, they must be tackled before policy changes will facilitate an improvement in service delivery to clients.

5.3 Workforce issues

5.3.1 Specialist skills are required to help this client group eg provision of carefully focussed stimulation, avoidance of over stimulation and fatigue, and inappropriate social reinforcement of disordered behaviour (McMillan and Greenwood 1993). Certain skills eg communication, realistic goal-setting, could be considered generic across the team: inter-professional post graduate training should be developed to enhance inter-professional collaboration (Leiba 1996) and a consistent approach with a client.

5.3.2 Currently physiotherapists have variable access to peer support and opportunities to maintain and further develop the high level skills necessary to work in this

field. It is vital that physiotherapy staff are enabled to access uni-professional continuing professional development (CPD) opportunities to ensure their professional competencies are maintained and developed. Clinical interest and occupational groups within the profession do exist, but the impact of their valuable work is limited by the resources available (time, finances and manpower) and their voluntary nature.

5.3.3 There is a recruitment and retention crisis of physiotherapists in all sectors. The risk of burnout is high in head injury rehabilitation because clients present with unique symptoms for staff to cope with daily, eg disorientation, impaired memory, impulsiveness, agitation and denial (Schlenz et al, 1995).

5.3.4 Burnout is linked to professional activities and the need for active CPD and active communication channels. CPD and successful communication strategies must be built into individual services and not dependent on individual practitioners.

5.3.5 The National Beds Enquiry (DoH 2000) openly acknowledged the concept of multi-skilled workers in the delivery of rehabilitation in intermediate care settings; this is reiterated in the NHS National Plan. The debate concerning the generic or multi-skilled support worker is not new, but has been refocused in the context of modernisation (as highlighted in a recent article in *Physiotherapy* – Smith et al. 2000).

5.3.6 Rehabilitation assistants do have a role to play

in the delivery of rehabilitation programmes as exemplified in a number of models of service delivery. The professions should become actively engaged in the debate nationally and locally, around the role of rehabilitation assistants in the delivery of rehabilitation services to ensure that the workforce delivering the service is fit for purpose.

5.4 Organisation of the service

5.4.1 The organisation of services for people with head injury requires review. Reflection on rehabilitation practice suggests that long-term co-ordination is missing: clients cannot always access the service they need, or their needs go unnoticed because the appropriate support is not available or there is no easy means of accessing it.

5.4.2 Clients need to be empowered and the services reorganised to permit access to services/support based on need. Access becomes imperative in cases where the individual's situation has changed or when new problems arise. The principles on long-term patient management, outlined in the *National Clinical Guidelines for Stroke*, apply (Intercollegiate Working Party for Stroke, 2000).

6 RECOMMENDATIONS

The following elements are necessary to deliver a co-ordinated, client centred rehabilitation service:

- Access to rehabilitation programmes must be available for all people who present with the potential to benefit from intervention, and have the desire to participate.
- The service should be organ-

ised with sufficient flexibility to respond to the wide range and severity of deficits encountered.

- Access should be through more than one entry (eg referral for vocational rehabilitation could be accepted from workplace, via GP or from the local employment service).
- Collaborative inter-professional inter-agency approach needed to address the complexity of needs.
- Whole systems goal-centred approach to ensure the team address the client's aims eg return to work, leisure and previous role.
- Explicit and agreed rehabilitative philosophy needed (eg client empowerment, facilitation of independence).
- Service organisation and structure is informed by an evidence-base.
- Sufficient funding to ensure that the various components of the service are all present.
- A fit for purpose workforce: properly trained specialist therapists.
- Staff access to CPD and life-long learning.
- Clear lines of professional and managerial responsibility and accountability.
- Local ownership of change through close staff involvement.
- Job enrichment for the professionals involved, underpinned by appropriate levels of reward.

References are obtainable from the parliamentary website or from Ralph Hammond at the CSP (020 7306 6636).

CONGRESS 2000: EXPANDING HORIZONS

REVIEW 1

TO RESEARCH OF NOT TO RESEARCH – THAT IS THE QUESTION?’

Julie Hunter MCSPP, SRP
Physiotherapy Manager Good Hope Hospital Sutton Coldfield

Congress this year certainly seemed to cause a lot of discussion regarding its content. For the majority of us the Neurological Programme was innovative, and it produced a lot of desire for further integration with our musculoskeletal colleagues to improve upon the care given to the patient.

For others it was based far too much on observation rather than pure research. All of us agree that our interventions must be evidence based, and with the *Agenda For Change* asking us to review our competencies certainly we must be sure that what we do works. But does that have to be based solely on research?

Anyone who has embarked upon research will know how difficult it is to satisfy both the statisticians and the ethics committee sufficiently to make your study valid without withdrawing treatment. So with the need for competencies including observational analysis, could we alter our documentation – to build on the use of information technology and link outcome measures with digital photography and videos.

Research is of importance, no-one disputes that, but so too are the valid comments of the people whom we consider experts within the neurological

field, and who have taken the time to lecture us on their findings, and acknowledged that their information is purely observational. Their experience is of equal value to research undertaken, and is it not an example of reflective practice which is after all listed as part of our continued professional development?

REVIEW 2

Ros Wade MCSPP

The Chartered Society of Physiotherapy Congress was held again at the International Convention centre in Birmingham. The venue and organisation by the CSP and ICC staff was to a very high standard, and the few hitches that there were, were quickly and efficiently dealt with. ACPIN were delighted to have had a programme accepted for the second year and would like to thank again all the speakers who contributed. There was certainly a good deal of discussion stimulated which is the aim of an event such as this, and hopefully those delegates who attended, left the conference feeling stimulated to review their clinical practice or to consider their own lecture content. Abstracts from all the lectures are included in this issue of *Synapse* (see the Review section).

Unfortunately, this year ACPIN did not receive many completed evaluation forms, but from those that were received the information was collated and fed back to both the ACPIN committee and the Congress management committee. Comments around the delegate bag and the lack of food and drink on the Friday

evening will be considered again for the next event.

From the previous year there had been a suggestion that a SIG should only attend for two consecutive years, and although this has not been the case, ACPIN had decided to hold its own residential conference on 'Posture and Balance' in 2001. As I write this review ACPIN have submitted a programme for consideration by the CSP for Congress in October 2002, just to give you an idea of the amount of planning that is required! Watch this space.

ACPIN would like to thank you the members for your ongoing support and suggestions for future programmes/ events and in particular speakers that you can personally recommend are always welcome.

ATHENA NEUROSCIENCE STUDY DAYS

Linzie Bassett MCSP, SRP

Athena Neurosciences approached ACPIN to co-host a series of road shows on spasticity management. Athena would sponsor the days and handle the administration. Following problems encountered with Neuro Education study days, ACPIN considered the offer with caution. It was agreed that it would be a great opportunity to promote neurophysiotherapy at no expense to ACPIN.

Each Regional representative in conjunction with Athena planned three one-day workshops across the UK: Merseyside, East Anglia and

Scotland for Spring 2000. The title was altered to encompass the particular needs of MS patients.

Invitations were distributed to hospital and community based physiotherapists. The feedback has been positive with the content of the days being appropriate. The quality of the lectures were evaluated as good to excellent. In view of this, Athena are keen to plan further workshops this year and are currently discussing a workshop in Wessex and probably London.

MEDICOLEGAL ISSUES IN NEUROPHYSIOTHERAPY

SATURDAY NOVEMBER 10TH 2001
LEEDS METROPOLITAN UNIVERSITY

PROVISIONAL PROGRAMME

9.30 - 10.30	NOTE KEEPING – THE BARRISTER’S PERSPECTIVE
10.30 - 11.00	WHAT TO INCLUDE IN A LEGAL REPORT FOR A NEUROLOGICAL PATIENT
11.00 - 11.15	COFFEE
11.15 - 11.45	CASE STUDY
11.45 - 12.15	CASE STUDY
12.15 - 1.00	WHAT IF I HAVE TO GO TO COURT? A PERSONAL EXPERIENCE
1.00 - 2.00	LUNCH
2.00 - 2.45	NEUROPHYSIOTHERAPY NOTES DISSECTION (OR ‘WILL I EVER WRITE NOTES AGAIN? IF SO, WHAT?’)
2.45 - 3.30	THE HUMAN RIGHTS ACT – HOW WILL IT AFFECT YOU?
3.30 - 4.00	ARE YOU AN EXPERT? SHOULD YOU WRITE THE REPORT?

Courses for physiotherapists and other health and social care workers

Connect is a new national charity. Our therapy and support services help people with communication disability after stroke to reconnect with their lives and the people around them. Our education and research programme is based on our experience of working with stroke service users, healthcare providers and policy makers and voluntary sector agencies.

We have just launched an extensive programme of courses and study days at our new centre in Southwark, London. These courses aim to help physiotherapists, rehabilitation workers and researchers to develop their skills and understanding of issues in communication, the process of therapy and new research methodologies. Speakers include Sally French, Sally Byng, Susie Parr and the Connect therapy and research team.

Our current programme of courses includes:

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Practical user involvement in communication disability – planning, developing and monitoring services £75 13 Jun 01

Introduction to research skills for therapists – practical guide to undertaking clinical research £50 20 Jun 01

Introduction to qualitative research and in-depth interviewing £120 4/5 Jul 01

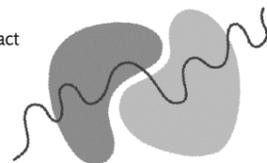
Working with people with communication disability – developing awareness of the barriers and conditions for inclusion £120 24/25 Jul 01

Unpacking the black box of therapy – describing the components and processes of therapy £150 Jul 01

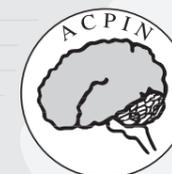
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ACPIN STUDY DAY
NEUROPHYSIOTHERAPY & MEDICOLEGAL ISSUES

CONGRESS REVIEW

ADAPTATION OF NERVE, MUSCLE AND SOFT TISSUE TO IMMOBILISATION

Professor Geoffrey Goldspink PhD, ScD, FRSC

We are now beginning to understand the physiological mechanisms via which exercise and manual therapy have a beneficial effect on general health as well as tissue repair. Our group has studied the reason for the decline in muscle function during ageing to discover to what extent the changes are due to reduced activity or the ageing process per se. At rest there is a marked age-related decrease in circulating growth hormone and IGF-I so that at 70 plus the levels are only about 25% of those in the teenage years. Therefore this provides a reason for the marked loss of tissue mass and function and lack of neuronal maintenance that occurs during ageing. We have cloned and characterised two IGF-Is that are expressed in active muscle, one of which is designed for local (autocrine/paracrine) action, the other for a more systemic mode of action. The locally acting IGF-I (MGF) is also produced by cardiac muscle when it is subjected to a brief overload and is believed to induce ongoing repair and prevents cell death in the myocardium as it does skeletal muscle and in neuronal tissue. The cloning of the local growth factor (MGF) provide a link between physical signals and gene expression.

Geoffrey Goldspink studied chemistry for his first degree at the University of Hull and won the Distillers Prize for

Chemistry. He did his PhD in comparative cell physiology at Trinity College Dublin where he was later also awarded a Doctor of Science Degree (ScD) (European higher doctorate) for contributions to biomedical science. He returned to the University of Hull to join the academic staff in Zoology, and was later appointed to Full Professor and Head of Zoology Department.

He then returned to the States and took up a post as Professor of Anatomy and Cellular Biology at Tufts University, Schools of Medicine, Boston (1982-85). He held several positions including Executive Director of the Peabody Institute; Professor of Neurology, Tufts New England Medical Centre and Research Associate at Harvard. When he returned to England he became the Foundation Chair of Veterinary Molecular and Cellular Biology, University of London and Director of the Veterinary Biotechnology Unit at the Royal Veterinary College (1986-91). Since 1992 Geoff Goldspink has been Professor and Head of Anatomy and Developmental Biology and Chairman of Division of Basic Medical Sciences at the Royal Free and University College Medical School, Royal Free Campus, University of London.

THE APPLICATION OF FUNCTIONAL ELECTRICAL STIMULATION (FES)

Dr Jane Burridge PhD, MCSP

From the ancient Greeks, through Galvani's discoveries and the practice of Charlatans in the 19th century, FES may now have reached the point where technological advances will allow it to be a useful clinical tool.

The term, 'Functional Electrical Stimulation' was coined by Liberson in 1960 to describe stimulation used to improve function at the time of application, rather than as a result of repeated applications. Liberson's simple common peroneal stimulator, triggered by a switch in the shoe, activated a train of stimulation pulses to produce a complex response that assisted swing phase during walking. This simple device has been remarkably effective in improving the gait of people with spastic gait associated with hemiplegia, multiple sclerosis, cerebral palsy and Spinal cord injury.

Since its conception there has been spasmodic but enthusiastic interest in FES, but the quality of publications has been strongly criticised, even now there is still a dearth of good quality research and the technique has been slow to gain acceptance in clinical practice.

PRINCIPLES OF APPLICATION

This paper explains the difference between normal nerve conduction and responses evoked by electrical stimulation, how the problems can be minimised and briefly what we understand about the neuro-physiological effect of stimulation.

In applying this to patients, the difference between functional and therapeutic, closed and open loop, surface and implanted systems will be discussed. From the literature and from current research the effects of stimulation on sensation, hand function (combining stimulation with Botulinum toxin injections) and quality of walking will be reviewed. Implanted devices, such as the Lumbar Anterior Root Stimulation Implant (LARS), and the Free-hand systems will be discussed, together with recent research into a simple two channel common peroneal implant using nerve cuff electrodes and the potential for using natural sensors to control stimulation.

Jane Burridge qualified from the Bristol School of Physiotherapy in 1973. Between 1993 and 1999 she worked as a research physiotherapist in the Department of Biomedical Engineering at Salisbury District Hospital, in the field of Functional Electrical Stimulation (FES). Her PhD, at Southampton University, investigated abnormal patterns of muscle activation in hemiplegia and response to FES.

In 1999 she gained her PhD from Southampton University Faculty of Medicine, Health and Biological Sciences, where her research was on the 'Response to common peroneal nerve stimulation in hemiplegia – a study of abnormal patterns of muscle activation'

Further research projects which Jane has undertaken include the application of a dual channel micro-processor controlled stimulator, funded by Action Research and a pilot study investigating FES and

Botulinum toxin in sub-acute stroke funded by the drug company, IPSEN. She also works for the European Commission as a reviewer on Bioengineering, Rehabilitation and FES research projects. She has extensive published works in the field of FES and patterns of muscle activation in normal and hemiplegic subjects. She has also set-up, and coordinated, a clinical service providing FES treatment at ten centres in the UK.

NEURODYNAMICS – EFFECT IN THE NEUROLOGICALLY IMPAIRED PATIENT

Anita Wade MCSP

Neurologically damaged patients have a 'primary' pathology affecting their motor and sensory function. As a result of this primary pathology there is abnormal movement and very high risk of developing 'secondary pathology'.

The 'secondary pathology' will effect spinal tissue and distal neural tissue its conduction, function and movement.

By addressing the neural tissue and its mobility in treatment, the abnormal pathologies can be reversed. This is seen in improvement in function.

It is necessary first to see how neurological tissue mobility is affected in our patients. Also to see the affect on function and the need to be treated to effect functional improvement.

Knowledge of normal tension tests is needed as these are used and adapted in treatment. By being able to identify abnormal neural tissue mobility and recognise its involvement in the production of abnormal patterns of movement it can then be used in treatment. It is also necessary to identify at which part of the nerve the mobility is affected.

Awareness of the motor effect of neuro-dynamic treatment should also be recognised since there is affect on muscle tone, this effect can therefore also be used to our advantage.

In summary the neural dynamics of patients should always be addressed, whether it be as a preventive treat-

ment, as a treatment incorporated into on-going rehabilitation, as exercise to be given as part of the patients home programme or to be used in patients seeking further progress long term after their initial primary incident.

We should remember the neural tissue will be affected wherever there is abnormal movement.

Anita Wade qualified in 1982 from St Lukes Hospital, Bradford, and has since taken a special interest in the rehabilitation of neurologically damaged patients. She has been involved in all levels of rehabilitation of these patients working initially in the NHS, and in private practice for the last ten years. She has particular experience of stroke and head injury. Since setting up her own practice she has continued with the Bobath influence in re-educating normal movement, but has incorporated much more emphasis on the neural tissue and the effects of its lack of mobility. She has lectured internationally on neurodynamics in neurology. It is her intention through her continuing clinical work to push forwards our understanding of this approach, and its effectiveness incorporating it in treatment.

THE HOLISTIC APPROACH TO ALIGNMENT

Patricia Shelley MCSP, SRP

Science and Art are extremely inter-related, but they are indeed very different. Finding a bridge to connect them is really no easy task. For therapists to be skilled in both is in itself a challenge.

Human artistic anatomy in its nature is a scientific study, dealing primarily with explicit observation of specific detail to form. Firstly, as a whole in the superficial form whereby each layer of the human body is systematically analysed, accurately described and then investigated in the structure and functional causes on which they depend. Secondly, by continuing analysis in to deeper structures. Each part of the body is also observed with its study on proportion and indeed in to the details of shape, a mathematical study in itself.

Structure or form determines function and vice versa. Anything which will cause a change to occur in its form will cause function to modulate, and therefore any functional change will also result in structural change over time. This occurs throughout nature and is also true in man. Plasticity is now known to exist, so, the old saying 'use it or lose it' still holds true today. However, how do we measure an individual's ability to change?

Many therapies today are beginning to use the term 'Holistic Approach'. Some therapies have used the term for many years.

Alignment is a term that therapists the world over talk about but what does it truly mean in the world of structure

and more importantly analysis of the whole.

In order to problem solve with our patients/clients we need to have greater skills in analysis. Understanding alignment, observation of alignment and palpation of alignment. All three are totally different aspects of assessment. The latter cannot be learned by reading or listening, it can only be learned by doing, and then the inter-relationship really begins to have an even deeper understanding,

Patty Shelley originally trained with the RAF as a civilian at RAF Halton Bucks. In her second year as a student physiotherapist she had a car accident. She continued her training at the Royal Orthopaedic Hospital in Birmingham. On qualifying she started her career in England before going to work in Switzerland, where she attended numerous post graduate courses in manipulation and Functional Movement Therapy.

She went on to complete her Advanced Maitland course and first Advanced Bobath course with Dr and Mrs Bobath. She qualified as an Advanced Bobath Tutor in 1991 and as a Senior Tutor in 1996. She has a particular interest in mentorship within education. Since 1989 she has been in Private Practice and lectures worldwide. In December 1998 she was elected Chair of the British Bobath Tutors Association.

Patty is particularly interested in the treatment of multiple sclerosis and incomplete spinal cord injured patients. She is currently in the process of further developing Normal Movement courses for Orthopaedic physiotherapists.

THE FORGOTTEN AUTONOMIC NERVOUS SYSTEM

Patricia Shelley MCSP, SRP

The autonomic nervous system was so named because physiologists thought that it functioned without control from the central nervous system. In fact they believed entirely that it was self-governing and was autonomous. It was also called the visceral system, the vegetative system and the sympathetic system in the old literature.

If one looks at the nervous system as a whole it is difficult to perceive that one could not see that it is all inter-dependent on each other. In fact we now know that the autonomic nervous system is neither structurally or functionally independent of the central nervous system. It is regulated by the centres in the lower part of the brain in particular the hypothalamus, the medulla oblongata and the cerebral cortex.

The world today is constantly looking for evidence as to whether what we do works and why? When we treat patients/clients we change many aspects of their well-being. Often, they do not know at the time what has changed. It is only on reflection that they tell us that something is better or in fact worse.

Identifying the changes one has made to a patient's recovery is paramount if you want to analyse the results. In order to do this you have to measure the right factors in the first place. This lecture is about challenging therapists in to looking at assessment in a different way. Food for thought!

MULLIGAN CONCEPT: MOBILITY OR STABILITY?

Annette Bishop MCSP

This presentation will examine the concepts of stability and mobility from a joint movement perspective. In a 'normal' joint the relative degrees of stability and mobility are dictated by the function of that individual joint. For example the shoulder sacrifices stability for mobility whereas the joints of the thoracic spine have less mobility, as there is a functional need for stability in this area.

The aim of physiotherapy intervention is to maximise function and this is often achieved by attempting to normalise the movement available. Neurological impairment can cause mechanical joint problems in the same way as immobility following trauma. Pain can influence both the stability and mobility of a joint and needs to be addressed when present. The Mulligan concept provides a safe and effective way of doing this. The concept was initially described as restoring normal joint glide or 're-positioning' of a joint, but the control of movement is complex and this is probably a vast over-simplification of what happens when manual therapy techniques are utilised.

The mobilisation with movement techniques that Mulligan describes consists of applying a passive mobilisation to a joint during an active or passive movement that is painful or restricted. During the application of the technique pain must NOT be produced and immediate benefit should follow. The

normal cautions and contraindications to manual therapy generally apply, but the painfree rule provides a degree of inherent safety.

The presentation will end with a demonstration of some useful techniques for the neurologically impaired patient. These will include mobilisation with movement for the shoulder, the ankle and thoracic spine rotation.

Annette Bishop trained at the Royal Orthopaedic Hospital Birmingham 1981-1984. She worked initially in North Birmingham and finally as superintendent in out patients at Good Hope Hospital. In 1994 she left the hospital environment to concentrate on private practice and general practitioner contract work.

She has completed numerous post-graduate courses, including Combined Manipulation at Sheffield Hallam and the Diploma of the McKenzie Institute International in Minneapolis, USA.

She has been a member of the Mulligan Concept Teachers Association since its inception and she has taught the Mulligan concept widely throughout the UK. She is currently studying at Keele University on a masters programme.

ACUPUNCTURE IN NEUROLOGY

Val Hopwood MSc, FCSP, SRP, Dip AC Nanjing

The use of acupuncture for the relief of pain is now generally accepted and widespread and the possible mechanisms have been well investigated. Acupuncture has also a long history of extensive use in clinic for many neurological conditions but the evidence base is not so clear.

The presentation will discuss the application of this ancient Chinese art to Peripheral neuropathies, Stroke, Multiple Sclerosis, Parkinson's Disease and Spinal Cord Injury. Selected research literature will be reviewed.

The current UK research into acupuncture and stroke, major projects at Southampton and Exeter universities, will be discussed with relation to physiotherapy practice. This is an important aspect, since there are at least 1,600 UK physiotherapists, members of AACP, currently able to perform this type of acupuncture, should it be shown to be effective.

The effect of acupuncture on psychological problems will be briefly discussed and related to the broader treatment of neurological conditions.

Val Hopwood is a physiotherapist, acupuncturist, teacher and researcher. She is currently employed in several places at once! She works as an acupuncturist on her own PhD research project at the University of Southampton. This is a multi-centre, randomised, controlled clinical trial investigating the effects of acupuncture on stroke recovery.

She is a course leader and senior lecturer on the Acupuncture MSc course at Coventry University and a visiting honorary lecturer at Nottingham University. In her spare time she is Chairman of the Acupuncture Association of Chartered Physiotherapists and Education Officer for the International Acupuncture Association of Physical Therapists.

She is an experienced acupuncturist and wholly committed to the practical integration of this modality into mainstream physiotherapy. She is co-editor of *Acupuncture and Related techniques for Physical Therapists*, published by Churchill Livingstone.

She was awarded the Fellowship of the Chartered Society of Physiotherapy at this Congress.

MUSCLE IMBALANCE IN THE TREATMENT OF NEUROLOGICAL DYSFUNCTION

David Fitzgerald Diploma in Engineering, MICSP, MCSP, Grad Dip Manip Ther

The purpose of this workshop is to provide a clinical framework allowing integration of muscle imbalance philosophy to the treatment of neurologically impaired patients. It aims to provide an overview of neuromuscular physiology and biomechanics as applied to functional movement,

The principles of muscle imbalance relate to some of the following issues:

- Postural alignment which yields information regarding habitual resting position of muscles. A muscle's tension generating capacity is directly related to its length.

- Specific muscle length tests provide information regarding relative lengthening or shortening of muscle. Length changes alter the functional positions in which a muscle can generate force. Short muscles are preferentially recruited, may limit range of motion, and have reduced capacity to generate force in outer range. Lengthened muscles are commonly inhibited, allow excessive motion and have a reduced capacity to generate force in inner range. These are often muscles which have a postural stabilising role.

- Muscle strength tests are not concerned with absolute strength but rather the ability to maintain force throughout a range of motion. Generally, we are

concerned only with forces required to move the limbs and trunk as opposed to applied external resistance.

- It is imperative that muscle length and strength tests are interpreted in the light of functional significance.

Acknowledging that functional movement involves both central and peripheral elements, muscle imbalance analysis attempts to quantify the capacity of the peripheral components in terms of their ability to execute central commands.

David Fitzgerald is a manipulative physiotherapist with a keen interest in the rehabilitation of joint, muscle and neural dysfunction. He has a background in mechanical engineering prior to studying physiotherapy, and later obtained Grad Dip Manip Therapy, Perth, Western Australia, 1991 and subsequently commenced clinical practice in London. This developed into an involvement with neurophysiotherapy and subsequently integrating collaborative approaches to rehabilitation.

Special clinical interests include; Therapeutic exercise, functional rehabilitation, chronic pain management, sports injuries and occupational musculoskeletal disorders. He has written multiple publications and book chapters in the fields of muscle imbalance, rehabilitation and pain management.

THE BOBATH CONCEPT TODAY

Margaret J Mayston PhD, MCSP

Any discussion of the Bobath Concept requires a common understanding of what the Bobath Concept is. In an interview almost twenty years ago, Bobath explained it this way: '...A whole new way of thinking, observing, interpreting what the patient is doing, then adjusting what we do in the way of techniques – to see and feel what is necessary, possible for them to achieve. We do not teach movements, we make them possible...' (Bobath, 1981). It was also made clear that Bobath was not a method or technique, not limiting, but fluid; was not rigid but changing, and still changing. The Concept can be summarised as follows: It is primarily a way of observing, analysing and interpreting task performance. This also includes the assessment of the client's potential, which was considered to be that task or those activities which could be performed by the person with a little help, and therefore possible for that person to achieve independently where possible. Of course the Concept also involves the use of various techniques, and Bobath always advocated that the therapist should 'do what works the best' (Bobath, 1978). In the present day, this should mean, that therapy is based on sound evidence when it is available, while recognising that currently much of what therapists do has not been evaluated. This does not mean that these therapy strategies should be discarded, but does mean that they require investigation and

possibly an alternative explanation of their effect. There is evidence to support some of what therapists do, but there are still many unanswered questions. For the Bobath therapist, there is also the dilemma of what it means to be a Bobath therapist. A study by Davidson and Waters (2000) showed that 88% of neurological physiotherapists in the UK use the Bobath approach. But, it depends on when you trained, where and who with. I very much doubt that those 88% of the therapists surveyed would explain or clinically apply the Bobath Concept with any degree of similarity.

When therapists attending the paediatric course at the Bobath Centre are asked what Bobath is, the reply usually concerns the use of techniques of inhibition of abnormal tone and movement patterns, facilitation of more normal movement, and possibly stimulation in cases of hypotonia or muscle inactivity. These techniques should not be considered to be Bobath, and yet for most therapists these techniques are Bobath. Given the diverse understanding of the Bobath Concept, it seems important to ask this question: Is Bobath a relevant therapy approach in the year 2000? It might be: but only if it is based on current scientific evidence; is actively finding ways to produce such evidence; and additionally an agreement to leave old ideas, such as the inhibition of spasticity, in the past. We need to have the courage to challenge our current practice and clinical reasoning. With this in mind, several of the assumptions underlying the Bobath Concept need to be re-evaluated. The following questions are

intended in part to address some of the current issues facing therapists.

Is tone relevant? Bobath proposed that the main reason for reduced functional ability resulted from abnormalities of tone eg spasticity was thought to be due to abnormally increased tonic reflex activity and therefore could be inhibited. It is necessary to define what normal tone is in order to understand any deviation from that norm. 'Tone is the resistance offered by muscles to continuous stretch' (Brooks 1986) '...at complete rest a muscle has not lost its tone although there is no neuromuscular activity in it' (Basmajian & De Luca, 1985). Normal tone can be defined as a slight constant tension of healthy muscles (Kandel, Schwarz and Jessell, 1991). 'A state of readiness' (Bernstien 1967).

These definitions suggest that tone comprises both neural (eg Proprioceptive reflexes, and arousal level of the CNS) and non-neural (eg visco-elastic properties of muscle) components. Commensurate with this idea, any abnormal tone will also demonstrate neural and non-neural changes. For many years, spasticity has been clearly defined by Lance (1980) as a velocity-dependent increase in stretch reflexes with exaggerated tendon jerks, resulting from hyperexcitability of the stretch reflex, as one component of the upper motor neurone syndrome. The UMN which consists of positive symptoms (exaggeration phenomena such as hyperreflexia, extensor plantar response) and negative symptoms (functional deficits such as weakness, loss of dexterity) was described by Hughlings-Jackson (1954), and

subsequently explained by Burke (1988) and Carr and Shepherd (1998). When viewed in this context, spasticity is often only a small component of the movement disorder, and in some cases can even be of functional value to the client, eg standing. We should conclude from the preceding discussion that spasticity and hypertonia are not the same. Spasticity is a part of hypertonia and of course they co-exist, but velocity dependent hyperreflexia does not usually in itself explain the clients movement disorder, and therefore simply reducing spasticity is not the solution for providing effective, evidence-based intervention. Therapists can reduce hypertonia, but can they by handling inhibit spasticity? The term inhibition was introduced by Bobath as a physiological explanation for the effect of handling on spasticity, based on the assumption that spasticity resulted from exaggerated/released, abnormal tonic reflexes and subsequently abnormal tonic reflex activity (Mayston 2001a). Although on passive movement spasticity is shown to be present by evidence of hyperreflexia, on voluntary movement there is usually an inability to generate sufficient electrical activity in the muscle (Ibrahim et al 1993). Inhibition physiologically is defined as a decrease in transmitter release, a way of moulding excitation and shaping the firing of action potentials, and is present at all levels of the CNS. But suggesting inhibition is a physiological explanation for what therapists achieve by handling is not scientifically correct. Therapists are effecting changes in both

inhibitory and excitatory synapses simultaneously, but their 'inhibition' also affects visco-elastic properties of muscle and by improving muscle length can gain a better biomechanical advantage for more efficient muscle action for the performance of functional tasks. Handling via stretch will of course affect and reduce muscle spindle firing and resultant abnormal reflex activity, but for any lasting effect of spasticity to be obtained the therapist must enable the client to perform more effective, efficient functional activity.

Muscle weakness is secondary to the problems of abnormal tone.

For all their working life, the Bobaths considered that muscle weakness was a secondary problem to that of abnormal tone in the management of the neurologically impaired person. They assumed that when hypertonia was reduced the client would have near normal activity with which to function. This may be potentially true, but any person will know that disuse and lack of opportunity to activate muscles results in atrophy and weakness. More significantly, the person with an UMN lesion will most likely lose some of their voluntary drive onto the motoneurone pools in the spinal cord resulting in a lack of activation of muscles for action, despite exhibiting hyperreflexia at rest. Even those with significant velocity dependent hyperreflexia encounter difficulty in generating sufficient voluntary activity, rather than being limited by an exaggeration of abnormal muscle activity on attempts at self-generated activity.

Recent evidence suggests that weakness is a problem for the neurologically impaired adult and child (Bourbonnais & van der Noven 1989; Giuliani 1992). While therapists can work to increase strength by the use of activity, repetition and weight bearing, it has been shown that when used appropriately, strengthening can improve function and does not increase spasticity (Miller and Light 1997; Damiano and Abel 1998). This evidence suggests that therapists must direct more attention to the role of muscle strength and ways of improving it, for the rehabilitation/habilitation of the neurologically impaired person, of course with the proviso that the individual has sufficient muscle activity to participate in a strengthening regime.

Bobath proposed that working for normal movement patterns would lead to function. This idea has been misinterpreted by some to the extent that it is thought that the person with neurological impairment can become normal if only they receive the 'right' therapy and do not make themselves spastic by overactivity or activity too early. Firstly, the CNS is highly task oriented in its organisation (Flament et al 1993; Ehrsson et al 2000), therefore movement patterns will not automatically lead to function – the function must be practised in the correct context. Secondly, there is no evidence to suggest that stopping a client from moving will stop the development of spasticity. My experience of working with Mrs Bobath was that the therapists role was to help the person function in the best way possible, helping them to counteract any

unwanted increase in tone, not to stop them moving. While certain activities are not encouraged in some cases, the idea of stopping a client from moving, especially if they are motivated to do so, cannot be supported on financial, moral or scientific grounds.

Although learning movement patterns might be a part of the re-learning process, clients need the opportunity to practise functional, meaningful tasks if therapy is to be effective.

Related to this is the question of compensation. If the CNS is damaged, there will of necessity be a compensation by other parts of the system, which can be either positive or negative, and can be shaped by experience. Compensation means to take the place of that which is lost, but is understood in a variety of ways. For example, the person with hemiplegia will have to compensate with the sound side for the loss of function on the affected side if recovery is less than optimal. The person with spastic diplegia will overuse their upper body and limbs to compensate for the lack of useful activity of their lower limbs. The critical questions to ask are the following: how much of that compensation is necessary and how much can be avoided by training the affected body parts to function more effectively. It has long been part of the Bobath approach to restrain use of the less affected body parts manually during a therapy session to try and activate the affected body parts, eg hold back the sound arm to force the use of the affected arm, providing there is activity for the person to work with. For the person with diplegia, it might mean

activating the legs without overuse of the upper body and arms eg to sit to stand without pushing on the arms. Support for this idea is found in the recent work of Taub (Taub et al 1993; Taub and Wolf 1997), described as Constraint Induced Therapy, or forced use. One of the basic ideas underlying the Bobath Concept is that each person with a neurological lesion has the potential for improved functional performance – this is one way that it might be achieved for clients who meet the criteria for inclusion in such a regime. I very much doubt that therapy can make a person normal – if so, their CNS had the potential for recovery and they would have been normal anyway (whatever normal is!) The CNS if damaged has to compensate, it is the therapists' job to guide the persons recovery so that they can achieve their maximal functional potential within the constraints of the damaged CNS. How soon and how much is unclear, but Tardieu (1988) states that a muscle must be stretched for six hours a day in order for length to be maintained; the clients receiving forced use therapy were trained for at least three hours a day. The work of Nudo (1996) and colleagues indicates that specifically training activity can enhance behavioural recovery and reduce the loss of secondary areas around the infarct. Forced use of the lower limbs by treadmill training has also been shown to be effective in improving function for both adults and children (Hesse et al 1994, Schindl et al 2000). The caveat is of course, that the person can only enter this kind of regime if they have sufficient activity to utilise. Forced use in clients who have

little or no activity may drive negative changes in the CNS and result in further loss of neural tissue around the original lesion site.

These are only a few of the considerations for the Bobath therapist in the light of changes in our understanding of the control of movement and changes in the clinical presentation of clients. It is essential to continuously read the available literature and to review our mode and frequency of therapy intervention. Carr and Shepherd (1998) have contributed much by their aggressive encouragement that we read the literature and act upon it. Their motor learning approach to optimise functional performance is of value in clients with a reasonable level of ability. But what about the less able client, and is the emphasis on training and biomechanics sufficient? It should be noted that their ideas for motor re-learning are predominantly based on data from healthy individuals. It is not known if those same principles can be directly applied to the neurologically impaired person.

I would like to propose some factors that we might take into account when planning an intervention programme:

- Muscles need to be at the best length for activation. It is known that muscles generate the most efficient active force at a mid-length. For this reason alone it would seem important to gain alignment. This may involve muscle stretching to achieve length, perhaps we could call it tone reduction, the judicious use of equipment and/or orthoses. Sustained muscle stretch may also prepare for more efficient muscle activity by

reducing the effect of hyper-sensitive muscle spindles.

- The muscle needs sufficient activity to generate force for action. In the case of reduced drive onto the motoneurone pool, there might need to be stimulation of muscle activity through the use of weight bearing, resistance, sensory stimulation in appropriate postures and patterns to enable the person to have a sufficient basis for the training of functional tasks. Splinting and orthoses may also be indicated to gain alignment, or a good weight-bearing base for improved proximal and truncal activity (Mayston 2001b).

- This activity needs to be translated into functional, meaningful goals for that person. Bobath advocated specific preparation for specific function, which is another way of stating this principle of translating activity into function. There needs to be opportunity for practise for learning/ re-learning to occur, either by the individual or with the help of carers.

- Goals need to be realistic according to the client's potential and appropriate in the environment encountered during daily life.

These principles integrate with the main ideas of motor learning theory, which requires the active participation of the client. This is not new. Bobath in the 1960s stated that 'unless you stimulate or activate your patient in the way in which new activities are possible, you have done nothing at all. So the handling techniques as such are only the very first step in treatment,

though they are very important' (Bobath, 1965).

Secondly, motor learning emphasises the need for practise, also advocated by Bobath though perhaps less rigorously, by stressing the importance of home activities for the client. Thirdly, learning requires that there be meaningful goals, relevant to the client. This aspect of motor learning is now important, and at the Bobath Centre goals are set in collaboration with the client and their family (at least for each child) and their achievement is monitored using a variety of outcome measures.

In summary, the Bobath Concept states that each client has the potential for improved function and that we should work with our clients doing 'what works the best'. This requires an ongoing knowledge of current scientific motor control and rehabilitation literature, and courage to put old ideas in the past. Of course it is important to have a Centre which honours the contribution made by Bobath to the progression of the field of neurorehabilitation. However, if Bobath is considered as inhibition of spasticity and the facilitation of normal movement as proposed in the Bobaths' working years, it might be preferable to leave the name in the past. This is an idea, not a solution, to the current controversy which surrounds the Bobath Concept in this new century.

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Dr Mayston gained her Diploma in Physiotherapy in Melbourne, Australia in 1973, and following a completion of a conversion course was awarded a Bachelor of Applied Science (Physiotherapy) in 1981. She has extensive clinical experience, initially working at the Royal Children's Hospital, Melbourne and then as a senior Physiotherapist at the Bobath centre.

In 1990 she gained her

Master of Science degree in Human and Applied Physiology from King's College, London, whilst continuing to work part-time as a senior clinician at the Bobath Centre.

In 1996 she was awarded a Doctor of Philosophy from University College London. Her PhD focussed on two main areas, that of the mechanisms underlying mirror movements in development and pathology, and the mechanisms underlying co-contraction of antagonistic muscle pairs in development and pathology.

Dr Mayston is currently a Wellcome Trust post-doctoral research fellow, and works half time as Director of the Bobath Centre for Children with cerebral palsy and adults with neurological disability. The other half time is as a lecturer at the department of Physiology, University College and co-ordinator of the MSc in Neurophysiotherapy.

Dr Mayston has two main areas of research currently, firstly the changes in the control of hand movements during development and in various pathologies, and secondly the neural control of antagonistic muscles pairs, both in healthy children and adults and in children with cerebral palsy. A variety of neurophysiological techniques are used including EMG, transcranial magnetic stimulation, cutaneomuscular reflex and stretch reflex testing in addition to cross-correlation analysis of EMG signals.

Dr Mayston's work has been published extensively.

Reviews of books and research articles in *Synapse* are offered by Regional ACPIN groups or individuals in response to requests from the ACPIN committee. In the spirit of an extension of the ERA (Evaluating Research Articles) project they are offered as information for members and as an opportunity for some members to hone their reviewing skills. Editing is kept to a minimum and the reviews reflect the opinions of the authors only. We give the authors of the original book or paper the opportunity to respond. We hope these reviews will encourage members to read the original article and not simply take the views of the reviewers at face value.

COURSES

ACPIN STUDY DAY ON MANUAL HANDLING

ABSTRACTS

LEGAL IMPLICATIONS OF THE MANUAL HANDLING OPERATIONS REGULATIONS (1992) AND CURRENT NEUROLOGICAL PHYSIOTHERAPY PRACTICE

Pat Alexander Grad Dip Phys, MSc, MCSP

Physiotherapists have for many years treated neurologically impaired children and adults with manual techniques of physiotherapy. Although the Chartered Society of Physiotherapy (CSP) has offered guidance on treatment involving manual handling and the delegation of tasks to other staff, many physiotherapists feel uncertain as to their duty in this respect.

This session aims to introduce the professional and legal implications of handling patients, and to discuss the duty of care imposed on staff during rehabilitation. As the speaker is part of the CSP's Working Party on Manual Handling, up to date information will be introduced.

The impact of strict interpretation of the laws regarding manual handling could have a

strong influence on the development of safer approaches to rehabilitation. Physiotherapists must explore a range of options that allow them to use their skills in a safe way, so that when research produces evidence of the benefits of certain treatment concepts, these can be adhered to with confidence.

Pat Alexander has extensive experience in manual handling issues. She is currently a member of the Manual Handling Review Group at the CSP, and an active member of National Back Exchange, having helped develop their Curriculum Framework in 1994 and Interprofessional Curriculum Framework in 1997. Pat is co-author of the 4th Edition of *The Guide to the Handling of Patients* (1997).

Pat holds an MSc in Physiotherapy and a Post Graduate Award in Physiotherapy Practice in Occupational Health. She also has teaching commitments at a national level, and is an experienced expert witness.

MANUAL HANDLING IN NEUROLOGICAL REHABILITATION, CONCEPTS, TECHNIQUES AND LOW BACK PAIN

Vikki Sparkes MSc, Grad Dip Phys, PGCert, MCSP

The aim of this session is to present some of the results of a national survey conducted in December 1998, which highlighted the need for the integration of safe manual handling practices within neurological rehabilitation.

The survey gathered information regarding incidence of low back pain, utilisation of equipment for handling, treatment techniques and manual handling training in neurological physiotherapists. A return rate of 79% indicated a subject area of current interest to the respondents. The topic of investigation was broad and from this, many areas for further research have been highlighted. It is hoped that disseminating these findings may prompt future investigation into some of these areas.

Vikki Sparkes is a Senior Lecturer in Physiotherapy at the University of Hertfordshire. Having qualified from The Royal Orthopaedic Hospital in Birmingham, Vikki went on to work in Jersey where she specialised in Neurology. Following this, her clinical roles in neurology have included working in inpatient rehabilitation, acute medicine, elderly neurology and community neurological rehabilitation.

Vikki has an MSc in Continuing Professional Development (CPD), with a specific focus on manual handling in neurological rehabilitation. Her research interests include: manual han-

dling, back pain in neuro physiotherapists, CPD and various aspects of physiotherapy education. She continues to teach both Personal and Professional Development and Neuroscience to Physiotherapy undergraduates, and is currently in her second year of reading for a Doctor of Education Award at Sheffield University. Vikki is a member of ACPIN's Manual Handling Review Group.

TACKLING MANUAL HANDLING IN TREATMENT – ACPIN'S APPROACH

Anthea Dendy BSc, MCSP, Chairperson ACPIN Manual Handling Review Group and **Dot Tussler** MSc, MCSP

The aim of this session will be to introduce participants to the ACPIN pilot information pack, *Neurological Physiotherapy – Manual Handling in Treatment*. An outline will be given of how the pack was developed, its content, and how it has been piloted. The presentation will include reference to the flow charts, which form part of the pack. Feedback will be given as to how useful ACPIN members have found the information and plans for its future dissemination.

As part of this session or at some other point in the programme ACPIN's role within the CSP Manual Handling Review Group will also be outlined.

Anthea Dendy qualified in 1985 from The London Hospital School of Physiotherapy/North East London Polytechnic. Her first job was at Oldchurch Hospital, before moving to the Regional Neuroscience's Unit in Wimbledon. During the five years she worked at the

Atkinson Morley Hospital and Wolfson Rehabilitation Centre, she took part in an employment exchange with a Senior Physiotherapist at St Vincent's Hospital, Melbourne for six months. Since 1992 Anthea has worked at St George's Hospital, Tooting, and is currently a Clinical Specialist in Neurology.

Anthea has had a long association with ACPIN at Regional and National level, and is currently Vice Chairperson. As part of her role, she has represented ACPIN at the CSP at meetings regarding Manual Handling issues and has been chairing the ACPIN Manual Handling Review Group.

Manual Handling emerged as a recurrent theme in the results of the 1999 audit of the CSP national standards *Physiotherapy Management of the Spinal Cord Injury Patient*. This was undertaken by ten of the superintendent physiotherapists from the UK spinal injury units. The impact of manual handling and risk assessment within the rehabilitation and long term management of this patient group was identified as a priority for further work in association with ACPIN. The production of flow charts, which demonstrate clinical reasoning and decision-making in manual handling tasks, were developed as evidence to aid the evaluation of safe practice and to facilitate effective documentation.

Dot Tussler has worked in spinal cord injury rehabilitation for 18 years at Stoke Mandeville Hospital, where she has been superintendent since 1988. She has considerable experience in the comprehensive inter-disciplinary

rehabilitation and lifelong management of this client group and has been involved in national and international teaching programmes. She is currently a committee member of MASCIIP (Multidisciplinary Association of Spinal Cord Injury Professionals), which is seeking to establish national service frameworks in this area. She is a member of ACPIN's Manual Handling Review Group.

A PATIENT WITH A BRAIN STEM INFARCT: BALANCING TREATMENT AIMS AND THE ISSUE OF MOVING AND HANDLING

Heather Thornton MCSP, SRP

This presentation will describe the case of a male patient who suffered a brain stem infarct and is now living at home with his wife and son. It will aim to illustrate the following:

- The need to consider and use appropriate equipment.
- The relationship of treatment to the handling technique chosen and how to maximise patient participation.
- How moving and handling equipment can be used to aid treatment as well as ensure safe transfers.
- The importance of involving carers in making decisions and ensuring they understand the reasoning for treatment and handling techniques.

This patient has progressed from being passively hoisted to using a standing hoist and being able to actively take part in some parts of the transfer approach. This case also emphasises the need to recognise the issues of tissue length in a severely disabled patient,

and how this can limit the options available for transfers.

I would like to acknowledge that there has been a large number of health professionals involved in his ongoing rehabilitation, including several different physiotherapists that have all contributed to the outcome.

Heather Thornton is a Senior Lecturer at the University of Hertfordshire and also works as a private practitioner and consultant. She qualified in 1986 and rapidly specialised in neurology, working in many areas including the community, two regional neuro-surgical centres and rehabilitation units, care of the elderly and medical wards. Her last clinical post was as the paramedical coordinator and superintendent physiotherapist at the Regional Rehabilitation Unit, Northwick Park hospital. She has a strong interest in clinically based research and has undertaken several research projects with resulting presentations at conferences and publications. Her particular research interests are contractures, clinical decision making and the management of severe disability.

ACCESS TO APPROPRIATE HOISTING EQUIPMENT CAN BE ESSENTIAL FOR EFFECTIVE REHABILITATION: A CASE STUDY

Monica Busse BSc (Physiotherapy), BSc (Med) Hons Ergonomics

This case study illustrates how the use of hoists in the rehabilitation process reduced the risk of injury to the carers and facilitated access to rehabilita-

tion for an individual who was too severely affected to be moved safely without mechanical assistance.

For the first five months following his stroke, Mr Z was nursed on his back. It is unknown how much rehabilitation he received during his initial hospitalisation, however due to his inability to participate in transfers, he was hoisted at all times and was kept in bed for most of the day and night. The lack of intervention for this gentleman resulted in the development of secondary complications of pain, spasticity and soft tissue contractures. These interfered with his recovery of function and had a serious impact on the manual handling requirements of this individual. With continued immobility, he developed an asymmetrical, fixed posture and an extremely painful shoulder and hand, which further compounded the manual handling problems.

Mr Z was admitted to the rehabilitation unit with the aim of facilitation of nursing care. The unit had a no lifting policy and the use of hoists in this individual's rehabilitation was essential. A task analysis highlighted the risks involved when moving this individual and during the initial rehabilitation period, mechanical assistance was essential in order to reduce the risk of injury to the carers and therapists.

The utilisation of a variety of hoists meant that the therapists and carers were able to progress rehabilitation. Mr Z is now able to mobilise short distances with assistance and the use of a gutter frame. The reduced burden of care for the nursing staff could not have been achieved safely without

the use of hoists.

Monica Busse is currently a Senior Lecturer at St George's Hospital Medical School and Kingston University. Monica gained a First Degree in Physiotherapy, followed by an Honours Degree in Ergonomics. She is presently undertaking a Master of Medicine Award in biomechanics. Monica's previous research interests include; manual handling, ergonomics within hospitals and biomechanics following stroke. Monica is a member of ACPIN's Manual Handling Review Group.

■ ERGONOMICS OF PHYSIOTHERAPY PRACTICE AND EQUIPMENT

Sue Hignett MSc, MErg.S, MCSP, EurErg

This talk will look at how ergonomics has been used to look at the human-human and human-equipment interactions in physiotherapy practice. It will seek to add to the earlier discussions on clinical reasoning and selection of equipment. It will describe how the manual handling practices for neurological rehabilitation have been reviewed by a multi-disciplinary team, crossing both professional and speciality boundaries.

The increasing use of equipment for rehabilitation will be discussed within a product evaluation context.

Sue Hignett has been the ergonomist at Nottingham City Hospital for six years. Following a first degree in biochemistry, Sue has qualifications in physiotherapy and ergonomics and is currently registered for a PhD in hospital

ergonomics.

The post of ergonomist at Nottingham City Hospital is one of the few full-time health care ergonomics posts in the UK. The role of an ergonomist is to examine the humanwork interaction from postural, cognitive and organisational viewpoints to improve the human/work interaction from postural efficiency, productivity and quality of service by minimising the mismatch between human capabilities and task demands. This involves aspects of work organisation, job design, equipment design, work place layout and systems of work.

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■ PRESENTATION BY ARJO LTD – NEW PRODUCT DEVELOPMENT

Steve Oldershaw of Arjo Limited and Bruce Somerton of Somerton gave a presentation

with respect to New Product Development especially associated with hoists for disabled and other disadvantaged persons.

They introduced to the audience details of the market, product standards, the development process itself and how interested parties can help a company such as Arjo in their future development of new products.

The patient handling market is still one of the very few areas that is growing some 10% year on year with even further opportunities opening up in places like the:

- USA
- East
- Eastern Europe

It is a market still dominated by the public sector although the private buyer is starting becoming more important.

From Arjo's point of view, the market can be broken down into five main areas:

- hospital – acute
- hospital – other
- nursing home
- residential/care home
- domestic care.

Within these areas there are a wide range of potential users including:

- nurses
- physiotherapists
- occupational therapists
- nursing assistants
- auxiliary carers
- domestic carers
- patients themselves.

This provides a real challenge when trying to design a range of products that can be used in all market sectors and by all potential users.

All hoists on the market today have a main design theme of trying to assist the carer who needs to be protected against injury

considering the amount of work that he/she has to undertake each day. Of course the patient is vitally important. However it can be said that once the patient is secured in the sling of a hoist, they are in a controlled and safe environment.

The biggest challenge for any design team is determining exactly what the market requires. Very few sectors of the market actually know what they want! Selling a product into this market place is in itself fraught with difficulties. It is a fact that most senior buyers will buy purely on cost alone (although some are using value for money as a buying criteria), and few understand the need for a quality product or appreciate the legal requirements associated with hoists. It is worth a quick look at some of these legal issues to illustrate this.

First of all there are product standards. A product standard is a document that provides both manufacturers and customers with a common technical language. It should promote safety and also facilitate trade of products around the world. They are written by several different organizations around the world with a view to ensuring that a product designed and built in one country can be used safely in another. The two main standards writing bodies involved with hoists are CEN and ISO.

However, designing and building a product to a standard is not a legal requirement. Compliance with relevant European Directives is.

The three main Directives that apply to our market sector are the Medical Device, Low Voltage, and Electro-Magnetic Compatibility directives. The

only way of knowing whether a product fulfils all of the Essential Requirements of the Directives is by the manufacturer placing a 'CE' mark prominently on the product. However it has become more and more obvious that certain companies do not really understand their responsibilities under the Directives and are using the 'CE' mark on products that clearly do not satisfy the law. This does put an onus on the potential purchaser to fully question the potential supplier to ensure that the product really is as safe as it should be and is being manufactured under a controlled quality control system.

These points also need to be fully recognized by the design team involved in designing a new product. Arjo divides its product development cycle into four main stages : Research, Feasibility, Development and Production.

In the Research stage, much time is spent trying to understand exactly what the problems are that need to be solved. This will generally resolve itself into two or three key areas. From this a market specification can be drafted that determines how the product should perform and what solutions it should offer. At the Research stage concept models may be produced which prove certain of the key features of the new design.

Once the company is happy that the proposed ideas seem sound, the project moves into the Feasibility stage. Prototypes will be produced and used for testing purposes to ensure that the product standards being used as well as the Essential Requirements of the relevant Directives are being met.

If all goes well the project then moves into the Development stage. Here, a team of people starts to turn the agreed Feasibility model into the final product. A huge amount of testing will be undertaken at this stage proving the strength and stability of the unit as well as the ergonomics and cost of the final design. Input from professional bodies will be sought to ensure that the final product will meet the users needs.

At this stage consideration will also be given to things like operating instructions, service procedures, installation procedures etc. Only when all of these have been completed can the product be released for sale.

Usually a number of pre-production units are produced and used to ensure that the final product performs exactly as required. Although a certain number of user and other professional groups will have been asked for their opinion about the new product during the Feasibility stage the new product will be shown to other groups who will be asked to give their opinion about the new device.

The final part of the development program is that of production. Here all of the necessary tooling, jigs and fixtures are designed and built to ensure an efficient and safe build through the factory. All of the pre and after sales documentation has to be completed and where relevant translated into the language of the countries who will be offered the product for sale.

During all of this development, many people would have had some form of input into the design. If you are not happy with the way a product

works or you feel that there are certain areas of your job that could be made easier/safer, then you should not hesitate to contact manufacturers and ask for your thoughts to be taken into consideration.

Steve Oldershaw is a Business Development Manager who has worked for Arjo for the past 13 years, working as a sales 'executive' and also in International marketing looking at new product development.

Bruce Somerton trained in design and design for manufacture. He has worked as an independent consultant in innovation, research and development, Intellectual property and International standards.

FUNCTIONAL ELECTRICAL STIMULATION

*City Hospital, Birmingham
November 2000*

Zoe Pickard Senior
Physiotherapist, Birmingham
Heartlands Hospital

'Functional Electrical Stimulation' (FES) was a half day course organised by West Midlands ACPIN. The tutor was Christine Singleton, a Senior I neurophysiotherapist at City Hospital and Clinical Specialist at Oak Tree Lane Centre, Selly Oak. Christine and her team run a FES clinic, serving the Birmingham and West Midland region.

The course began with a lecture giving an overview of the history of FES, the basic principles of its use, different types of stimulators (including the Odstock Drop Foot Stimulator) and the benefits of using FES. The structure of the service in Birmingham was outlined, including how to refer patients and outcome measures used.

The second half of the course had a more practical element. Video footage of patients demonstrated some of the benefits to using FES. Changes were evident in standing balance, tone, alignment, lower limb activity and in terms of gait, improvements were seen in pattern, speed and safety. Course participants were then let loose, trying the units on themselves. This proved extremely useful in terms of experiencing the stimulation and the fine changes in effect with electrode placement.

Finally, the course concluded with a patient demonstration. The patient was using FES on her lower leg to improve gait

pattern and also to her upper limb to lower tone and stimulate the elbow and wrist extensors. This particular patient was very enthusiastic as to how using FES has helped her, in terms of gait, independence and confidence.

Overall, this half-day course proved a very valuable and enjoyable introduction to the use of FES. Feedback on the course was very good, with many participants expressing an interest in further training courses and using FES units in their own trusts.

For further details on FES training courses – please go to www.salisburyfes.com

MUSCLE IMBALANCE HALF STUDY DAY

West Midlands ACPIN January 2001

Jacalyn Wallace Senior
Physiotherapist, Royal
Leamington Spa Rehabilitation
Hospital

Liz Mackay gave a very stimulating presentation at the Royal Leamington Spa Rehabilitation Hospital. The course, initially planned for twenty, was oversubscribed and finally accommodated thirty participants.

Liz Mackay, having expertise both in musculoskeletal and neurological physiotherapy was well equipped to present an overview of the principles of muscle imbalance, relating them specifically to problems commonly found in neurological patients. Her enthusiasm prompted participants to revise their knowledge of muscle origins and insertions in order to refine their analytical and handling skills.

Although time and numbers did not permit the course to have a practical element, Liz demonstrated solutions to enable participants to apply the priorities of muscle imbalance to two common clinical problems related to the pelvis and scapula.

The course served as an excellent introduction to the subject, with most participants requesting an opportunity for a follow-up weekend course which would allow for practical work.

ARTICLES

TRUNK KINEMATICS IN HEMIPLEGIC GAIT AND THE EFFECT OF WALKING AIDS

*Sarah F Tyson Clinical
Rehabilitation 1999, 13,
pp295-300*

**Helen Foster, Ros Cox and
Rosie Hitchcock**, Wessex
ACPIN

This study was carried out at the Centre for Research in Rehabilitation, Department of Health Studies, Brunel University, Isleworth. The Author did not state her profession.

OVERVIEW

The article is clinically relevant and easy to understand and was divided into two sections:

- To establish baseline measurements of trunk movements during hemiplegic gait and to assess the relationship between trunk movements and walking ability.
- To investigate the effect of walking aids on trunk movements.

CRITICAL REVIEW

Abstract

The abstract summarises the study and the findings succinctly. The objectives were clearly stated making it easy for the reader to assess the relevance of the paper.

Introduction

The aims of the study were clearly stated:

- To objectively measure trunk movements including symmetry during hemiplegic gait
- To assess the relationship between the trunk move-

ments and walking ability

- To investigate the effect of walking aids on trunk movements

This study clearly identifies a gap in the research base in these areas and states that despite the lack of research evidence, physiotherapists aim to restore normal trunk and pelvis movements and avoid providing patients with walking aids unless deemed necessary.

Relevant background information is given including the normal values of trunk and pelvic movements, although the age of the subjects was not included.

The research questions to be investigated follow logically from the paucity of information in this clinically relevant area.

Method

Twenty subjects were recruited with chronic hemiplegia which the author describes as more than three months duration which seemed too early to be considered as chronic. It was not stated whether the subjects were currently undergoing rehabilitation which would have been very relevant. Out of the twenty subjects five did not normally use a walking aid and fifteen usually used a stick. All could walk independently.

There were two parts to the study which will be reviewed separately:

- 1. Trunk movements of hemiplegic subjects were measured during gait. The symmetry of these movements and the relationship between the movements and walking ability was then assessed

The testing procedure was clearly described. The lateral and vertical movements of

the pelvis were measured to assess symmetry and displacement. However this then excluded the upper trunk. Velocity was used as an overall measure of walking ability which the author states is a valid, reliable and sensitive measure. These measurements were taken during a five metre walk using CODA (CODA is a non invasive three dimensional analysis system using optical scanning techniques to detect the position of small reflective markers) which the author stated has been reliable and accurate when measuring angular and spatial movement.

- 2. The effects of walking aids on trunk movements, symmetry and walking ability.

The measurements of trunk movements were repeated during the five metre walk with the subjects using no aid, a walking stick and a tripod. However since all the subjects were able to walk ten metres without an aid prior to the study and only fifteen out of the twenty normally used a stick they were not dependent on an aid and so it was less likely to increase asymmetry and lateral displacement. In addition those who could walk without an aid were then given one and measurements taken which would not represent long term use of an aid and possible compensations.

Results

The results clearly stated that lateral displacement was large and orientated over the sound side with little movement to the weak side and vertical displacement was small in all

subjects. In addition 'good walkers', described by the author as subjects with a high velocity gait, had a low lateral displacement and were more symmetrical. This relationship and its statistical significance were presented in clear, labeled tables.

The relationship between walking ability and vertical displacement was found not to be significant. In addition although no significant differences were found in any of the parameters when the subjects used no aid, a stick or a tripod potentially this was expected, as previously mentioned, some of the subjects were not dependent on an aid and none used a tripod.

Discussion

The discussion was clear and the author compares normal gait patterns with the frequently clinically observed hemiplegic gait and the results of this study.

The large lateral movements, orientation to the non hemiplegic side and the relatively small vertical movements of hemiplegic patients compared to normal subjects support clinical observations and previous referenced studies and was therefore expected. The lack of vertical displacement was unexpected by the author who felt that this would be greater considering the apparent elevation of the pelvis during hip hitching and circumduction frequently clinically observed.

Since walking ability was not affected by a walking aid in the study the author stated that results fail to support the belief that a walking aid has a detrimental effect on hemiplegic gait, that a tripod produces a worse gait pattern

than a stick and the reluctance of physiotherapists to recommend a walking aid.

The author suggests further areas of research to assess the benefits of walking aids.

Conclusion

The conclusion summarises the results and relates to the aims of the study. It identifies some of the limitations of the study and recognises that the results cannot be generalised. However it calls for the consideration of walking aids by physiotherapists for hemiplegic patients.

This study presented useful data on pelvis movements and symmetry with relation to hemiplegic gait and provides a basis for more complex gait analysis. However it was felt the design of the study meant the results had limited clinical relevance and further research into the effects of walking aids on hemiplegic patients was needed to obtain more clinically significant data.

BOOKS**B LOWER LIMB CASTING IN NEUROLOGY – PRACTICAL GUIDELINES**

Tony Young MCSP and Charlotte Nicklin MCSP, The Royal Hospital for Neuro-disability ISBN 0 9 539760 09

Gillian Emond Lecturer in Physiotherapy, University of Teesside

This is a concise yet comprehensive guide to casting of the lower limbs. It is thorough in its content and clear in the way the techniques are discussed. The organisation of the chapters follows a logical sequence and will make sense in a clinical setting. The photographs are a great aid to clarity and support the text well. Casting of the knee joint forms the main bulk of the text and while this is obviously a major casting site it is technically less complex to cast than the ankle joint, which is covered in much less detail. The guidelines would have been improved by expanding on this area and in particular, how to maintain length in the calf musculature and tendo achilles while casting. This area is discussed but is unfortunately not backed up with the excellent photographs that accompany the rest of the techniques.

The documentation section is a particularly welcome part of the guidelines as this is an area often given little attention in clinical practice. The guidelines provide an easy to use format for two hourly monitoring following casting as well as an excellent table format for documenting outcomes and comments regarding

the cast. The reference list will provide busy clinicians with signposts through the literature surrounding this particular treatment modality. Although some texts appear quite 'old' chronologically they are still key to any therapist interested in using casting as a means to control spasticity and alter the length of muscle tissue.

I feel that this booklet is an excellent practical guide to casting, which manages to convey a lot of sound clinical information in its 61 pages. It would be of great value to any department involved in casting the lower limbs of neurologically damaged patients.

The Royal Hospital for Neuro-disability is a medical charity that provides treatment and help for people with severe disabilities resulting from disorders or injuries to the brain. The charity founded the UK's first brain injury unit that enjoys both a national and international reputation for its treatment of patients in 'waking coma' or vegetative state. To purchase a copy of the guidelines, please contact Lillian Hughes, Research Department Secretary at Royal Hospital for Neuro-disability on 020 8780 5141. Each copy is £5.

B MULTIPLE SCLEROSIS THE QUESTIONS YOU HAVE – THE ANSWERS YOU NEED

Edited by Rosalind C Kalib PhD Demos Medical Publishing Inc, New York. Published 2000 ISBN 1-888799-43-9 614 pages, \$39.95

Gillian Emond MCSP

This book sets out to answer the questions that people may have following their diagnosis of Multiple Sclerosis (MS). It is meant to be used as a resource throughout the progression of the disease therefore each topic area contains a wide range of possible scenarios. This may be quite distressing for a newly diagnosed reader however the 'how to use this book' section does advise readers to 'be selective in (their) reading and not to see this as a book (they) must read cover to cover'. The book is clearly laid out and easy to use however it is entirely aimed at a North American audience. It contains a lot of relevant signposts for further reading/help but all are American/Canadian based and therefore not particularly useful in the UK setting.

There is a chapter dedicated to the medications commonly used in MS where the information does not correlate in all instances with the guidelines issued in, for example, the British National Formulary (BNF). This book also advocates, in the strongest terms, the use of Beta Interferon, which would be in direct conflict with the guidance issued by NICE earlier this year. There are however some very useful and clearly put sections especially in the 'Neurology' chapter. The glossary is well structured and covers all

medical/jargon terms contained in the text. These words are printed in bold in the text to allow for easy reference. The 'Swallowing' chapter is extremely well written and the questions/answers listed give a concise but in-depth look at the swallowing problems encountered in MS. It was also made clear that answers to some questions regarding specific therapy could only be given after a detailed assessment.

The 'Physical Therapy' chapter focuses on two aspects: namely exercise and aids to mobility. Again these sections are directed to a purely transatlantic client group eg contact a therapist through Medicare, Medicaid etc. There is no mention in this chapter of physiotherapy influencing tone other than to suggest strengthening exercises to overcome 'mild spasticity'. There is also no mention of strategies employed to address a decrease in the ability to balance other than to suggest walking aids. The latter stages or more severe forms of MS are not addressed nor are the problems associated with low tone or ataxia which are often a feature of this disease.

This is a large book and yet it does not contain a significant amount of information that would be relevant to MS sufferers in this country. I feel therefore that this text would only be useful in the context for which it was produced ie the USA/Canada.

REGIONAL REPORTS**EAST ANGLIA**

Louise Dunthorne
Regional Representative

Firstly, we would like to announce that East Anglia have a new Chairperson – Louise Kenworthy has stepped into the post following retirement of our previous Chair, Sharon Griffin. Many thanks to Sharon for her work with regional ACPIN, and welcome to Louise.

Last year we held some successful courses including 'Management of spasticity for the community MS patient' and 'Manual handling and neuro rehabilitation – complimentary or conflicting?' Both were well attended and feedback was very positive. Unfortunately the Neuro-respiratory study day scheduled for the end of the year had to be cancelled.

Two of the candidates who attended the Bobath Memorial workshop have compiled and submitted a case study. The others have fed back to members about the main points covered.

Programme for 2001

March saw our AGM combined with a stimulating talk by Martin Watson enthusing us to get involved with case study writing to evaluate our clinical practice.

In May Wendy Hendrie will be running a study morning on current advances in MS treatment, including feedback on her MSc. into patient compliance with exercises, and the use of spasticity diary for evaluation of treatment.

Kate Kendrick has kindly agreed to give a talk on the topic of treadmill use in stroke rehabilitation based on her MSc. This is provisionally booked for October, but the exact date is to be confirmed.

Also in October a study afternoon will be held on the topic of 'SMART' – an assessment tool used at the Royal Hospital for Neurodisability at Putney for investigating PVS.

All details will be confirmed as soon as possible, and will be available on the ACPIN website.

Meanwhile the usual recruitment drive continues and we welcome anyone interested in being involved in East Anglian regional committee. Please contact Louise Dunthorne if you would like to find out more!

KENT

Janice Champion
Regional Representative

Last year Kent region held a four day course titled 'A practical approach to Musculo-Skeletal techniques for Physiotherapists in Neurology' in January and February 2000 which was taught by Heather McKibben. This was very well received and has influenced the practice of many who attended.

We held our AGM in March at Medway Maritime Hospital where Susan Rhodes, Specialist Clinician in Musculo-skeletal Physiotherapy introduced us to 'Pilates'. A theoretical lecture was followed by a practical session where our trunk stability (or instability) was explored!

Our November meeting was a lecture on 'Muscle Imbalance in the Upper Quadrant' by Stuart Hide MCSP at the William Harvey Hospital on 7th November. This was very well attended and included practical time looking at each other which was greatly enjoyed by all.

Our new Chairperson is Jane Peters who works at Maidstone

Hospital. Jane has taken over from Gill Williams who after many years of leading our group has decided to stand down. Many thanks go to Gill for her hard work and dedication and we welcome Jane to the chair.

Our aims for the forthcoming year are to improve the networking of the 'neuro-physios' in the region and to support the professional development of our members by providing informative and thought provoking meetings and study days.

This years programme is still in the planning stage, and details will be available following the AGM and lecture on 'Reflexology' by Gay Slater ACPIRT on 7th March.

LONDON

Anne McDonnell
Regional Representative

London ACPIN had a successful Millennium year. At the end of the year we had 241 members. Generally there was an event every month, with the majority of lectures being in the evening. We organised a 'Millennium Extravaganza', a one and a half day course, to promote evidence based practice, which attracted sixty people in February 2000. In November, we arranged a joint Stroke Study Day with London NANOT, for over one hundred participants.

This year has also started well. Attendance at the evening lectures has been good. The programme outlined below may be subject to some changes. Please check in Frontline for each lecture, in case of any alterations.

Programme for 2001

■ APRIL An Introduction to Pilates

■ MAY A Framework For The Management of Contractures
Heather Thornton

■ JUNE Exercise in Neurology

■ JULY Why people walk but don't use their arm again
Jill Dawson (OT)

■ August No meeting

■ September Acute management of neurobehavioural sequelae following traumatic brain injury
Gail Robinson
Clinical Neuropsychologist

■ October (study day) Manual Handling

■ November Afferent control of spasticity: a model for neurophysiotherapeutic intervention
Jon Marsden

MANCHESTER

Louise Rogerson
Regional Representative

Manchester's 2001 programme is progressing well with good attendance for the first two lectures. The committee would like to thank all the speakers who have contributed so far this year, and to last year's programme. The cost for attendance continues to be £2.00 for ACPIN members and students, and £4.00 for non-members.

The committee is now well established and is meeting regularly. There is now time at each meeting for Continued Professional Development, where members can support each other in developing their personal diaries. The post of Northwest board representative remains vacant, as does the secretary post. Anyone interested in taking up either of these posts or becoming a committee member should contact a committee member.

This year evaluation forms have been introduced for use at each lecture, and these will be used to guide the com-

mittee when designing future lecture programmes. It is hoped that members will take this opportunity to feedback about the lecture attended, and suggest topics for next year's programme.

In the near future, CPD forms will be available for members attending ACPIN lectures. It is hoped that these forms will encourage members to reflect on the lecture content, and also be used as evidence for their professional diaries.

The committee is currently exploring the possibility of running weekend or one-day courses in the next year, hopefully these will include theory and practical elements.

Programme for 2001

- JANUARY Neuro-craniosacral physiotherapy *Charles Dean*
- FEBRUARY Muscular dystrophy & atrophy *Jenny Whittle*
- MARCH Workshop on anatomy and palpation & AGM *ACPIN committee*
- APRIL Parkinson's drugs *Dr Martin Vernon*
- MAY Splinting *Louise Chance*
- JUNE Neurophysiology *Pam Mulholland*
- JULY Well MS groups *Louise Rogerson*
- SEPTEMBER FES *Diane Farragher*
- TBC Patient demonstration
- NOVEMBER Open forum on therapeutic handling *ACPIN*

■ MERSEYSIDE

Elizabeth Self
Regional Representative

On behalf of the Mersey committee I would like to extend our thanks once again to Sharon Williams, our president who continues to give her invaluable support lecturing at our workshops.

The highlight for the begin-

ning of last year's programme was the 'Management of Spasticity in Multiple Sclerosis' with one of our committee members lecturing, and over 60 people attending the day.

Heather Cameron gave a two day lecture on trigger points which was very successful and gave some food for thought. Medical Legal Issues gave a frightening but realistic insight into physiotherapy legal issues. Other lectures included a lecture on lower limb orthotics, current research into multiple sclerosis and incomplete spinal cord injuries.

Towards the latter half of the year our number of members attending the lectures become very low and as a committee we decided to assemble a questionnaire to see why the attendance level was dropping and to ascertain if our members wanted to continue with having a committee. We had 32 replies out of 49 (excluding committee members) and the feedback was very positive. There were a variety of reasons for poor attendance: Difficulty with childcare, time of the lectures, location, tiring after a busy day, and travel time. On the whole they felt the committee did a good job and wanted us to continue.

This year's programme was initially only devised for six months until we received the questionnaires. As a committee we proposed to have a few half day study days within the working week (to be arranged later in the year), not have a lecture every month and to vary the time and location. Our AGM lecture is on strapping techniques (knee and ankle). Other lectures include:

- Sensory Rehabilitation Workshop
- Update in Rheumatology/SLE in the neurological patient.

- Workshops with Sharon Williams
- Half day study day to be confirmed

Please continue to support ACPIN and we will be looking forward to seeing you all during the forthcoming lectures.

■ NORTHERN

Gillian Emond
Regional Representative

2000 was another busy year for Northern ACPIN with courses or lectures most months. January was an evening lecture on MRI scans by Dr Featherstone followed by another evening lecture in March on Visual and Perceptual Problems. In April we presented a weekend course on Pain and in May there was an excellent weekend on Muscle Imbalance lead by Nick Hodi. We ran a highly oversubscribed one day course in June on Pilates and in July our usual fun trip across to the Lake District for a weekend course with Patty Shelley. In September we had another amazing lecture from Nigel Lawes (every year we understand just a little more!). Ruth Parry came up for a great if short half-day session on her research. In November we held the most oversubscribed course of all, a senior staff study day on Posture and Balance with Mary Lynch-Ellerington. This was a superb course that caught the imagination of all of those present.

The planning of next years programme is well underway and there follows a brief outline of the proposed structure:

- MARCH/APRIL. Introductory Bobath Weekends *Linzie Meadows*
- MAY Gymball in Neurophysiotherapy *Janice Champion*

- JUNE TBC
- JULY Senior Staff Study Day *Mary Lynch-Ellerington*
- SEPTEMBER Neurophysiology and Muscle Stimulation *Nigel Lawes and Diana Farragher*
- OCTOBER TBC
- NOVEMBER Alternative Therapies for Neurophysiotherapists *Speakers to be confirmed*

■ NORTHERN IRELAND

Heather Fair
Chairperson

The millennium year has been another busy one for ACPIN, and we have had an interesting and informative programme of five evening meetings and three courses. Membership for the year had increased to 58 and we have had reasonable attendance at our evening meetings. I would like to take this opportunity to thank our speakers over the year. The three courses were all run at a profit, namely 'Plastering in Neurology', 'What is Normal Movement?' and 'Muscle imbalance in the Lower Limb'. Thanks to the committee members who gave their own time to organise and run these courses.

Next year we have only published the first part of the programme, to give us an opportunity to finalise meetings closer to the time, and to allow for changes such as the temporary move to the Belfast City Hospital to allow for maintenance work at the Joss Cardwell Centre. So, there is still time to make suggestions for the programme! We plan to continue to meet at the Joss Cardwell Centre, as it is a practical venue and we thank the staff there for their support.

We would like to remind all members that they can apply to the committee for funding to

attend courses in England. Last year we partly supported Sheila Lennon so that she could present at Congress. We also funded Dionne Magee, who attended a conference on moving and handling in neurology, and we look back to feedback on this topical issue later in the year.

I would like to thank the committee for their hard work during the year, particularly Paula Orr, Dionne Magee and Margaret Lewis who are retiring from the committee this year. I look forward to seeing you all over 2001. The new Northern Ireland regional representative is Siobhan MacCluley who can be contacted at Belfast City Hospital on 02890 329241 ext 2545

The next meetings arranged are:

- Tuesday 24th APRIL Rehabilitation Outcomes A joint Meeting with AGILE *Ralph Hammond*
- Tuesday 22nd MAY Therapeutic versus Manual Handling *Paula Orr and Dionne Magee*

These will be held at the Joss Cardwell Centre at 7.30pm.

■ NORTH TRENT

Steve Cheslett
Regional Representative

Programme for 2001

- APRIL Forced disuse & implications for therapists *Prof Shirley Stockmeyer (USA)*
- APRIL (full study day) Basal ganglia (half day) and Cerebellum (half day) *Nigel Lawes*
- JUNE (joint study day) Muscle imbalance and the trunk – a neurological perspective *Liz Mackay*
- JUNE Update on current research *Various speakers*
- JULY Perception of midline –

- feedback from an MSc dissertation *Nicki Snowden*
- SEPTEMBER (full study day) Topic to be confirmed *Jon Marsden*
- OCTOBER The posture and movement systems of motor control *Sue Mawson*
- NOVEMBER Clinical Psychology *Speaker to be confirmed*

■ OXFORD

Nicky Sharman
Regional Representative

Programme for 2001

- APRIL Wheelchair prescription *Lone Rose*
 - MAY/JUNE To be arranged
 - SEPTEMBER Insight *Tina Ashburner*
 - OCTOBER Patient practicals *Louise Gatehouse and Charlie Winwood*
 - NOVEMBER Augmentative assisted communication
- For further information on these lectures or joining the ACPIN committee please contact Kirsty Holmes or Jo Forrest on 01865 255435. Lectures generally start at 7.00pm.

■ SCOTLAND

Emma Forbes
Regional Representative.

In 2000 our membership rose to almost 80 members. Fiona Moffat and Beverley Bryan both resigned from the committee and Lesley Mill and Wendy Juner joined us.

The AGM in May 2000 took place in Dundee and incorporated a study day on 'Muscle Imbalance and Deep Brain Stimulation'. Speaking at the study day were local consultants and physiotherapy staff.

A Study day jointly ran by ACPIN and Athena Neurosciences also ran in May

and was held in Stirling. It incorporated a multidisciplinary approach and involved a Rehabilitation Consultant, Clinical Psychologist, Occupational Therapist and Physiotherapist giving lectures.

2000 ended with a course on 'Functional Measurement in Neurology' by Gill Baer and Brian Durwood. This will hopefully spawn further investigations into what outcome measures are currently being used in Scotland. This is very much in the early days of planning but hopefully will be tackled in the near future.

2001 has already seen an excellent half day workshop on the Vestibular System facilitated by Debbie Strang. Debbie is a trainee Bobath Tutor and is rapidly becoming an annual guest of Scottish ACPIN.

The remaining programme for 2001 includes the AGM and study day on Perception and Cognition held in Perth Royal Infirmary on 19 May. It will be led by two local Occupational Therapists.

On 22 September Joanne Elphinston will be carrying out a Gym Ball Study Day at the Queen Margaret Hospital, Dunfermline.

November 2001 sees our final study day of the year. This will be held in Ninewells Hospital, Dundee and the topic will be MND. Dates and speakers are to be confirmed, but John Innes, Senior Physiotherapist at Ninewells will be speaking on current physiotherapy issues.

At our AGM in May we will have two committee posts available; Treasurer and Regional Representative. Please contact Sarah Davidson (Chair) or myself for further information on these posts. Our membership unfortunately has dropped to under 50 this year so I encourage members to

renew their membership promptly to ensure they keep up to date with activities.

■ SOUTH TRENT

Linda Cargill
Regional Representative

We have just received a resignation from Shona Fergusson and would like to thank her for her hard work. We are always looking for new members and would particularly welcome anyone from Leicester. We have just completed the first half of our programme for 2001 and have distributed programmes to all our members.

- APRIL Acupuncture and neurology *Val Hopwood*
- APRIL Treatment and management of MS *Lynn Fletcher*
- MAY Outcome measures *Lynn Juby*

We are still arranging the second half of the year and would greatly appreciate suggestions from any members. We have just updated our evaluation forms for lectures and courses and hope that these will encourage suggestions and enable us to continue to arrange appropriate and interesting events.

We are also currently discussing the National ACPIN pilot package on the moving and handling of neurological patients and we are trying to put together guidelines and protocols from throughout the region. The current membership stands at 62.

■ SOUTH WEST

Gina Sargeant
Regional Representative

Programme for 2001

- APRIL Southwest ACPIN AGM *Clare Scanlon* Stroke Co ordinator North Bristol Trust

- JUNE Feedback from Bobath workshops *Jeannie Oakey and Gina Sargeant*
- JULY Practicalities of physiotherapy – putting research into practice *Alan Bass*
- AUGUST No events
- SEPTEMBER Evidence base in neurophysiotherapy *Bridget Pearce* (tbc)
- OCTOBER Latest research in MS *Professor Neil Scolding* (tbc)
- NOVEMBER The management of pain *Various contributors*

■ SUSSEX

Naomi Jones
Regional Representative

Sussex ACPIN had a relatively quiet year in 2000. This was due to a few disruptive changes in office (including Regional Representative!) and the on-going issue of poor attendance at lectures (evening). The events that did successfully materialise included a splinting course and AGM in March, Acupuncture (theory) in April, and Nags and Snags in October. Membership was 40.

This year – 2001 – is looking more hopeful with a full enthusiastic committee. Bernhard Hass has resigned as Chairperson and will be greatly missed. Margaret Hewitt has kindly stepped into his shoes! Full membership is yet unknown but we hope that it will be more than last year owing to a recent recruitment drive.

The future programme looks good with a few weekend dates to combat the problems of poor attendance in a large region. The 'Pilates' event has already occurred and was received well when considering some of the relevant application to our patients. It was also fairly well attended.

Programme for 2001

- APRIL The Vestibulo-Spinal system *Helen Constantine*
- JUNE/JULY Acupuncture (theory) *Val Hopwood*
- SEPTEMBER Evidence based Practice *Jenny Freeman*
- NOVEMBER/DECEMBER GBS support group *Glennys Sanders*
- FEB 2002 Motor re-learning *Paulette Van Vliet*

Some dates, times and venues still to be confirmed.

■ WESSEX

Ros Cox
Regional Representative

The beginning of 2001 has started with a few changes in the committee. Susanne Davies at Poole Hospital has taken over from Carol McFadden as Treasurer, Helen Foster is looking to step down as Chairperson and so anyone interested let Helen know. Ros Cox (Regional Rep) is about to have her baby, a plague which seems to have hit nearly the whole of the committee. Thanks to Jo Nisbett (Secretary) and Colette (committee member) for all their hard work. We are still keen to have more members on our committee so please come and join us for meetings which take place an hour before the evening lectures (usually 6.30pm). We also would like to see more members at the evening lectures as attendance is still poor and we will have to stop the lectures unless numbers improve, so please support your local ACPIN. The committee works very hard to provide you with a programme of lectures and study days so make the most of it.

Programme for 2001

- APRIL Nags and Snags in Neurology *Dean Phillips*

- JUNE AGM and Sensory Inattention *Nigel North*
- JULY BBQ for all members
- SEPTEMBER Neurophysiotherapy and Neurophysiology *Speakers to be arranged*
- OCTOBER 'Living without Touch' *Ian Waterman*
- NOVEMBER Facial Palsy *Lorraine Clapham*

We look forward to seeing you at these venues and if you have any ideas for lectures/study days for next year then let us know.

■ WEST MIDLANDS

Kate Duffield
Regional Representative

The West Midlands region continues to have a strong membership of over 70 members. There are 12 committee members who contribute to the smooth running of our rolling programme of half study days and weekend courses. I would like to thank all committee members past and present for their on going support and commitment that has enabled West Midlands ACPIN to continue to be proactive in their provision of educational needs for its members.

In January we ran a muscle imbalance half study day, tutored by Liz Mackay. The course was fully subscribed with very positive feedback. In fact delegates wanted more, and future weekend courses are being planned into the programme presently.

On 21st April there is to be a half study day in conjunction with our AGM on 'Communication Problems following Stroke'. This will be held at Birmingham Heartlands Hospital. Other programme items include:

- Practical Ataxia Course
- Therapy Research
- Pilates
- Acupuncture

If any members have any fresh ideas for courses, speakers or venues please contact Kate Duffield on 0121 424 4407. We look forward to another successful year with the continued support of our members, thank you.

■ YORKSHIRE

Sally Bowes
Regional Representative

Yorkshire ACPIN has had another successful year with a variety of evening lectures and study days. Topics covered this year included the following: Movement Science with Paulette Van Vliet and colleagues, Gym Ball with Janice Champion, Movement Disorders with Sue Edwards, Patient Demonstration with Alan Bass, Mobilisation of the Nervous System with Heather Mckibben.

Programme for 2001

- APRIL Spasticity an Amalgam of Consequences *Mary Lynch-Ellerington*
- APRIL Treatment of Coordination Problems *Lynne Fletcher*
- MAY Posture and Balance and AGM *John Rothwell*
On behalf of the membership

I would like to thank all who have contributed to our programme, providing us with the opportunity to continue to learn and promote discussion. The committee is, as ever, on the lookout for new members and ideas. Please feel free to approach any of the committee members with your ideas and opinions. Remember also to visit the ACPIN website for updated information.

Guidelines

■ FOR AUTHORS IN SYNAPSE

Synapse is the official newsletter of ACPIN. It aims to provide a channel of communication between ACPIN members, to provide a forum to inform, instruct and debate regarding all aspects of neurological physiotherapy. A number of types of articles have been identified which fulfil these aims. The types of article are:

RESEARCH REPORT

A report which permits examination of the method, argument and analysis of research using any method or design (quantitative, qualitative, single case study or single case design etc).

AUDIT REPORT

A report which contains examination of the method, results, analysis, conclusions and service developments of audit relating to neurology and physiotherapy, using any method or design.

REVIEW PAPER

A critical appraisal of primary source material on a specific topic related to neurology.

TREATMENT REPORT/CASE STUDIES

A report of the treatment of a patient or series of patients which provides a base line description of established treatments, or a new insight into the techniques or treatment of people with a specific problem.

SERVICE DEVELOPMENT QUALITY ASSURANCE REPORT

A report of changes in service delivery aimed at improving quality.

ABSTRACTS

Abstracts from research projects, including those from undergraduate or higher degrees, audits or presentations. They should be up to 300 words and where possible the conventional format: introduction, purpose, method, results, discussion, conclusion.

TECHNICAL EVALUATION

A description of a mechanical or technical device used in assessment, treatment, management or education to include specifications and summary evaluation.

PRODUCT NEWS

A short appraisal of up to 500 words, used to bring new or redesigned equipment to the notice of the readers. ACPIN and *Synapse* take no responsibility for these assessments, it is not an endorsement of the equipment. If an official trial has been carried out this should be presented as a technical evaluation.

POINTS OF VIEW

Articles discussing issues of contemporary interest and any other matters relating to neurological physiotherapy.

LETTERS TO SYNAPSE

These can be about any issue pertinent to neurological physiotherapy or ACPIN. They may relate to material published in the previous issue(s) of *Synapse*.

COPY SHOULD BE:

- typed or printed
- double spaced
- on one-sided A4 paper with at least a 1" margin all round
- consecutively numbered
- include the name, qualifications, current position, and contact address of the author(s).

- Ideally, a disk copy of the material should also be included. Documents preferred in *Microsoft Word* for Macintosh or Windows.

References should use the Harvard system. In the text quote the author(s) surname and date (Bloggs 1994). At the end of the article give the full references with the first author/editors name in alphabetical order, eg Bloggs A (1994). The use of bandages in the treatment of people with head injuries'. *Physiotherapy* 67, 3, pp56-58.

Tables and figures should be given appropriate titles and numbered consecutively as they appear in the text. Each should be presented on separate sheets of paper after the text.

Any **photographs** and line drawings should be in black and white, in sharp focus with good contrast and at least 5" x 7".

Two copies of each article should be sent to:

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Note: all material submitted to the administrator is normally acknowledged within two weeks of receipt.

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