Spring 2009

Syn'apse

- Research degrees or doing a PhD
- What is Interpretative Phenomenological Analysis and how might it inform physiotherapy practice in neurorehabilitation?
- What do student physiotherapists perceive the Bobath concept and the Motor Relearning Programme to be?

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

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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 profes- sional groups and improve the public's perception of neurological physiotherapy.

FROM THE CHAIRS

A belated welcome to 2009!

We are not sure where 2008 went (they say when you are having fun time flies...) but some how we have survived our first year in office and are pleased to say we have enjoyed it so much we want to stay on for another year ... if that's OK with you! Thank you to all of you who have helped us along the way!

Whilst we are remaining in post there is a notable departure from our current team. Professor Sue Mawson has stepped down as President having served ACPIN for four years. During this time Sue has been a regular contributor to *Synapse*, and has championed the call for physiotherapists to get more involved in translational research for patient benefit. Sue has been ever ready to support many of ACPIN's activities including agreeing to speak at National Conference with less than 24 hours notice! On behalf of the membership we thank you.

On a brighter note we are delighted to welcome our new President Dr Margaret Mayston who is undoubtedly already known to many ACPIN members and we are very much look forward to working with her.

As ever ACPIN continues to work hard to provide an interesting and informative programme of continuing professional development events, both locally (see regional representative reports in this edition of *Synapse* or online at www.acpin.net) and nationally. Having just enjoyed an excellent programme of speakers at our National Conference in Northampton, which focussed on upper limb rehabilitation, we are now in the midst of planning the neurology strand of Congress 2009 in Liverpool. Siobhan MacAuley, our Vice Chair is once again efficiently taking the lead for this and we are pleased to announce that Louise Ada, Associate Professor from the University of Sydney Australia, has agreed to be our keynote speaker. Keep watching *Frontline* for details of the programme.

ACPIN has also been busy during the year with many other activities and also continues to collaborate with a number of related organisations. In the attempt to avoid duplication, details of all this work can be read in the summary of the Chairs' address at the 2009 AGM and Conference.

Thank you for your continuing support and hope to see you in Liverpool!

Jo and Cherry

Research degrees or doing a PhD

Part 1: Getting started

A personal account of some thoughts and advice
Future parts will follow in subsequent editions

Julia Williamson ACPIN Honorary Research Officer

The commonest response I get when someone finds out that I have started a part-time PhD is to enquire about my mental health. 'You must be mad!' they exclaim, followed by 'I can't think of anything worse.' It is certainly true that research is not for everyone and not everyone has the resources to pursue further study at any level. However, it is for me and I am fortunate enough to have the resources, so, in September last year, I enrolled at Queen Margaret University in Musselborough.

I thought it might be useful for anyone thinking about a research degree to hear what it is like and about the processes involved. These series of articles are designed to be an informal guide not a piece of scientific writing but it is not a blog, I am not going to give you a blow by blow account of every passing minute, you will be relieved to hear.

The very first stage of the process involves recognising that your life/career will benefit from an MPhil or a PhD and that it is actually something you want to do. You will need to consider whether a professional doctorate might be better for you if you see yourself staying predominantly in clinical practice. I strongly suggest talking to the leaders of these programmes. If you want research training then a PhD might be the thing. You don't need a masters to qualify but if you graduated recently you might need a first or 2:1.

The next stage involves looking at the amount of time commitment the process will require. Part-time study at my institution is 18 hours per week, full-time, 36 hours per week. Full-time PhDs take three years minimum (part-time six years). Can you commit to that?

The next thing to consider is money. Full-time grants for most PhDs are not exactly generous. However, you could do some private work or most universities will pay for extra teaching or marking. I say extra because most universities have an expectation that their full-time students do some teaching/lecturing. If no bursary is available, you will have to fund yourself for six years or more (probably while taking a pay cut as you drop hours to work part-time). Check with the university itself for fees.

The next thing to ask yourself is 'can I really face reading over 500 journal articles (OK and Hello don't count) and writing a 100,000 word thesis?' Be honest. The topic has to be one you love and which you can face being completely immersed in for years. If studying part-time while working it is best to do both in the same field. That way it doesn't take too long to switch your brain from work-mode to PhD-mode (Philips and Pugh 2005).

If studying part-time, how supportive is your work-place? I mean supportive. Are they interested in what you are doing? Can they make allowances if you were up until 1.00am trying to email a document to the university without the formatting falling to pieces? (Yep that is one from experience). Do they understand that you can't just volunteer for that extra on-call because you have a deadline looming?

Still interested in a PhD? There are two paths from this point. Either you slot into a bigger project already being carried out by a university or you approach a university with your own idea. Universities apply for huge grants to carry out multi-faceted research projects and then recruit PhD students (or MPhil students) to run each facet. Your PhD is yours, but it must fit into the wider aims of the project, so therefore the methodology and topic may be fairly fixed. You do not need to be an expert in that field as that will come with the process but a broad overview of the topic is essential if you want to get though recruitment. The choice of topic will also completely dictate which university you enrol with which has plusses (saves time on researching universities)

and minuses (the choice is made for you).

The bigger project idea is perhaps a little less daunting, although you lose in ownership what you gain in security. Approaching a university with your own idea really puts you in control but involves more legwork. Which university do you approach? Your decision will be based on a huge number of factors. Personalities and reputation of the people you will work with, the success of department in the latest Research Assessment Exercise, ease of access, familiarity with the campus and so on. You may feel a little intimidated approaching a university initially thinking, 'what if they laugh at my idea?' They won't, believe me. Most academic physiotherapy departments are permanently on the look out for clinical problems to explore. If your idea isn't within their expertise they will let you know and if it isn't big enough for a PhD they will help you find out whether there is the potential for it to grow. More likely, they will have to reign in your ideas from a life-times work to a project that can be completed in three years! They will not laugh because they started where you are now!

I expect a lot of people who have read this far who are interested in starting a PhD have one final hang-up which needs the Gok Wan treatment. Yes … you are brainy enough! Lets face it none of us are Einstein, but we all have a first degree and work in a challenging profession which demands we analyse, critique and reason every minute of every day. You do not have to start writing your thesis on day one. If, on enrolment you were already at doctoral standard they'd just award you the degree there and then. If you lack confidence, say with IT or whether the old grey matter still works then try a Masters module (or whole Masters in my case) first. Universities have very helpful learning services departments who are happy to explain any aspects of IT you will encounter (and explain it again ten minutes later when you thought you'd got it but then couldn't remember).

A couple of personal reflections to finish with. Starting my PhD has been a brilliant and mind-blowing experience. I love the space it allows me to think and really question the basis of my clinical practice. I have met some very inspiring people. I have read some great articles and feel part of a wider research community. At times I have wondered if I was not waving but drowning but at those times I have my clinical practice to fall back on, to reassure myself that the old world still exists. So now is the perfect time … jot your ideas down and email them to your old university lecturer … go on!

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What is Interpretative Phenomenological Analysis

and how might it inform physiotherapy practice in neurorehabilitation? An overview with reference to an analysis of the lived experience of ataxia

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The aim of this paper is to offer an introduction to Interpretative Phenomenological Analysis (IPA) as an approach to qualitative research and to discuss its possible contribution to neurophysiotherapy. IPA will be explored with reference to a detailed example of data from the authors' own work about the lived experience of cerebellar ataxia.

INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

Interpretative Phenomenological Analysis is concerned with exploring and understanding the lived experienced of a specified phenomenon (Smith 2004). It is a methodology in its own right rather than, as the name implies, simply a means of analysing data. IPA involves the detailed examination of participants' 'lifeworlds': their experiences of a particular phenomenon, how they have made sense of these experiences and the meaning they attach to them (Smith 2004). IPA has its roots in health psychology: it was introduced by Jonathan Smith, in his seminal paper of 1996, as an alternative but complementary approach to the more established quantitative and qualitative methodologies in this field. Although firmly embedded in psychology the approach has been used in occupational therapy and physiotherapy to interrogate questions of clinical significance (Dean et al 2005, Reynolds and Prior 2003, Reynolds et al 2008).

The dual theoretical foundations of IPA are phenomenology and hermeneutics (interpretation). Whilst these features are not unique to IPA, the way they are brought together and the specific emphases and techniques used within the method serve to delineate IPA from other closely connected but separate approaches.

PHENOMENOLOGY

Researchers using phenomenological methods aim to uncover an individual's experience of the world and the meaning of this experience through focusing on an account of a concrete experience grounded in everyday existence (Langdridge 2007). IPA's reading of phenomenology is idiographic (see below) and firmly anchored to the ideas of the phenomenologists Heidegger and Merleau-Ponty (Eatough and Smith 2008). A person's experience of the world is considered particular to them but IPA acknowledges that all experience is context dependent: social and historical perspectives colour the experiential narrative (Eatough and Smith 2008). For example there have been some changes in the narratives of disability in recent decades with the dissemination of the social model of disability and social activism (see Whalley-Hammell 2006 for an overview). Finlay (2003) for example highlighted the broader ideological context at play in analysing an account of a disabled woman's decision to give up work, suggesting that disabled women when forced to make a choice between work and family are expected to prioritise being a good wife and mother.

INTERPRETATION (HERMENEUTICS)

IPA researchers do not attempt to produce an objective or definitive account of a phenomenon and only claim to access a version of the experience as the participant makes sense of it through their account (Smith and Osborn 2008). IPA is interpretative because trying to find out how

someone makes sense of an experience requires interpretative effort. The researcher works with the data to glimpse meaning through layers of resistance built into the narrative, for example by unravelling complex metaphorical references (Smith 2004, Larkin et al 2006). The researcher's own resources and experiences, what Smith (2004:45) refers to as the 'biographical presence' of the researcher, are needed to make sense of what is said. For example an occupational therapist and a physiotherapist may read different meanings into a person's account of a particular phenomenon because of differences in their biographical resources, their theoretical perspectives and clinical experience. As such, the practice of reflexivity is an important component of this type of work; researchers must exploit their own contexts as sources of insight whilst being explicit about the influence of this cultural baggage on the analysis and interpretation of the narrative (Finlay 2008).

IDIOGRAPHIC INQUIRY

Idiography is concerned with individuals, their distinct experiences and the contexts in which those experiences occur (Smith et al 1995, Eatough and Smith 2008). The case is central to the inquiry: the researcher attempts to understand as much about one case before moving onto the next, (see Smith 1999 as an exemplar of this approach). Consistent with this approach small samples of fewer than 15 participants are commonly used (Smith and Osborn 2008) and over time IPA has advocated an increasingly strong commitment to n = 1 studies (Eatough and Smith 2008). The facility for highlighting unique perspectives as well as shared experiences (in studies with more than one participant) is one of the cornerstones of IPA (Smith 2004, Smith and Osborn 2008). Other qualitative research approaches often favour the construction of common themes whilst perhaps glossing over unique perspectives, see for example the phenomenological study by Miller and Jezewski (2001) about the experience of beta interferon as a treatment for relapsing remitting multiple sclerosis. The facility for uncovering idiosyncratic understandings of health conditions may make IPA a particularity valuable tool for exploring under-researched topics.

IPA IN ACTION: EXPLORING THE LIVED EXPERIENCE OF PEOPLE WITH ATAXIA

Having clarified the theoretical orientations of IPA this next section provides an analysis of data from a study that used IPA to explore the lived experience of people living with cerebellar ataxia. The study aimed to explore inductively how cerebellar ataxia was understood by people who live with it and how participants made sense of their experiences. The study was approved by the School of Health Sciences and Social Care Research Ethics Committee.

Participants were members of Ataxia UK, an organisation for people who have ataxia as part of an inherited or idiopathic condition but not as the result of trauma or as part of another progressive condition such as multiple sclerosis. All participants were interviewed by the first author: the interviews were recorded and transcribed in full.

A distinct, systematic but not prescriptive process for analysing data, based on a thematic analysis, has been described by Smith and colleagues, and readers are referred to these texts for more detailed information about the analytic procedures for IPA (Smith 1999, Smith and Osborn 2008, Larkin et al 2006). Briefly, data analysis involves a fine grained approach to inferring micro themes from the data followed by clustering these into higher level superordinate themes. The themes should be grounded in the data and supported by extracts from the narrative material from which the themes were derived (Eatough and Smith 2008). Based on the two theoretical foundations of IPA, the final analysed account should offer a layered analysis of the phenomenon; firstly a descriptive, phenomenological level which conveys an empathic understanding of the experience, and secondly a probing, more critical analysis based on the interpretative work of the researcher (Eatough and Smith 2008).

The following offers a detailed examination of two passages from one participant, Bill*, who has lived with cerebellar ataxia for over 20 years and at the time of the interview was in his late fifties. The extracts from Bill's account are used to demonstrate a layered interpretation moving from a phenomenological, empathic account to a more critical and interrogative analysis. The extracts are brief; the intention is to give a flavour of the analysis rather than to present a definitive account. In this first extract Bill was asked to talk about what living with ataxia was like:

'It's like kind of everything is uncoordinated. The frustration of a thing making perfect sense when you say it in your head, but by the time it emerges from your mouth it's kind of clumsy and awkward and … the same with moving about. It's awkward, ungainly and painful and you can't do things quickly or arrogantly or whatever. Everything's kind of thick, knobbly and ungainly, uncoordinated, clumsy and just … it's almost like being drunk all the time, except you aren't … I've kind of lived with it for a long time really, over 20 years. So it's kind of difficult to think of what it was like not to have it. But the other thing, when you see

people kind of moving about you think "How do they do that, isn't that clever". You know stand up and you don't fall over and you move.'

An empathic or phenomenological reading of this extract might suggest that ataxia is experienced as primarily a physical phenomenon. Bill's account seems to highlight well known impairments associated with ataxia: uncoordinated movement; 'almost like being drunk all the time' and dysarthria; 'by the time it emerges from your mouth it's kind of clumsy and awkward'. Bill's bodily experience is foregrounded: asked what it is like to live with ataxia he speaks of the physical manifestation of the condition. Staying with the empathic reading of the narrative there is a suggestion that Bill has lost the sense of his comfortably familiar body; 'It's awkward, ungainly and painful'. However, Bill's use of the terms 'thick' and 'knobbly' suggest, at a hermeneutic level, a qualitative change in his experience of his corporeal identity; 'thick' and 'knobbly' perhaps signal a sense of bodily alienation. There is an impression in the narrative that the physical experience of ataxia is of existential moment to Bill, it is 'looming large'; what was once taken for granted is now problematic and occupies his attention. His once dependable body now betrays him; 'a thing making perfect sense when you say it in your head, but by the time it emerges from your mouth it's kind of clumsy and awkward and … the same with moving about'. He reflects that he 'can't do things quickly or arrogantly'; suggesting perhaps a nostalgic fondness for a particular, perhaps his particular, way of moving or being. A deeper reading of this extract might suggest that in his lived experience of ataxia his natural way of being is constrained and this robs him of certain existential possibilities. In comparison to his own uncomfortable, unpredictable and in some ways unrecognisable body he now also sees others' bodies as objects of wonder; 'when you see people kind of moving about you think 'How do they do that, isn't that clever'. So for Bill the lived experience of ataxia seems to encompass both a physical assault on his body as well as an assault in an existential sense, limiting his possibilities, his existential freedom for action, which is brought into sharp relief when he turns his gaze to the unencumbered actions of others.

To develop this interpretation, further evidence would be needed from elsewhere in the data. In this next extract Bill described his experiences of family mealtimes:

'I mean the big frustration is not being able to eat and speak at the same time, because I'm used to kind of having long conversations during meals and you know you would like to say things and join in, argue, whatever. When you've got to sit quietly it's quite difficult at times. Because you think of exactly the right thing you'd like to say and after the meal you say "You know when you said such and such, well how about …" then it didn't work, the moment was lost.'

Again, here, Bill starts with a straightforward description of the physical challenges of ataxia, the difficulty of combining eating with talking, however, the main body of the extract quickly moves towards explaining the meaning of this experience. A descriptive analysis of the text would suggest that two physical impairments combine to rob Bill of a valued occupation, active involvement in dinner table debates; 'I'm used to kind of having long conversations during meals and you know you would like to say things and join in, argue'. A deeper reading might propose that sitting quietly is not Bill's natural way of 'being-in-the-world'; it is a way of being imposed by ataxia, 'you've got to sit quietly'. The final sentence; 'After the meal you say 'You know when you said such and such, well how about …' then it didn't work, the moment was lost', speaks for Bill's attempts to recapture this specific opportunity but also reconnects with his past – it seems that he has tried this way of picking up lost conversations many times–- and possibly foreshadows his future endeavours. So what seems to be glimpsed in this extract is the reiteration of the physical assault of ataxia on the body but also, as with the previous extract, the sense of diminished existential possibility, a sense of disconnectedness and lost opportunities for action-in-the-moment.

This analysis of the two extracts suggests that a theme constructed around the interaction of bodily and worldly disruption could be offered as an interpretation of Bill's experience of living with ataxia. Following a more detailed articulation of this particular theme, the next step in the analysis would be to look for similarities and differences in other participants' experiences (for studies greater than n = 1) and to discuss the findings with reference to the existing literature in order to critique or illuminate what is already understood about a particular topic (Smith 2004). As very little has been written about the experience of living with cerebellar ataxia, and for the purposes of this paper, the analysis will be briefly discussed with reference to literature concerned with the lived experience of multiple sclerosis.

For Bill the lived experience of ataxia particularly in the first extract was formulated in terms of the impact of the condition on his body and the relationship between his body, himself and others. Both Finlay (2003) and Toombs (1995) have reflected on the work of the philosophers

Merleau-Ponty (1962) and Sartre (1956) and the phenomenological understanding of the lived body to help make sense of the impact of an impaired body on the sense of self. Drawing on Sartre (1956) these authors explained that in the normal course of events we are not consciously aware of our bodies (Sartre's body 'passed-over-in-silence' Finlay 2003:167) but illness brings with it an acute awareness, turning the body into an object for scrutiny. Bill considered his own body in a similar way finding it awkward and unfamiliar, particularly in comparison with others. Writing from the perspective of someone living with multiple sclerosis, Toombs (2001, 1995) described her bodily experiences as those of disorder, alienation and loss of corporeal identity; all of which have resonance with Bill's account. Toombs (2001) understood her own bodily changes as disruptions of her personal identity. Echoing Merleau-Ponty (1962) she wrote of her 'unique corporeal style' (Toombs 1995:16), a way of bearing without which she is no longer herself. A similar loss of identity could be glimpsed in Bill's 'you can't do things quickly or arrogantly'; perhaps as Bill notices these bodily changes and their impact on his day to day activity he also experiences a dismantling of his sense of self. Like Bill, Toombs (1995) also found herself watching and amazed by the ease with which other people moved. Once again she drew on the work of Merleau-Ponty (1962) to make sense of this experience – the inability to 're-imagine' walking signalling that her limbs were 'no longer open to the possibility' of walking (Toombs 1995:16). Bill's narrative similarly touched on the boundaries that the embodied experience of ataxia put on his existential freedoms for action. In an account of the experience of living with multiple sclerosis Finlay (2003:166) also described a disruption to the 'on-going engagement in the world' and a shrinking of possibilities brought about by the relinquishing of projects. Finlay (2003) suggested that disruption to the body could not be separated from disruptions to the self and the self in the world and, as with Bill, that illness is encountered in a lifeworld; understood in a context of self, family, society, projects and action.

IMPLICATIONS FOR PRACTICE

The idea that illness experience is embodied, encountered in a broad context and is and not simply a collection of impairments is not remarkable or novel, nor is the understanding that illness disrupts the sense of the lived body and the possibilities for action. Toombs (1995) and Finlay (2003) have highlighted with more fluency and in more detail the experiences of body alienation, changes in self identity and loss of corporeal identity that were identified in Bill's account and there is a considerable body of literature concerned with the lived experience of disability, for example Bury, (1982), Charmaz, (1983, 2006) and van Manen, (1998). So what can a research approach like IPA bring to the practice of neurophysiotherapy? Idiographic accounts or small n designs recount an experience particular to that person and their context. Bill's narrative, for example, helps the reader to understand the embodied experience of living with ataxia; his body as object interacting with his body-as-lived. Bill's account deepens the understanding of ataxia as a condition as well as a lived experience which penetrates the sense of self and the relationship with others. As suggested by Radley (1997:65) the practical implication of work that discloses the lived experience of illness is that it 'reveals the limitations of interventions that rest upon the division of body, self and society into separate spheres.' Radley (1997) suggests that practitioners need to understand how these concepts are bound together in the lives of the people concerned and only by doing so will they be in a position to alleviate suffering and contribute to the maintenance of health. IPA as an approach to research can be used to challenge conventional discourse or ways of thinking. Langdridge (2007), reflecting on the work of the philosopher Edmund Husserl, suggested that the natural attitude of researchers and practitioners is habituated and generally uncritical and as such much of what might be central to a person's experience of illness remains hidden from view. The history of our own biographies and our natural attitude as researchers and practitioners forecloses our appreciation of what is hidden (Langdridge 2007). The idiographic nature of IPA, through paying close attention to individual narratives, may disclose interesting and valuable insights for practice that challenge every day assumptions and might also provide a foundation for developing a more empathic understanding of illness-aslived (Toombs 2001).

The findings from qualitative research, such as IPA, should be considered by readers in terms of their ability to enrich understanding, enlarge insight, critique existing theories and generate new hypotheses (Johnson 1997). Thus, as with other forms of research findings, readers should interrogate published findings to see whether there is resonance with their experiences and if, by doing so, the findings provoke a reevaluation of what was considered known or understood about the investigated phenomenon (Johnson 1997).

CONCLUSION

The call for physiotherapists to be as concerned with the phenomenological body as they are with

the biomechanical body has been heard for well over a decade (Shepard et al 1993, Mattingly 1993). Phenomenological research, in particular IPA, speaks for a physiotherapy which retains a careful concern for understanding meaning. IPA adds a phenomenological texture to our understanding of what it is like to live with a health condition and seems to be particularly relevant for exploring the experience of living with long term progressive conditions, or trauma, such as head injury, which are experienced in very idiosyncratic ways. IPA would seem to offer a means of broadening our insights and of developing the discussion about the role of physiotherapy for people living with neurological conditions.

Examples of published IPA studies that might be of interest to ACPIN members include; an exploration of the concerns, experiences and perceptions of stroke survivors (Murray and Harrison 2004), a cross disciplinary exploration of women's strategies for negotiating an acceptable quality of life with multiple sclerosis (Reynolds and Prior 2003), the meaning and experience of genetic testing for Huntington's disease (Smith et al 2002), the experience of living with Parkinson's disease (Bramely and Eatough 2005), women's experiences of increasing well-being whilst living with chronic fatigue syndrome (Reynolds et al 2008), and the influence of chronic pain on the sense of self (Osborn and Smith 2006, Smith and Osborn 2007).

** In order to preserve anonymity the name used in this paper is a pseudonym and some personal details have been blurred.*

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AUTHOR CONTRIBUTION

The first three authors developed the text and contributed to data analysis. The final author commented on the final draft. Elizabeth Cassidy is a PhD student, Dr Frances Reynolds, Dr Sandra Naylor and Professor Lorraine De Souza are her PhD supervisors. The work presented in this paper was funded by Ataxia UK.

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CSP Congress 2009

BT Convention Centre, Liverpool
16 - 17 October 2009

The 2009 neurology programme comprises clinical and occupational sessions, research-based and workshop-based sessions.

FRIDAY

9.00 **Keynote speaker**
Prof Louise Ada Faculty of health sciences, University of Sydney
Contribution of motor impairments to physical activity after stroke

10.00 **Susan Edwards**
Medico legal implications for neuro-physiotherapists

11.15 **Prof Mike Barnes** Hunters Moor Neuro-rehab Ltd
Some thoughts on the measurement of spasticity

12.00 **Stephan Ashford** Clinical specialist and research physiotherapist,Northwick Park Hospital
Spasticity in adults: management and practice implications for using botulinum toxin

2.00 **Founders lecture**
Matthew Pinsent

3.30 **Louise Rogerson**
What the commissioners want

4.15 **Platform presentations**

5.0 **Wine reception**

SATURDAY

9.00 **Dr Monica Busse-Morris** Dept of Physiotherapy, University of Cardiff
A framework for physiotherapy interventions in Huntington's Disease: the ongoing processes

9.45 **Dr Doreen McClurg** NMAHP Research Unit, Glasgow Caledonian University
Bladder and bowel dysfunction in the neurological patient

11.00 **Dr Mike Dilley** Consultant Neuropsychiatrist, CNWL NHS Foundation Trust and National Hospital, Queen Square
Conversion disorders – the medical approach

11.45 **Sarah Edwards** Clinical specialist physiotherapist, National hospital for Neurology and Neurosurgery
Conversion disorders—the physiotherapy approach

2.00 **Prof Louise Ada**
Increasing practice during rehabilitation after stroke

3.15 **Platform presentations**
15 minute presentations of the latest research

arts and crafts activities: A qualitative study Disability and Rehabilitation 30 (17) pp1297–1288.

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What do student physiotherapists *perceive the Bobath concept and the Motor Relearning Programme to be and do they feel confident to use these approaches in stroke rehabilitation?*

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Stroke is a leading cause of ill health and disability in developing countries, which leads to a variety of cognitive, sensory and physical symptoms (Carroll, Eliahoo, Majeed & Murad, 2001), and is the 'third largest cause of death in England' (Department of Health 2007). Physiotherapy in general has shown significant benefits for stroke patients (Langerhammer & Stranghelle, 2000) with the most widely used approaches to stroke rehabilitation in the UK being that of the Bobath Concept, and the Motor Relearning Programme (MRP) (Davidson & Waters, 2000). However at present no one single approach has been advocated more effective over another (Pollock, Baer, Pomeroy & Langerhorne, 2007) and several authors have discussed that health care professionals find these approaches difficult to understand (Raine, 2006, McCluskey, 2000).

THE BOBATH CONCEPT

The Bobath concept (Bobath 1990) first arose from the work of Berta and Karel Bobath in the 1950's of which their last work was published in 1990. Since then experienced therapists regard the concept to have changed dramatically even though the name remains the same (Lennon & Ashburn 2000; Raine 2006). This evolving process has meant that it is often difficult to achieve a consensus regarding what constitutes a current description of the Bobath concept, even by experienced physiotherapists (Raine 2006).

Raine's (2006) review of members of the British Bobath Tutors Association (BBTA) resulted in four consensus statements (*Table 1*) related to current use of the Bobath concept.

- **Gives a framework for practice**
- **Is based on the systems approach** to motor control
- **Focuses on current research** in areas such as neurophysiology, muscle and motor learning to promote specificity and individuality in assessment and treatment
- **Neurodevelopmental treatment/Bobath concept was developed by the Bobath's as a living concept**, understanding that as therapists' knowledge base grows their view of treatment broadens.

Table 1 ***Bobath concept consensus statements***

THE MOTOR RELEARNING PROGRAMME

The MRP is based on optimisation of motor performance and functional abilities, through task orientated rehabilitation, which should be context specific (Carr & Shepherd 2003). Within the literature there is a greater consensus of opinion regarding the approaches used within the MRP. Core principles of the MRP have been identified as, 'strength training, functional skill acquisition, using the therapist as a coach and using practice outside of therapy sessions' (Lennon 2004). This approach seems to have little following in the UK (Davidson & Waters 2000) even though its interventions are widely published (Carr & Shepherd 1987, 1998; Carr & Shepherd 2003), making it easily reproducible.

It is postulated that the wide availability of literature regarding the MRP has led authors (Van Vliet, Lincoln, Robinson, 2001; Chan, Chan, Au 2006) to be able to define it in a way which is relative to recent descriptions by Carr and Shepherd (2003). This may suggest that student physiotherapists may also have a better understanding of the approach, and therefore may choose to use this approach over that of the Bobath concept.

NEUROLOGY EDUCATION

Currently physiotherapy students within the university being researched, receive compulsory adult neurology teaching predominantly within years one and two (*Appendix B*). All students have an adult neurology placement within year 2 or 3 of their graduate programme. This limited experience may put students at risk of not understanding complicated neurological approaches such as the Bobath concept and the MRP (McCluskey 2000).

CONFIDENCE AND COMPETENCE IN NEUROLOGY

Confidence in neurology is influenced by the complexity of the conditions encountered, and the requirement to master technical skills and theoretical approaches (McCluskey 2000). Several authors have identified that health professionals find neurological theories difficult to understand (Jozefowichz 1994; McClusky 2000; Flanagan, Walsh & Turbridy 2007). Due to the depth of research into this phenomenon with other heath care professionals, it may therefore be suggested that inexperienced physiotherapists may also share this lack of confidence in neurology (McCluskey 2000).

The aims of this research were to identify third year physiotherapy students understanding of and confidence in use of the Bobath concept and MRP within stroke rehabilitation.

METHODOLOGY

A 15 item questionnaire (*Appendix A*) with mixed qualitative and quantitative questions was developed as the chosen research method (Oppenheim 1992; Richardson 2000). Boynton and Greenhalgh (2004) recommend that previously validated questionnaires should be used when possible. However there was no such questionnaire available so one was developed using an initial pilot study to enhance relevance, reliability and validity (Fink 2003). The questions related specifically to students prior experience and undergraduate training, their understanding of Bobath and MRP and their views of these related to practice.

Following institutional ethical clearance an invitation to participate in the study was sent via email to a convenience sample of all 19 third year physiotherapy students currently studying on the Bsc (Hons) Physiotherapy degree of one university site within the UK. Informed written consent forms were completed and the completed questionnaire were returned via email or self addressed envelope to improve response rates (Boynton and Greenhalgh 2004).

To comply with research governance advice (DOH 2005), participants were provided with a debrief sheet with an overview of current literature and reference list on Bobath and MRP to consolidate their knowledge. Confidentiality and anonymity of data was assured via numerical coding of participants and the secure storage of all data.

DATA ANALYSIS

The qualitative data obtained were analysed thematically, (Green & Thorogood 2004). The results of the Bobath concept and MRP questions were directly compared and analysed to identify trends and uncover any anomalies which could affect the validity of the results (Bailey 1991). Quantative data were represented descriptively.

RESULTS

Of the 19 questionnaires sent out one student did not meet inclusion criteria and a sample of eight students were obtained, the overall response rate was 50% with no loss of participants through the study.

PREVIOUS CLINICAL AND THEORETICAL EXPERIENCE

All eight of the students questioned had had at least one five week placement in an adult neurological setting. All students had undertaken standardised neurological physiotherapy modules during the Bsc (Hons) Physiotherapy programme within their first and second years of study. Common themes relating to the two concepts are listed in *Table 2* in order of frequency cited. The students perceived level of understanding of these two approaches can be found in *Figure 1*.

Section b of question 5 and 9 (*Figure 1*) elaborated on the students reasoning behind these choices. There was a strong consensus of opinion that length of time since they had undertaken neurology education played a key factor in their understanding of both the Bobath concept and MRP. Several students identified that they felt the Bobath concept was not covered in enough detail within the undergraduate syllabus. Students suggested that prior to commencing a neurology rotational post the students would carry out self directed learning, to develop their skills to the required level regarding both concepts.

Core principles of Bobath concept	Core principles of MRP
• Alignment • Normal movement • Inhibition of abnormal movement • Function • Biomechanics • Neuroplasticity	• Function • Task orientation • Repetitive practice • Movement • Neuroplasticity

Table 2 ***Common themes described by third year student physiotherapists***

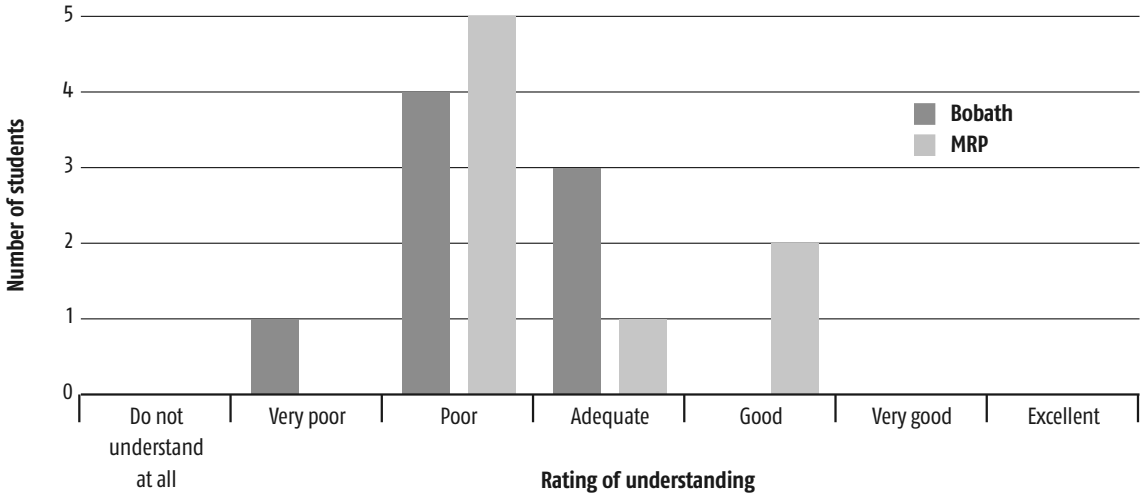

Figure 1 ***A Comparison of third year physiotherapy students rating of their understanding of the Bobath concept and MRP (Q5a and Q9a)***

CONFIDENCE

Of the eight students questioned all of them expressed that they would not feel confident in explaining and implementing the Bobath concept in practice. In direct comparison only three students, discussed not feeling confident in the explanation and use of the MRP. Two of the eight students directly stated that they would feel more confident using MRP than the Bobath concept but the reason for this difference was not detailed. However, student number 1 described both in questions 5 and 7:

> **'I would be quite confident using this approach *(MRP)*, certainly more confident than I would be using the Bobath concept'** (Q11, S1)

Another student explained their confidence of their use of the Bobath approach below.

> **'I would not feel confident in explaining the approach *(Bobath)* but could implement it to a certain extent'** (Q7, S2)

STUDENTS PREFERRED APPROACH

Of the eight students questioned seven of them (87.5%) stated that they would use an 'eclectic mix of different approaches' in the rehabilitation of stroke patients. Only one student reported that they would only use the MRP. The need to be client focused within stroke rehabilitation was identified as a strong theme regarding the student's rationale for the chosen eclectic approach. However one student's rationale for the use of an eclectic approach was based on a lack of specific knowledge.

> **'Because I do not have enough knowledge of any one approach, I would use all the little bits of knowledge I have from all different approaches'** (Q12, S8)

DEVELOPMENT OF THEORETICAL AND PRACTICAL UNDERSTANDING

The most significant component improving student's theoretical and practical understanding of the approaches was that of the clinical placement, with seven of the eight students citing this (see *Figure 2*). Only one student, regarded university lectures as the most relevant, although they did cite clinical placement within their top three. Student number 8 reported the paediatric module as a factor; however this was the only student who detailed undertaking this Year 3 elective module.

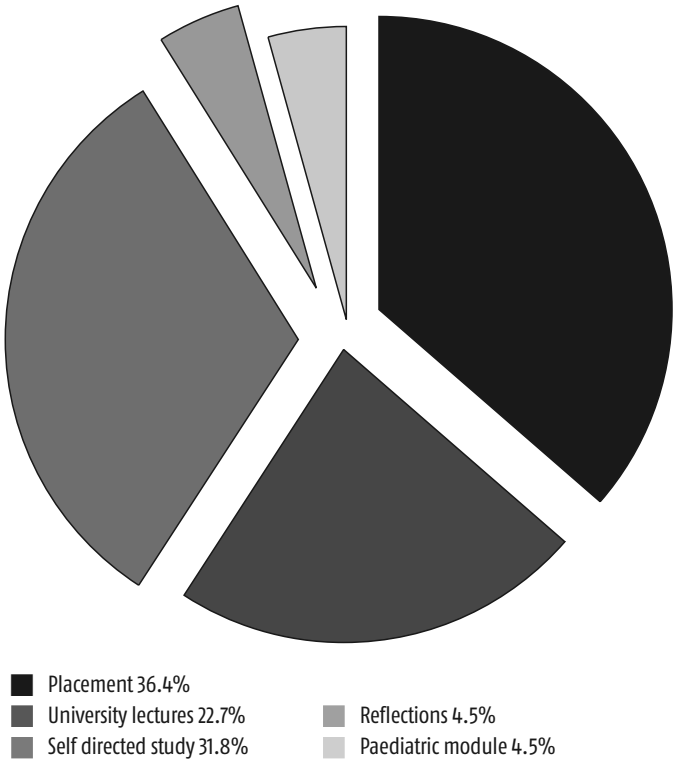

Figure 2 ***Students descriptions of elements which facilitated their understanding of the Bobath concept and MRP.***

Suggested Improvements
- Setting up online discussion boards to relate theory to practice
- More time for neurology modules
- More specific training of the approaches at undergraduate and postgraduate level
- Increased neurophysiology content of course
- More neurology specific practice placements

Table 3 ***Third year physiotherapy students suggested improvements to further develop the understanding of the Bobath concept and MRP.***

UNDERGRADUATE TRAINING

How can students understanding be improved?

Students in the study made recommendations for further enhancement of their knowledge of the Bobath and MRP. Themes encountered more than once are detailed in *Table 3*.

DISCUSSION

Overall students had a poor understanding of and a lack of confidence explaining both Bobath and MRP, which concurs with previous literature on expert physiotherapists (Lennon & Ashburn 2000; Raine 2006). Student's felt more confident in using the MRP than Bobath but overall felt their current knowledge was not adequate for a postgraduate neurology rotation.

This sample group identified what they perceive to be core principles of each approach; however those cited by the physiotherapy students were often not reflective of how these approaches are defined within recent literature.

This was most evident regarding the Bobath concept as there was only minimal correlation between what the students regard as the core principles (See *Table 2*) and how a study of BBTA members have defined Bobath (Raine 2006) (See *Table 1*). The core principles defined by the students appear to be more in line with earlier research (Lennon and Ashburn 2000) which has been criticised by Raine (2006) for the use of such definitions as 'facilitation of normal movement' and 'normalisation of tone' (Lennon & Ashburn 2000). It may be that out of date perceptions of Bobath have been transferred to the students from clinical educators or tutors who were Bobath trained some time ago (Davidson & Waters 2000).

The lack of understanding noted within this research emphasises that students may not understand the interventions behind Bobath and MRP (Lennon *et al* 2001). Often studies based on neurological approaches fail to document their interventions correctly (Wade 2005). It is suggested that this lack transparency within literature may be one reason for the student's inability to define Bobath and MRP in line with documented literature.

Which approach?

Within this study 87.5% of the students chose an eclectic approach to stroke care over any one intervention, which is reflective of the 87% cited by Davidson and Waters (2000) survey. The emerging rationale for the students chosen approach was to tailor rehabilitation to the patient and their reduced confidence in any one named approach. Watson (1999) has previously advocated a client focused approach, to improve the clinical reasoning skills of students in neurology. He suggests that by identifying problems relating to body system rather than specific theories would allow students to draw on their knowledge of other areas of physiotherapy. This would appear to be a reasonable aim in light of the diversity of the physiotherapy profession.

Within this study there was complete consensus with all students stating that they did not feel confident in their explanation and utilisation of the Bobath concept. It is not surprising that this study highlights a lower level of confidence and understanding of Bobath over the MRP as Bobath therapy is only taught at postgraduate level by the British Bobath Tutors Association (BBTA) and is not widely documented (Lennon & Ashburn 2000). This research suggests that students feel that the lack of undergraduate Bobath teaching is a barrier to their knowledge and therefore may be detrimental to the student's development and clinical decision making skills (Ryan 2003).

Controversially, some students stated not feeling confident in their explanation and use of the concepts; however they reported that they would still use the approach in practice (Q7, S1). The CSP have stipulated that physiotherapists are required to be able to describe their chosen treatment intervention fully to allow the patient to gain informed consent (CSP 2005). Therefore students carrying out the intervention based on approaches that that they cannot fully explain are putting themselves at risk of not adhering to Chartered Society of Physiotherapy (CSP), core standards of physiotherapy practice (CSP 2005). This may question whether their undergraduate training has provided them with the skills to be able to use these approaches safely as soon to be autonomous physiotherapists (CSP 2002a; CSP 2000b).

Improvements in understanding and confidence

Clinical placement was the most significant component of developing student's theoretical and practical understanding of Bobath and MRP. Students feel they require more time to be allocated to neurology training, specifically relating theory to practice. This lends support to McCluskey (2000), who concludes that understanding and confidence

can only be achieved through a good theoretical background and supervised practice of skills.

There was a high degree of consensus regarding loss of confidence in knowledge due to the length of time since they had any exposure to neurology education. Improvements may be to incorporate a refresher module within year three or as one of the students put forward, to set up an online discussion board which would encourage CPD activity.

Limitations

Responses to the qualitative elements of the questionnaire were not as in depth as was hoped and other qualitative research approaches may have yielded richer data and would be recommended for any future research on this subject.

CONCLUSIONS

The eclectic approach adopted by the students is reflective of the lack of evidence for any one singular approach (Pollock *et al* 2007). It is difficult to ascertain from this research if students used an eclectic approach to be truly client centred. It is more likely used because their lack of understanding of any one approach made it difficult to explain and gain informed consent for a specific intervention.

To ensure that students maintain their practice within Chartered Society of Physiotherapy guidance, they must be continually made aware during undergraduate training to only use interventions they feel they understand and could explain to the patient (CSP 2002b; CSP 2005).

This small scale research suggests that there may be a requirement to integrate more compulsory neurological education within year three of the physiotherapy degree. This may encourage students to revisit core areas of practice, and keep up to date with changing concepts. It may be that the complexity of neurology cannot be fully understood by the inexperienced health professional and therefore more teaching time may need to be devoted this (McCluskey 2000).

While this research has highlighted useful information regarding third year physiotherapy students' understanding, utilisation and confidence of Bobath concept and the MRP, only guarded conclusions can be made due to the small sample of students within one cohort of a selected university site and may not be representative of physiotherapy students within different university settings or with differing clinical experience.

The subject area warrants further research and it is suggested that this may take the form of a researcher blinded, two stage process of questionnaire with follow up focus group to allow true triangulation via a mixed design (Denzin & Lincoln 2005).

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APPENDICES

Appendix A

QUESTIONNAIRE

Background information

01 Please give a brief description of your previous clinical experience in neurological physiotherapy.

02 What experience have you had regarding the theoretical aspects of neurological physiotherapy?

03 Have you had any previous theoretical or clinical experience specifically in stroke rehabilitation? Please describe:

The Bobath concept

04 Please identify between three and five core principles of the Bobath Concept, with what you regard as the most relevant first.

1.
2.
3.
4.
5.

05a How would you rate your understanding of this approach?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Adequate
- ☐ Poor
- ☐ Very Poor
- ☐ Do not understand it at all

05b Why?

06a Do you feel that your understanding of the Bobath concept is adequate for a junior physiotherapy rotation?

- ☐ YES
- ☐ NO

06b Please explain:

07 How confident would you be in explaining and implementing this approach in clinical practice, specifically with stroke patients?

The Motor Relearning Programme (MRP)

08 Please identify between three and five core principles of the MRP, with what you regard as the most relevant first:

09a How would you rate your understanding of this approach?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Adequate
- ☐ Poor
- ☐ Very Poor
- ☐ Do not understand it at all

09b Why?

10a Do you feel that your understanding of the MRP is adequate for a Junior Physiotherapy rotation?

- ☐ YES
- ☐ NO

10b Please explain:

11 How confident would you be in explaining and implementing this approach in clinical practice, specifically with stroke patients?

12 Which approach would you adopt in the rehabilitation of stroke patients?

- ☐ Bobath
- ☐ Motor Relearning Programme
- ☐ Neither
- ☐ An eclectic mix of different approaches
- ☐ Other – please state

12b Why?

13 List and explain three elements, with the most significant first, that have helped to improve your theoretical and practical understanding of the Bobath concept and the MRP.

14 Do you feel that your previous neurological physiotherapy modules have provided you with an adequate understanding of the theory and practice of the:

a Bobath concept
- ☐ YES
- ☐ NO

b Motor Relearning Programme
- ☐ YES
- ☐ NO

15 What do you feel could be done to improve your understanding of the theoretical and practical application of:

a The Bobath concept?

b The Motor Relearning Programme?

Appendix B

PHYSIOTHERAPY COMPULSORY NEUROLOGY CURRICULUM

YEAR ONE
Physiotherapy management Neurological dysfunction

	CONTACT HOURS
Lectures	20
Practical/seminars/tutorials	30
Student Centred Learning	
Directed Study	50
Private study	50

Module Content
- Structure and function of the nervous system from conception to old age, normal motor control, normal movement development.
- Introduction to neurological dysfunction. Guillain Barre; peripheral nerve lesions; spinal cord injury; Parkinson's disease.
- Neurological physiotherapy, underpinning frames of reference. Models of practice.
- Treatment approaches and techniques:
  - Assessment and outcome measures.
  - Issues in evaluation of outcome.
  - Models of disability.
- Team working in neurology; the role of the physiotherapist.

YEAR TWO
Physiotherapy management Patients with complex needs

	CONTACT HOURS
Lectures	10
Practical/seminars/tutorials	30
Student Centred Learning	
Directed Study	60
Private study	50

Module Content
- Complex pathologies/disease progressions (eg amputees, ABI, pulmonary rehabilitation and multiple sclerosis)
- Complex case study analysis and evaluation, treatment planning, skills practice, objective outcome measures and assessing clinical effectiveness

YEAR THREE
Physiotherapy management Preparation for practice

	CONTACT HOURS
Lectures	20
Practical	10
Tutorials/seminars	12
Student Centred Learning	
Directed Study	60
Private study	50

Module Content
- Less predictable pathologies/disease progressions such as those seen on ITU, patients suffering from CVA and elderly patients with pathologies such as fractured neck of femur.
- Case study evaluation, treatment planning, skills practice (modifying and progressing existing skills base).
- Placement preparation including manual handling, CPD and development planning

This module also introduces students to the concepts of evidence based practice by including the appraisal and evaluation of relevant research.

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AMERICAN JOURNAL OF PHYSICAL MEDICINE AND REHABILITATION

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• Chen C-K, Hong W-H, Chu N-K, Lau Y-C, Lew HL, Tang SFT ***Effects of an anterior ankle-foot orthosis on postural stability in stroke patients with hemiplegia*** pp815-820.

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Volume 87: 12

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• Vandervelde L, Dispa D, Van den Bergh PY, Thonnard J-L ***A comparison between self-reported and observed activity limitations in adults with neuromuscular disorders*** pp1720-1723.

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Volume 90: 1

• Gracies J-M, Lugassy M, Weisz DJ, Vecchio M, Flanagan S, Simpson DM ***Botulinum toxin dilution and endplate targeting in spasticity: a double-blind controlled study*** pp9-16.

• White DK, Wagenaar RC, Ellis TD, Tickle- Degnen L ***Changes in walking activity and endurance following rehabilitation for people with Parkinson's disease*** pp43-50.

CLINICAL REHABILITATION

Volume 22: 8

• Connell LA, Lincoln NB, and Radford KA ***Somatosensory impairment after stroke: frequency of different deficits and their recovery*** pp758-767.

• de Kroon JR and MJ IJzerman ***Electrical stimulation of the upper extremity in stroke: cyclic versus EMG-triggered stimulation*** pp690-697.

• Vereeck L, FWuyts FL, Truijen S, De Valck C, and Van de Heyning PH ***The effect of early customized vestibular rehabilitation on balance after acoustic neuroma resection*** pp 698-713.

Volume 22: 10-11

• Bale M and Strand LI ***Does functional strength training of the leg in subacute stroke improve physical performance? A pilot randomized controlled trial*** pp911-921.

• Gok H, Geler-Kulcu D, Alptekin N, and Dincer G ***Efficacy of treatment with a kinaesthetic ability training device on balance and mobility after stroke: a randomized controlled study*** pp922-930.

• Koog Noh D, Young Lim J, Ik Shin H, and Jong Paik N ***The effect of aquatic therapy on postural balance and muscle strength in stroke survivors — a randomized controlled pilot trial*** pp966-976.

• Kuys SS, Brauer SG, Ada L, and Russell TG ***Immediate effect of treadmill walking practice versus overground walking practice on overground walking pattern in ambulatory stroke patients: an experimental study*** pp931-939.

• Mudge S and Stott NS ***Test–retest reliability of the StepWatch Activity Monitor outputs in individuals with chronic stroke*** pp871-877.

Smith PS and Thompson M ***Treadmill training post stroke: are there any secondary benefits? A pilot study*** pp997-1002.

Volume 22: 12

• Malhotra S, Cousins E, Ward A, Day C, Jones P, Roffe C and Pandyan A ***An investigation into the agreement between clinical, biomechanical and neurophysiological measures of spasticity*** pp1105-1115.

• Rabadi MH, Galgano M, Lynch D, Akerman M, Lesser M and Volpe BT ***A pilot study of activity-based therapy in the arm motor recovery post stroke: a randomized controlled trial*** pp1071-1082.

Volume 23: 1

• Busse M and Tyson SF ***How many body locations need to be tested when assessing sensation after stroke? An investigation of redundancy in the Rivermead Assessment of Somatosensory Performance*** pp91-95.

• Martin CL, Tan D, Bragge P, and Bialocerkowski A. ***Effectiveness of physiotherapy for adults with cerebellar dysfunction: a systematic review*** pp15-26.

• Schabrun SM and Hillier S ***Evidence for the retraining of sensation after stroke: a systematic review*** pp27-39.

Volume 23: 2

• Bovend'Eerdt TJH, Dawes H, Sackley C, Izadi H, and Wade DT ***Mental techniques during manual stretching in spasticity – a pilot randomized controlled trial*** pp137-145.

• Czernuszenko A and Czlonkowska A ***Risk factors for falls in stroke patients during inpatient rehabilitation*** pp176-188.

• Elsworth C, Dawes H, Winward C, Howells K, Collett J, Dennis A, Sackley C and Wade D ***Pedometer step counts in individuals with neurological conditions*** pp171-175.

• Oncu J, Durmaz B, and Karapolat H ***Short-term effects of aerobic exercise on functional capacity, fatigue, and quality of life in patients with post-polio syndrome*** pp155-163.

Volume 22: 3

• Casadio M, Giannoni P, Morasso P and Sanguineti V ***A proof of concept study for the integration of robot therapy with physiotherapy in the treatment of stroke patients*** pp217-228.

• Ing Ma H, Juh Hwang W and Chung Lin K ***The effects of two different auditory stimuli on functional arm movement in persons with Parkinson's Disease: a dual-task paradigm*** pp229-237.

• Nilsagård Y, Lundholm C, Denison E and Gunnarsson LG ***Predicting accidental falls in people with multiple sclerosis – a longitudinal study*** pp259-269.

• Snook EM, Motl RW, and Gliottoni RC ***The effect of walking mobility on the measurement of physical activity using accelerometry in multiple sclerosis*** pp248-258.

GAIT AND POSTURE

Volume 28, issue 3

• Delval A, Salleron J, Bourriez J, Bleuse S, Moreau C, Krystkowiak P, Defebvre L, Devos P and Duhamel A ***Kinematic angular parameters in PD: Reliability of joint angle curves and comparison with healthy subjects*** pp495-501.

• Hackney ME and Earhart GM ***Tai Chi improves balance and mobility in people with Parkinson disease*** pp456-460.

• van Nes IJW, Nienhuis B, Latour H and Geurts ACH ***Posturographic assessment of sitting balance recovery in the subacute phase of stroke*** pp507-512.

Volume 29: 1

• Robertson JVG, Pradon D, Bensmail D, Fermanian C, Bussel B and Roche N ***Relevance of botulinum toxin injection and nerve block of rectus femoris to kinematic and functional parameters of stiff knee gait in hemiplegic adults*** pp108-112.

• Givon U, Zeilig G and Achiron A ***Gait analysis in multiple sclerosis: Characterization of temporal–spatial parameters using GAITRite functional ambulation system*** pp138-142.

• Jonkers I, Delp S and Patten C ***Capacity to increase walking speed is limited by impaired hip and ankle power generation in lower functioning persons post-stroke*** pp 129-137.

• Stephenson JL, Lamontagne A and De Serres SJ ***The coordination of upper and lower limb movements during gait in healthy and stroke individuals*** pp11-16.

Volume 29: 2

• Whitney SL, Marchetti GF, Pritcher M and Furman JM ***Gaze stabilization and gait performance in vestibular dysfunction*** pp194-198.

INTERNATIONAL JOURNAL FOR REHABILITATION RESEARCH

Volume 31: 3

• Andersson, ÅG, Kamwendo K, Appelros P ***Fear of falling in stroke patients: relationship with previous falls and functional characteristics*** pp261-264.

Volume 31: 4

• Naohiko S, Hiroshi S, Kenji K, Yoshichika Y, Setsuro I, Mitsuo I ***Apathy and functional recovery following first-ever stroke***. pp321-326.

PHYSICAL THERAPY

Volume 88: 12

• Zampieri C and Di Fabio RP ***Balance and Eye Movement Training to Improve Gait in People With Progressive Supranuclear Palsy: Quasi-Randomized Clinical Trial*** pp1460-1473.

Volume 89: 1

• Kluding P and Gajewski B ***Lower-Extremity Strength Differences Predict Activity Limitations in People With Chronic Stroke*** pp 73-81.

Volume 89: 2

• Wulf G, Landers M, Lewthwaite R, and Töllner T ***External Focus Instructions Reduce Postural Instability in Individuals With Parkinson Disease*** pp162-168.

PHYSIOTHERAPY RESEARCH INTERNATIONAL

Volume 13: 4

• Hale LA, Nukada H, Du Plessis LJ, Peebles KC ***Clinical screening of autonomic dysfunction in multiple sclerosis*** pp 42 - 55.

• Piriyaprasarth P, Morris ME, Delany C, Winter A, Finch S ***Trials needed to assess knee proprioception following stroke*** pp 6 - 16.

• Van Peppen RPS, Maissan FJF, Van Genderen FR, Van Dolder R, Van Meeteren NLU ***Outcome measures in physiotherapy management of patients with stroke: a survey into self-reported use, and barriers to and facilitators for use*** pp255 - 270.

PHYSIOTHERAPY THEORY AND PRACTICE

Volume 24: 5

• Naghdi S, Nakhostin A, Noureddin A, Somayye and Kazemnejad A ***Interrater reliability of the Modified Modified Ashworth Scale (MMAS) for patients with wrist flexor muscle spasticity*** pp372-379.

• Saywell N and Taylor D ***The role of the cerebellum in procedural learning—Are there implications for physiotherapists' clinical practice?*** pp321-328.

Volume 25: 2

Langhammer B, Stanghelle,JK and Lindmark B ***An evaluation of two different exercise regimes during the first year following stroke: A randomised controlled trial*** pp55-68.

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FOCUS ON...

Gardening for hearts and minds

Using horticultural therapy to support rehabilitation and recovery for people affected by stroke

Harriet Evans BA(Hons) Project Manager

Thrive, the national charity that promotes the advantages of gardening for everyone with a disability, is encouraging more people to try gardening as part of their rehabilitation and recovery after stroke.

'A stroke at the age of 61 left me with poor balance and complete left side paralysis. After several months of inactivity, the garden beckoned, and I began to do simple tasks, progressing to more ambitious jobs as mobility improved. I kept it simple, in short sessions at first, doing longer more complicated jobs after a while.

Doing gardening means I've got my life back, all possible and achieved with the love of my carer and my garden.'

Ron is just one example from a growing band of people who have rediscovered gardening as a healthy and absorbing activity that helps them get their life back after stroke.

Funded by the Department of Health, Thrive have launched the *Just 30! Project* providing literature and training to support the use of gardening activities after stroke. With help from an advisory group including The Stroke Association as well as individuals affected by stroke, Thrive have published the *Just 30! gardening for hearts and minds* guide.

Fully illustrated, the guide provides an easy-to-use, step-by-step series of progressive gardening activities, such as seed sowing, potting-up or weeding, which can be done at home no matter what size of garden or even using just one pot or a window box. Activities in the guide are based on the 'Just 30 minutes of physical activity each day' principle and are suited to improving specific common problems such as strength and mobility.

Gardening can offer people a form of rehabilitation that:

- may already be familiar
- can be achieved at home – even in a high-rise flat
- is accessible and affordable
- can be small-scale (a window box) or more ambitious (an allotment)
- offers daily exercise with a purpose

Over 7,000 copies of the guide have already been requested by health professionals throughout England and the guide is being supported by interactive training workshops delivered by Thrive to patients and professionals in hospital rehabilitation units and outpatient support groups. Thrive are also providing advice and support to a growing number of rehabilitation units who are establishing or expanding gardening projects within hospital settings.

Case study of a horticultural therapy project based in a rehabilitation unit of an NHS hospital in Rugby

The project is run by a physiotherapy team who are using gardening to assist in the rehabilitation of patients within a hospital based unit.

The project started in April 2008 because so many patients in the rehabilitation unit enjoy gardening. It started with a simple aim to take cuttings from an existing hospital plant. These flourished and the unit went on to purchase specialised gardening tools and develop a variety of different gardening activities that patients could choose to take part in.

The senior physiotherapist in charge of the project comments:

'It doesn't matter what level of disability or impairment, patients can engage in some form of gardening activity in physiotherapy.'

The horticultural therapy project has shown that gardening can encompass a variety of different types of activities involving a variety of postures and has demonstrated a number of successful outcomes:

- it was found that people could stand for any length of time if planting and watering were involved
- walking to check out the seedlings' progress became a habit
- sensory stimulation for arms with returning movement took on a whole new selection of texture
- fine finger function was practiced with our biggest seeds
- those with mobility but little speech and limited understanding due to their dementia could be guided through a long established pattern and hence automatic task with minimal verbal instruction and we would be rewarded throughout with ear-to-ear grins
- those whose spouses had been the leaders in the garden had the opportunity to have a go themselves – often with a running commentary of triggered memories which masked how much their balance had improved whilst distracted by a specific task that required all their focus.

The participants are encouraged to take home the plants they have been involved in growing and as well as enjoying the experience they have shown improvements in the following areas:

- increased motivation
- improvements in standing balance
- postural control
- weight transference
- fine motor control
- automatic movement
- proprioception
- sensation

The project continues to go from strength to strength and has benefitted from donations of seeds, plant pots, hanging baskets, plant stands, compost, plants, time and energy.

A Senior Physiotherapist at the project comments:

'It's given us more to do, but it's added to our treatment choices. Even if we only manage to get somebody to walk outside to look at the flowers it will be giving them something many of them crave when in hospital – a change of scene that comes with its own fresh air.'

Gardening activities also deliver softer outcomes by engaging patients in an activity which can restore confidence, stimulate memory and offer shared interest with family, carers and friends. Even simple gardening activities can give people a real sense of achievement and help them progress towards 'getting my life back' through a simple daily gardening routine.

As well as assisting with recovery and rehabilitation, the workshops and the guide encourage users to participate in gardening to achieve their recommended 30 minutes of physical activity every day.

A report of the Chief Medical Officer (Department of Health, 2004) recommends 30 minutes of moderate intensity physical activity on five or more days of the week, and notes that the scientific evidence for the health benefits of physical activity are compelling.

'Thirty minutes of at least moderate intensity physical activity a day on at least five days a week significantly reduces the risk of cardiovascular disease. Physical activity also significantly reduces the risk of stroke' (Department of Health 2004).

Regular moderate gardening as a lifestyle activity can provide a high level of protection against chronic disease. It also has minimal risk of injury or other adverse health effects. Research indicates 'that lifestyle activity can be at least as effective as structured or programmed exercise at a gym or leisure centre, and may have the added benefit of increased compliance (Andersen et al 1999, Fox 2004)'.

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NEWS ACPIN

ACPIN AGM 2009

AGM minutes

The meeting opened at 12.15pm

1. **Committee members present**
   Adine Adonis, Lorraine Azam, Sandy Chambers, Louise Dunthorne, Cherry Kilbride, Jo Kileff, Siobhan MacAuley, Chris Manning, Sue Mawson, Emma Proctor, Gita Ramdharry, Anne Rodger, Louise Rogerson, Jo Tuckey, Julia Williamson
2. **Apologies**
   Linzie Bassett
3. **Minutes of AGM 2008**
   Accepted as an accurate account – proposed by Chris Manning, seconded by Louise Dunthorne
4. **Farewell adress**
   Sue Mawson
5. **President's address**
   Margaret Mayston
6. **Chairs' Address**
   Cherry Kilbride and Jo Tuckey
7. **Treasurer's Report**
   Jo Kileff. Proposal to retain the current accountant, Langers – proposed by Helle Sampson, seconded by Chris Manning
8. **Re-election of existing officers**
   Anne Rodger, Jo Kileff, Louise Dunthorne, Julia Williamson. All voted in with majority votes.
9. **Election of new officers**
   Co-opted onto the committee during the last year – Lorraine Azam and Emma Proctor. Both voted in with majority votes.
10. **Constitution**
    Amendment to the constitution as published in *Synapse* – accepted by majority vote.
11. **AOB**
    None

The meeting closed at 1.00pm

Farewell address

Prof Sue Mawson

When I was preparing to write this speech I suddenly thought I'd rather share with you some of the memorable events that have occured over the past four years and try and explain why I have so enjoyed being your President. There have been some definite challenges to this role, not least taking over from Professor Raymond Tallis four years go to the day. I truly wondered whether I could follow in the footsteps of such a great neurologist, writer and academic whether I have or haven't is not perhaps the point I tried my best and certainly managed to write for *Synapse* if not twice at least one a year! My role as President has been partly to advise the ACPIN committee on possible conference topics and speakers of distinction both nationally and internationally. A huge achievement for me was enabling Professor Shirley Stockmeyer from Boston USA to deliver a talk at conference in 2006 on Kuyper's medial and lateral systems model of motor control. Shirley has translated this into a posture and movement neuro antatomical and neurophysiological model that for me underpins so much of our rehabilitation activity in neurology.

We have also had some cold times: I remember well the conference when Gert Kwakkel came over from Holland. It was so cold here at the Hilton that I almost dropped my microphone when trying to ask Gert a question. There have been some surprises during the past years not least when Nicola Hancock gave me a glass of wine last year, the evening before conference, and said 'Sue you're good at public speaking, our final presenter has dropped out for Saturday can you do a talk instead?' The only talk I had on my memory stick was a talk about the NIHR 'Research for Patient Benefit' programme and whilst I'm passionate about this potential funding stream for physiotherapy research I didn't think it would go down to well as the last lecture of the day. Fortunately I also had my latest skiing photos so I shared those with the audience integrated into my power point, this livened it up just enough to keep people awake!

The culmination though for me was the honour of chairing the neurology strand of the CSP congress in Manchester last year, 2008. We had invited Anne Shummway-Cook, a clinician and academic whom I had admired for many years. As I introduced Ann to a huge audience I felt proud to be President of ACPIN.

Before I welcome Margaret Mayston, I'd like to tell you a story which epitomises for me the spirit of ACPIN. Last year our conference was on 'Acquired Head Injury' and Jo Tuckey gave what I thought was a hugely inspirational talk called 'Unsticking the Stuck'. My only regret was that very few of my colleagues had been able to come to conference from the Yorkshire and Trent area. I went straight back to Sheffield and asked my research colleague Anna Wilkinson to organise an evening talk for our regional ACPIN. This she did in her usual quiet and efficient way. Jo came up to deliver the talk but instead of staying the night with me she had to return directly to London due to work commitments. As I lay in bed at 11:40pm on that dark night I realised that Jo would not even have arrived home. It is this leadership and dedication to knowledge translation that epitomises both ACPIN Chairs Jo and Cherrry Kilbride and their predecessor Nicola Hancock who I had the pleasure of working with for three years. This is the dedication that all the committee have to developing and growing the legacy of ACPIN, laid down over the years by previous colleagues and distinguished Presidents. But then there's you folks the ACPIN members. That night in Sheffield was one of our worst blizzards of the winter with biting winds and deep snow. Despite this we had the largest turn out for years with over 60 people coming through the snow to listen to Jo talk. This is a clear demonstration of your commitment and dedication to your patients, trying always to improve the treatment and care you provide.

However, a word of warning, the times are going to get tougher in the years to come with the anticipated spending review in 2011 resulting in further more drastic NHS cut backs. Through these hard times you must keep your passion and dedication your spirit must not be dampened.

You have chosen well in your next President. Dr Margaret Mayston is a leading clinical specialist in neurology, researcher and teacher in her own right with many publications in the field of motor control, cerebral palsy and stroke rehabilitation. Her interests in the uses of Lycra for adult upper limb rehabilitation and tremor in patients with mirror movement prove fascinating reading. So Margaret, I welcome you as the next President of ACPIN, I offer you my most sincere best wishes and I hope that you have a great and fulfilling time too.

ACPIN Presidents past and present, with the current co-chairs. From left to right; Mary Lynch-Ellerington, Margaret Mayston, Cherry Kilbride, Sue Mawson, Jo Tuckey and Sue Edwards.

President's address

Margaret Mayston AM FCSP

Does the hat fit?

I stand next in a line of several eminent people in neurorehabilitation who have worn this hat before me and at first I was not sure that it was one which would fit me or one which I was able to wear. It was therefore with a sense of some hesitation and challenge that I contemplated whether I should accept the surprise invitation from Jo and Cherry, the co-chairpersons of ACPIN, to take on the role of President. Do I qualify for the job I asked myself? Will the hat fit? I seem to wear various hats. The clinical hat: my clinical work has mostly been in the area of paediatric neurology, although I have had a long-term interest in adult neurorehabilitation, particularly in the area of stroke. In my early days at the Bobath Centre I had the opportunity to work with people who had had a stroke with Mrs Bobath and Jennifer Bryce, who encouraged me to become an adult Bobath tutor (which I did, although it is a role I gave up long ago). So some experience there. Now to the educational hat: The MSc in Neurophysiotherapy which I coordinated at UCL until late 2007 ultimately seemed to meet the needs of adult therapists more than paediatric ones, and the evidence based course which ran successfully as part of that programme was initiated in conjunction with ACPIN after a discussion at one of these Northampton conferences. That also seemed a good qualification towards the post. The research hat? I have various interests but I have made some contribution to research into upper limb recovery after stroke, and that seemed another plus. Of course another important factor was that the people in ACPIN know how to have a good time- they are certainly not boring, and their energy and enthusiasm for neurophysiotherapy can at times be exceeded by their enthusiasm for socialising and laughter- this is very important and could be the thing that tipped the scales in favour of taking on this task! Taking all of these experiences together, plus involvement in ACPIN activities for several years, made me feel that on balance I might have something to contribute to ACPIN and its important work. I feel that we are in exciting times for neurophysiotherapy, that change is gradually taking place, that the profession is moving forward into the future in a positive and expansive way, and that ACPIN is significant contributor to that process.

ACPIN is one of the largest and most dynamic special interest groups of the Chartered Society of Physiotherapy, and is run by an exceptionally enthusiastic team of volunteers, not just nationally but in its 18 regions. This meeting is another example of their dedication to improving knowledge and clinical practice for their members, ultimately to the benefit of many recipients of their services in the UK. It is therefore an honour and a privilege to take on this role as your President and I hope that I can make a positive contribution to the work of the group.

Neurophysiotherapy has always been a fascinating and challenging area of physiotherapy to be part of, but as time goes on it becomes more so- knowledge increases, therapy options broaden and experimental evidence for what we do is gradually emerging. Now that therapy strategies are broadening, perhaps more thought needs to be given to specific aspects of what it is the therapist does that might make a difference to the people we work with. The idea of protocols might be alarming to some, but it will enable better definition of what we do as therapists and a basis for developing useful studies of efficacy. We have some good examples of this today in the excellent presentations by Cathy Donaldson and Amanda Wallace.

So what can I contribute? I may not be working in the mainstream NHS and spend most of my time in education, but I am passionate about finding a way to achieve client-centred scientific-based practice. I fully support the multi-faceted approach to evidence based practice which encompasses knowledge, therapy expertise, and client preference, in addition to experimental evidence. We are gradually moving towards a clearer view of what we do and need to do, and several of today's presentations are indicative of that. It will require continued lateral thinking and searching of what we do and how we do it, to reach into the future and to further develop as professionals and as a group, and it will take all of us.

I love hats – so I would like to suggest that we all might practice wearing the hats of co-operative exploration, as devised by Edward de Bono- the master of lateral thinking- in 1985 (see de Bono E, 2004, *How to have a Beautiful Mind?* Chapter 8 Vermilion, London.) So to make this a little less boring – Presidents' addresses have a tendency to be a bit like that – I will illustrate these different hats using some hat pictures. Where would you go to find pictures of hats? Although she is much forgotten and thought of in different ways by different people, Princess Diana had a fabulous collection of clothes and hats, which I will use as examples. The idea is that we put on our thinking cap, a coloured hat, that we all take on the same hat at the same time and fully explore the different aspects of any given situation or experience, which is related to Sarah Blanton's challenge to us today to embrace the concept of reflective practice.

1. The white hat This means information; what do we know? What do we need to know? What is missing? What question should we ask? How might we get the information we need? It is not about looking at the information that fits your own view-

Jo Tuckey introduces the present ACPIN National Commitee. From left to right (not all members shown in photograph): Gita Ramdharry (*CIG Liaison Representative*); Chris Manning (*Committee Member and iCSP*); Adine Adonis (*Hon PRO*); Sandy Chambers (*Hon Membership Secretary*); Louise Dunthorne (*Synapse Editor*); Emma Procter (*Committee Member*); Anne Rodger (*Hon Secretary*).

point but looking beyond that to the bigger picture. This is the hat that we often wear, or should be wearing, in neurophysiotherapy- it is the one which we come wearing today. We want to know more about how we might achieve better outcomes for our clients in the area of upper limb functioning.

2. The red hat This hat represents emotions, feelings and intuition. Often what we do and think in neurophysiotherapy is based on the red hat. De Bono points out that feelings exist and they should be expressed- even if the reasons behind them are not clearly known (de Bono 2004*). Intuition he says is a complex judgement – and can often be right, though not always. It is however a useful ingredient – how often do good ideas come out of intuition? Sometimes intuition is the only ingredient that we might have.

3. The black hat is seen as the hat of critical thinking. There is a huge need for critical thinking in neurophysiotherapy – of what we do, what we read, and where we are going. De Bono sees this as the excellent hat and possibly the most useful. It is about risk assessment, identifying areas of caution and difficulty. It covers all the caution aspects. Does this fit our strategy and objectives? Does this fit our resources? The latter is an important question in the current financial climate. We may have some great ideas for therapy but they might not be financially viable or may need modification in some way to be made available.

4. The yellow hat This is looking at why something should work, the value of the idea. Perhaps someone is against an idea that has been proposed- under the black hat all the dangers and disadvantages will be aired, but under the yellow hat people are all challenged to look for value – how often are we so much better at seeing the negatives rather than the positives?

5. The green hat flows on from the yellow hat in some ways. This is about creativity – a much needed element in our thinking and therapy. Instead of attacking an idea we get behind it – we might even find ideas we never dreamt of. They might be logical and probable or err on the side of fantasy! In research it is the latter which often trigger the most interesting investigations. Today we have seen good evidence of green hat ideas.

6. The last hat is the blue hat it is the organiser hat – it decides the focus at the start and the decisions at the end, and involves everyone in suggestions and decisions. What are we here for? Where are we headed? What is the end goal? And then putting together the summary of what has been achieved- or if there is no conclusion, then deciding on what needs to be done to get there. It is then the role of the chair person to make the final decision.

The hats can be used in any order you like or even individually depending on the need, but they can ensure that everyone uses their thinking to the full to explore the subject at hand. I look forward to many meetings and discussions of different colours over the term of my presidency, and I thank you again for the honour you bestow upon me in the invitation to take on this role. ACPIN is a group which all of us should be extremely proud of!

* de Bono E (2004) *How to have a beautiful mind* Chapter 8 Vermilion, London.

Chairs' address

Cherry Kilbride and Jo Tuckey

ACPIN is one of the largest special interest groups of the CSP and is ever grateful to the many people who continue to help and support the development of neurological physiotherapy in the UK.

Even though we risk the next five minutes sounding like the award ceremony at the 'Oscars' we cannot proceed further today without taking a moment to formally give recognition and thanks to a number of people...

Firstly, thanks have to go to you, the membership, because without you we wouldn't be here. ACPIN only continues to go from strength to strength because of the active membership – which is clearly in evidence by the full room today.

They say 'once an ACPIN member always an ACPIN member', well Dr Mary Cramp is a prime example because even though she officially stepped down from duties sometime ago she continues to work hard behind the scenes with our current membership secretary Sandy Chambers. A big thank you Mary.

Collaborative work with other

organisations is fundamental to the overall ethos of ACPIN and our connections stretch far and wide thanks to the individual contributions of our members.

For instance:

- Professor Ann Ashburn has for a number of years represented ACPIN on the UK Stroke Forum, late last year she passed on the mantle to Dr Fiona Jones. Thanks to both of you.
- Dr Sheila Lennon has been a Trojan in her work with the CSP and ACPIN with the *National Clinical Guidelines for Stroke* and after ten years has stepped down. I am sure this thanks from ACPIN is said on behalf of many a person with stroke who has benefited from her work. Thankfully for ACPIN, our past Chair Nicola Hancock continues to fly the flag.
- Bhanu Ramaswamy is as active as ever in her tireless work in the area of Parkinson's Disease, thank you for continuing to represent ACPIN.

Thanks also goes to Steve Ashford for his contribution on behalf of ACPIN towards the new Botulinum Toxin guidelines. We have a new recruit in Adrian Capp who has been kind enough to represent ACPIN in the National Cancer Action Team with particular reference to neuro-oncology.

As always there is never enough time to cover everything in an AGM timeslot but please be rest assured ACPIN is very appreciative to each and everyone of you who gives their time to ACPIN activities however big or small, it all counts towards the team effort. We look forward to another packed year!

Treasurer's report

Jo Kileff

I will now present a summary of the financial accounts for National ACPIN for the year end 31st December 2008.

The total income (*Figure 1*) was £69,780, an increase of £22,558. This was mainly due to a substantially increased income from the Spring conference. The previous year's conference had been run at a loss in order to put some of the monies back into the membership. Such a large profit wasn't planned for 2008, but with increased hotel costs and an international speaker, plus new database expenses anticipated, we had to be sure to more than cover these costs. Next year our conference will be a two day residential, where we are hoping to have at least one international speaker. Traditionally two day courses have been harder to break even on, and so the excess from this year will allow us to comfortably organise next year's conference.

Expenditure (*Figure 2*) for 2008 was up by £5,932 compared to 2007. This was primarily due to the change in membership renewals, with the setup of a database and the start of the direct debit scheme for our members. This has been a large and costly job in setting up, but will hopefully reduce time and money in the future. A big thank-you must go to Mary Cramp and Jo Tuckey who have invested endless amounts of time and effort in ensuring this has been successfully completed. We can already see a reduction in administration costs, both from no longer having a database coordinator and needing less input for banking from our accountants. There were also decreases in the cost of producing and distributing *Synapse*, and in our travel expenses, but an increase in computing expenses and other administration costs.

Costs for 2008 continue to arise from the UK Stroke Forum. ACPIN have a representative on this forum and fund 2 committee members to attend the annual conference with a view to holding programmes at this event in future years.

Figure 3 divides the course income and expenditure up for the conference that ACPIN held this year. The profit made at this conference will be put back into the membership as discussed earlier.

The balance sheet (*Figure 4*) on the 31st December 2008 showed a profit of £21,679 and we were able to carry forward reserves of £78,551 into 2008.

	2008	2007
	£	£
Course fees	**31,940**	8,925
Membership	**33,923**	33,653
Capitation	**2,130**	2,698
Synapse	**110**	110
Database	**295**	117
Bank interest	**1,382**	1,659
Total	**69,780**	47,222

Figure 1 ***Income***

	2008	2007
	£	£
Courses	**22,508**	11,333
Synapse	**6,034**	7,454
Travel	**6,177**	7,182
Administration	**2,922**	7,163
Capitation	**5,060**	5,272
Computer costs	**2,832**	1,561
UK Stroke Forum/ Stroke guidelines	**261**	306
Accounts, bank sundry	**1,543**	1,898
Total	**48,101**	42,169

Figure 2 ***Expenditure***

2008	Income	**Expenditure**
	£	**£**
March conference	31,940	**21,713**

Figure 3 ***Courses***

	£
Reserves brought forward	**56,872**
Surplus/deficit	**21,679**
Reserves carried forward	**78,551**

Figure 4 ***Reserves***

Copies of Accounts 2008

Full copies of the ACPIN accounts are available on request

Vote for Accountants

Vote to retain the current accountants for 2009: Langers, 8-10 Gatley Road, Cheadle, Cheshire, SK8 1PY.

Congress – a reflection

by Siobhan MacAuley

Congress 2008 seems like a distant memory now, but a great one! The overall turnout was fantastic with over 1,300 delegates with approximately 400 for the neurology strand. Anne Shumway Cook was a resounding success and for anyone who missed hearing her she is on the DVD that came with January *Frontline* and also you will be able to read a little about her in *Five minutes with…* on page 31 of this edition of *Synapse*.

The section on MS was very timely as the following week Professor Alastair Compston hit all the national headlines with his research on alumtuzamab and the positive effects that it has on those with early MS symptoms. His talk was followed by Jenny Freeman who presented a very thorough resumé of the research into physiotherapy and MS. Professor Domhnall MacAuley, one of the editors of the BMJ, tried to encourage us all to get publishing. We had the national guidelines for stroke presented by Nicola Hancock straight off the press, and lean ways of working by Jakko Brouwers. Margaret Mayston and Paulette van Vliet kept us up to date on all their research and gave us lots of pointers for translating into clinical practice. Marion Main presented on neuromuscular disorders and also the need for transition clinics from children through adults. The oncology group were also contributors to the neuro strand and there were two presentations from Diz Hackman and Jacquelyne Todd on recovery following brain tumour and reintegration back into the community. The standard of platform presentations was extremely high and as each speaker had 20 minutes we managed to cover a lot of topics. The posters were superb but unfortunately due to the location maybe didn't get shown off to their advantage. The only downside was that as the turnout for neurology was so good we unfortunately had to turn a few away from the halls after the start of some of the lectures as the space was full although with the screens showing the speakers in the lobby at least those delegates still got to listen to the talks.

Well having said never again on a number of occasions throughout the preparations for 2008, I find myself busily emailing and inviting speakers for Congress 2009 and finding it so exciting when they can come. The congress will have the six main strands, similar to last year of musculoskeletal, cardio respiratory, health and well being, and neurology with cross cutting themes relating to management, education etc. This year, in preparations for the Olympics, there will also be a focus on 2012 and Sir Matthew Pinsent CBE will present the founders lecture. The big draw for neurology this year will be Louise Ada, coming all the way from Australia. We will follow last years format with her keynote lecture on the Friday followed by another presentation on the Saturday on her more recent work. Professor Michael Barnes will speak on spasticity management and this will be complemented by Stephen Ashford who is currently working on the spasticity guidelines which will be published by then. Sue Edwards will update us on the medico-legal issues relating to neurophysiotherapy. Doreen McClurg will present her recent work on bladder and bowel management in the neurology patient, often an area managed rather than treated. Louise Rogerson will present 'What the commissioners want' which will be so useful in these credit-crunch times to ensure that as neurophysiotherapists we can present the best case for limited resources. There is also time allocated for the platform speakers, which will be ten 15-minute presentations.

The above were all the confirmed speakers as *Synapse* was going to press with a few more just waiting to get back to me, however by the time you are reading this they should be confirmed – so check the CSP or ACPIN websites. I am looking forward to seeing you all there! Sign up early for the early bird prices at: www.cspcongress.co.uk

The Committee would like to take this opportunity to thank Siobahn who worked tremendously hard on behalf of ACPIN in the preparation of the programme and on the organisation of the event itself.

CPD/Events working group

At the last sub group meeting finishing touches were agreed for the 2009 AGM and upper limb conference. Additionally the list of speakers were discussed/proposed for the neurology strand of this years CSP Congress in Liverpool which is once again being organised by Siobhan Macauley. We were delighted that Louise Ada had agreed to be our keynote speaker at the event, which prompted us to consider inviting another international speaker to the 2010 ACPIN AGM and conference. It is planned that the 2010 event will be residential but the topic has yet to be decided.

Details of all events will be advertised on the ACPIN website www.acpin.net

Synapse/Research working group

This is the updated version of the Clinical Audit subgroup, with the remit of sharing the responsibility of gathering material for *Synapse*. We always receive positive feedback on our twice yearly publication, and it is due to the quality of the material submitted by ACPIN members. It is vital that we encourage all our members to keep their eyes and ears open to any relevant material that would be of interest to our readers; book, course and article reviews are always well received, and are taking place throughout our membership on a regular basis. Why not send a couple through? You could see your name in print! Please send all pieces to louisedunthorne@tiscali.co.uk

For the research people amongst us, don't forget about our research bursery, full details can be found on the ACPIN website www.acpin.net

International Neurosciences Physical Therapy Association (INPA)

Fiona Jones and Cherry Kilbride on behalf and for ACPIN

The impact and *prevalence* of neurological disorders across the world is immense. Globally, it is projected that diseases of the nervous system will lead to the loss of 103 million disability-adjusted life years (DALYs) by the year 2030 (World Health Organisation (WHO), 2006). The burden is not only in monitory terms but the effects on individuals, families and communities across the world can be incalculable. Hence the prevention, treatment and management of neurological conditions is a shared health objective across the world and WHO (*ibid*) recognises that rehabilitation is a key aspect of the strategy in the fight to decrease this global burden.

Neurological physiotherapists are core to the rehabilitation process and if efforts across the globe are to be maximised an international coordinated approach is required. To be able to share our good practice and ideas, could also reduce unnecessary efforts to find information or indeed limit duplication in developing specific guidelines. To this end, the International Neurosciences Physical Therapy Association (INPA) was founded at the World Confederation of Physical Therapy (WCPT) 15th International Congress in Vancouver in June 2007. INPA *aims* to represent national groups of physiotherapists/physical therapists with a specialist interest in neurology and neuroscience (in the UK's case this is ACPIN). INPA aims to support national organisations and individual physiotherapists with an interest in advancing the scope and practice of neurological physiotherapy by supporting and facilitating research, education, evidence based practice, clinical specialisation and promotion of partnerships with clients and carers. As it stands INPA has a network of physical therapists that connects across Europe, The Americas, Africa, Asia and Australasia.

In order to strengthen and formalise the structure of INPA, and

thus help it become a recognised international voice for neuroscience physiotherapy an application to become a subgroup of the WCPT will be made at the 16th WCPT Congress in 2011 in Amsterdam. In the interim a lot of hard work will be going on behind the scenes to get the necessary documents and agreements in place but ACPIN thinks it will be worth the effort and hopes that the membership agrees!

Reference
World Health Organisation (2006) *Neurological disorders: public health challenges* WHO Press, Switzerland. Also available online: www.who.int/mental_health/neurology/introduction_neuro_disorders_public_h_challenges.pdf

Website working group

Thank you for all your contributions/comments regarding the website.

We have now completed a review and update of the website content and made some changes to the way some of the pages look – please do go and have a look and let us know what you think!

We have also devised a regional representative reporting template for people to feedback on, this makes it easier to have uniform information and course details. Reps can find this on iCSP under the ACPIN exec page.

If you have any more suggestions, please let us know.

NEWS GENERAL

Spinal Injuries Association

Peter G Hutchings, Community Peer Support Officer, SIA

The Spinal Injuries Association, (SIA) has recently launched two new services, a training programme and a Community Peer Support programme.

The SIA was founded in 1974 as a support organisation for the increasing numbers of people who were living with spinal cord injury. Based in Milton Keynes, the SIA is now the national charity for people living with spinal cord injury in the UK. We provide information, services, publications and support to enable people living with spinal cord injury to enjoy a full and independent life.

SIA's *Perspectives* is delivered by a person with a spinal cord injury. The training programme covers an introduction to spinal cord injury; the work of SIA and the responsibilities of community healthcare professionals when supporting people with a spinal cord injury. SIA training courses are held regionally and in Milton Keynes at the SIA office where a training day also includes a tour of the building to demonstrate how universal accessibility allows disabled people independence in the workplace. Since the *Perspectives* training programme started, a selection of training presentations has included; talks to university physiotherapy students, two hospital training days one in Bury St Edmunds and one in Stockport and two training presentations to community healthcare seminar days in Liverpool and Conwy.

Over the coming months, SIA will be looking to deliver more *Perspectives* training courses. All of the *Perspectives* training is evaluated and encouragingly, the feedback has been excellent with professionals commenting how refreshing it is to hear the user's perspective and personal stories.

In addition, SIA has developed a Community Peer Support role. Community Peer Support is about addressing the needs of those newly injured people who are unable to access the services of their nearest specialist spinal injury centre. SIA is starting by focusing efforts in the south of the UK with future plans to extend the service nationwide.

Peter Hutchings explains, 'From our own experience of spinal cord injury, our role is to support and encourage, not only the injured person, but also their family. We also aim to make healthcare professionals, in hospital and community settings, aware of the specialist nature of spinal cord injury and we encourage them to make contact as early as possible with the nearest spinal injury centre for advice and hopefully, an early admission for the patient.'

Since the Community Peer Support project started, SIA has made visits to district general hospitals and rehabilitation centres, talking to healthcare professionals. Just as important, SIA has contacted and supported a significant number of newly injured people and their families. The response to visits has been fantastic with the interest and enthusiasm shown in the Community Peer Support service from non-specialist healthcare staff immensely satisfying. Outside of the spinal injury centres patients and their families have demonstrated a thirst for any help and information that SIA can provide.

For anybody wanting to learn more about SIA *Perspectives* and Community Peer Support, SIA has brochures available from SIA House. Information is also available to download from the SIA website, www.spinal.co.uk

Alternatively, if you or anyone you know is interested in receiving SIA *Perspectives* training or a Community Peer Support visit, please contact Jonathan Fogerty on 07923 594761 or at j.fogerty@spinal.co.uk or Peter Hutchings on 07593 538126 or at p.hutchhings@spinal.co.uk

Stroke Matters

Stroke Matters, The Stroke Association quarterly e-publication for professionals with an interest in stroke was launched at the UK Stroke Forum in December 2008. The publication promises to deliver interesting and accurate news on stroke issues, carefully selected by an expert multidisciplinary editorial board comprising of leading stroke specialists. Stroke Matters covers: stroke policy and practice, the latest stroke research, upcoming conferences and news from The Stroke Association. The second issue is now available.

To subscribe for free, please email your contact details and profession to strokematters@stroke.org.uk

Spasticity in adults: management using botulinum toxin
National guidelines

These new guidelines published by the Royal College of Physicians (ACPIN were involved in the development), provide clinicians with the knowledge and tools to use BT effectively. If used according to the guidance, BT can improve the lives of those suffering from spasticity and of those caring for them, as well as reducing the overall costs of ongoing care.

The guidance is essential reading for all clinicians dealing with stroke patients, people with multiple sclerosis and patients with severe traumatic brain injury.

The guide costs £20.00. For more information and to purchase online please visit: www.rcplondon.ac.uk/pubs/brochure.aspx?e=272

SHARING GOOD PRACTICE

Thrombolysis and hyper-acute stroke care

a new role for extended scope practitioners

Chris Gedge Specialist physiotherapist extended scope practitioner, Stroke Services Medway PCT

'Bleep bleep…'
'Hello you're bleeping the Stroke Team.'
'Hi it's Charge Nurse in A&E we have a suspected Stroke patient with a positive fast test age 60 ETA eight minutes.'
'OK I'll be straight around to assess.'

Ahhh! eight minutes that's barely enough time for the adrenaline to circulate around my body and for me to get it together. To Thrombolyse or not to Thrombolyse that is the question!

My name is Chris Gedge and I currently work as an extended scope practitioner, the context being Thrombolysis and Hyper Acute Stroke Care, Stroke Services at Medway Maritime Hospital in Gillingham Kent. This article aims to highlight my role and experiences but also to identify a possible developmental role for any interested reader.

As well as providing physiotherapy for patients admitted to the Acute Stroke Unit, I work as part of a highly specialist multidisciplinary team providing a thrombolysis service, holding the 'Thrombolysis Bleep' from 8.00am to 8.00pm, five days a week. The team consists of four specialist stroke nurses, a specialist occupational therapist and myself a specialist physiotherapist.

By carrying the 'Thrombolysis Bleep' we are immediately alerted to patients coming into A&E with a suspected stroke or TIA and can respond urgently to assess and treat these patients, potentially saving lives and reducing long-term disability. As part of this role we provide expert clinical assessment of the patients presenting problems using nationally recognised assessment tools including the ROSIA (Recognition of Stroke in A&E), NIHSS (National Institute of Health Stroke Scale) and MRS (Modified Rankin Scale) and also obtain previous medical history including risk factors for stroke. Based on this assessment we are identifying the patients suitability for thrombolysis with Alteplase – a clot busting drug.

Chapter 2 of the National Stroke Strategy is entitled *Time is Brain* and this is very much the case as for thrombolysis to be successful it has to be given within three hours of onset of the symptoms, so a timely accurate assessment is essential. Other inclusion criteria exist including the patient being under the age of 80 and an intracerebral haemorrhage being ruled out. Consequently we have immediate access to imaging (CT head scans) and carotid doppler ultrasound scans, which I am trained to request.

In the case of thrombolysis our stroke consultant would be urgently contacted to attend A&E and the patient be 'presented' to him, and we jointly reviewing the scans and assessments. He has the final say on the use of the drug and would give the initial bolus – a syringe driver would be set up for the remainder. Alongside all of this we are working frantically with the A&E nurses performing neuro-observations, ECG's, taking bloods and blood sugars to build up the full assessment profile, before transference to the Acute Stroke Unit for close monitoring.

Not everyone is eligible for thrombolysis but they still benefit from direct entry to specialist acute stroke services, so therefore we have the powers to admit patients directly to the acute unit through liaison with the bed coordinators and Acute Stroke Unit Sister. The National Stroke Strategy and Royal College of Physicians advocate that patient outcomes are better if care is received on a dedicated Stroke Unit so we endeavour to get them there.

Our role does not stop here. We are then in consultation with the medical doctors for official doctors clerking (unless seen in A&E by the consultant!) and then we breathe! Our entire team are also DTN's – dysphagia trained nurses, so are able to competently screen a patients swallow and make the best recommendations regarding safe eating and drinking.

Once admitted to the ward the entire multidisciplinary team: physiotherapist, OT, SALT, dietetics, nurses are alerted to the patients arrival, whereby specialist assessment and treatment planning can commence – this is where I put my physiotherapy hat on!

This whole process enables direct patient access onto the Stroke Care Pathway, giving them the best possible care at the right time in the right place, with the best chance for a successful outcome.

I have been in this role for a year now. It evolved from my keen interest in acute stroke care and me volunteering to help deliver an important service that initially consisted of one stroke nurse consultant and two specialist stroke nurses. It is my honest opinion that as 'stroke physio's' we have the necessary skills to identify whether a patient has had a stroke as we are assessing and treating them day in day out, so why not do it in A&E?

Training has been quite extensive including training on ionising radiation, online training and tests for the assessment scales, DTN training and observed assessments with the speech therapists as well as observed assessments and work based competencies with the stroke nurse consultant and specialist nurse. This however should not put you off. As well as making a positive difference to a patients potential outcome it has enhanced my skills as a neurological physiotherapist. Assessment in A&E can often be challenging as lots of conditions mimic stroke eg seizures or hypoglycaemic attacks, so differential diagnosis skills are essential and greatly enhanced through use.

Currently we provide a hyper acute service 8.00am to 8.00pm, seven days a week with thrombolysis available 8.00am to 8.00pm Monday to Friday. We operate a rota system for 24hour, seven day thrombolysis as part of a Kent Stroke Network with other hospitals in West Kent. Our vision for the future is to provide this 24-7 service in house. Personal development wise I am looking into IV training to take bloods and set up the thrombolysis infusion as well as further ECG training.

As a physiotherapist experiencing this new role I would say it is highly rewarding and know that others in my profession have vital skills to contribute and encourage them to get involved.

Correspondence
Christopher.Gedge@nhs.net

FIVE MINUTES WITH...

Anne Shumway-Cook

What and who have been key influences on your clinical practice?

My research, and the research of others, related to balance control has been the greatest influence on my clinical practice. The people who have been key influences on both my research and my practice are Lewis Nashner PhD and Marjorie Woollacott PhD. These outstanding balance control researchers encouraged and mentored me in my early research efforts; they have continued to support me both professionally and personally, and have had a profound influence on both my research and clinical practice.

If you were to give a newly qualified physiotherapist one small piece of advice today what would it be?

I believe strongly in the importance of research as a key to shaping and guiding clinical practice. My advice to new therapists is to try and find the time and energy to stay connected to the research in our field. The only way to practice 'evidence based physiotherapy' is to stay connected to the evidence, and this is not easy given the demands of clinical practice. Start with a personal commitment to read emerging research. Consider establishing an informal journal/case study group with the people you work with to discuss current research and the implications of that research to a specific patient case study from your practice.

What research that you have been associated with do you think has the potential to have the greatest clinical impact?

Though I have not been involved directly in studies in this area, I believe the research on activity dependent neuroplasticity of the brain has the greatest potential to impact neurophysiotherapy.

What do you think the future holds for neurophysiotherapy internationally?

I am not sure I can predict what the future holds for any of us! My hope is that neurophysiotherapists will continue to develop best practices by integrating emerging research into clinical practice. In addition, I would love to see neurophysiotherapists collaborating with researchers examining new approaches to facilitating neuroplasticity in persons with CNS pathology. With the growing realization that activity can potentially enhance neuroplasticity, therapists can play a crucial role in defining the critical attributes of activity that facilitates recovery of function following neural pathology.

What would be on your wish list for the future?

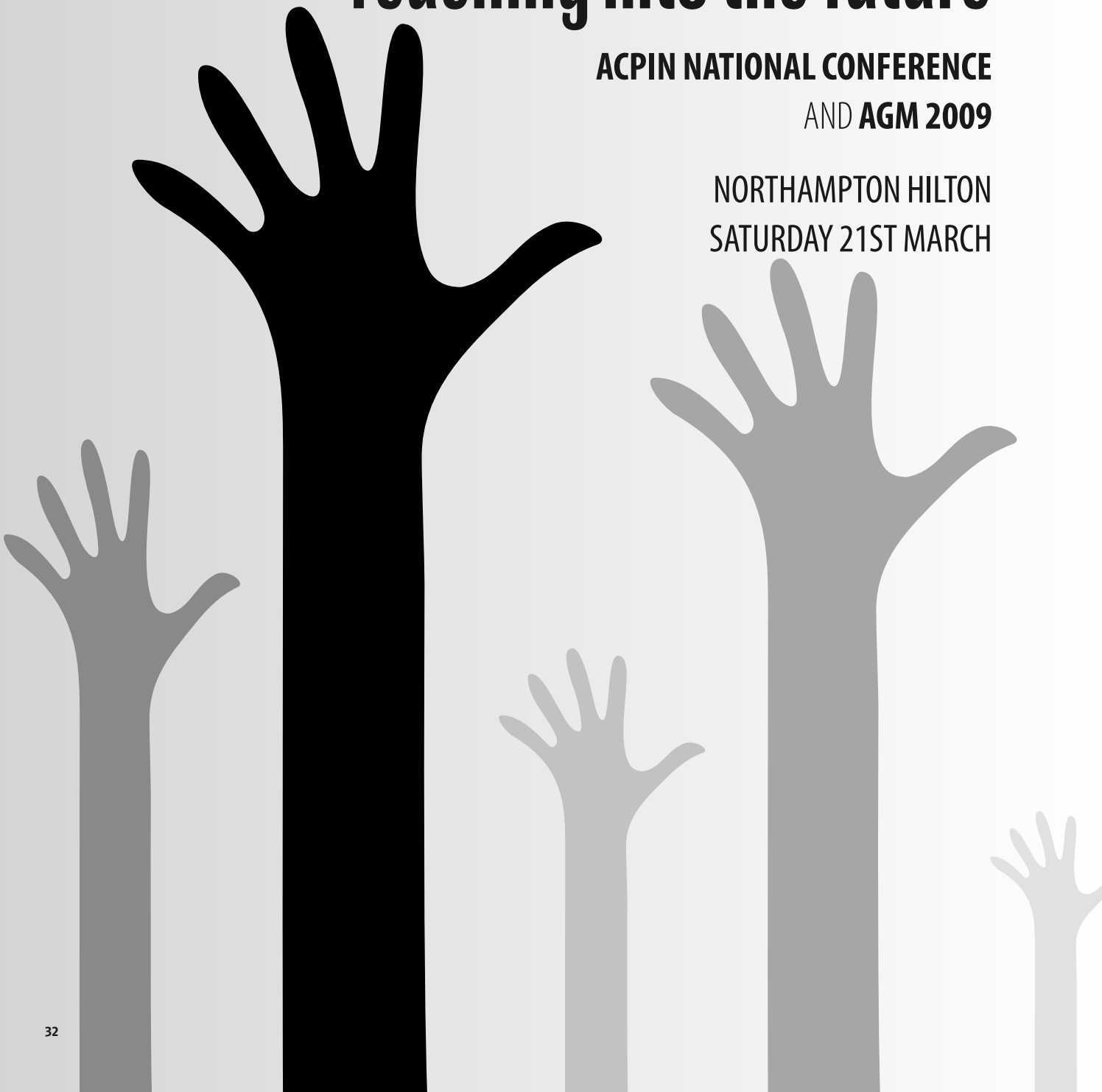
World peace, an end to poverty, universal health care and economic prosperity for all nations (well you did not specify that my wish list had to be related to physiotherapy!)

The upper limb

reaching into the future

ACPIN NATIONAL CONFERENCE
AND **AGM 2009**

NORTHAMPTON HILTON
SATURDAY 21ST MARCH



Through a glass darkly:
the role of the reflective practitioner in the clinic and in research

Dr Sarah Blanton Assistant Professor, Emory University School of Medicine

While exploring the characteristics of expert practice in physical therapy, the role of the reflective practitioner will be discussed, in both the clinic and in research.

A special focus will be placed upon the clinician's role in evidenced based practice, including our ethical responsibility to be aware of current research, our clinical responsibility to effectively critique research as it may apply to our individual patients and fostering a sense of empowerment to play a part in developing research questions and helping to truly define 'what it is that we do' in physical therapy.

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BIOGRAPHY

Dr Sarah Blanton is an assistant professor of rehabilitation medicine at Emory University School of Medicine, Division of Physical Therapy and the manager of the Emory Constraint Induced Therapy clinic. She has been a project coordinator for two multi-site, NIH-funded national clinical trials – the EXCITE (Extremity Constraint Induced Therapy Evaluation) RCT and currently the ICARE (Interdisciplinary Collaborative Arm Rehabilitation Evaluation) RCT. She graduated from the University of Virginia in 1987 with a BA degree in biology, from Emory University in 1992 with her masters in physical therapy and received her clinical doctorate in physical therapy in 2003. She has a specialty certification in neurology through the American Board of Physical Therapy. She spent nine years working as a staff physical therapist at the Emory Center for Rehabilitation Medicine, primarily in the inpatient neurology unit. Currently she is the principal investigator of the Family Centered Care of Stroke Survivors and Caregivers to Facilitate Health Related Quality of Life Assessment and Treatment Study. She is author of several peer-reviewed articles, co-author of two book chapters and serves as manuscript reviewer for *Stroke*, *Physical Therapy*, *Journal of Neurological Physical Therapy* and *Archives of Physical Medicine and Rehabilitation*.

Researching upper limb interventions:
capturing and comparing current and novel interventions

Dr Catherine Donaldson Clinical Specialist for Neurology and Elderly Rehabilitation, Surrey PCT

Scientific evidence suggests that functional strength training might have a better effect than conventional physiotherapy on motor recovery of the upper limb after stroke. Evaluation to date has been hampered by the lack of description of current therapy, and therefore its replication.

A standardised treatment recording form for conventional physiotherapy used for the paretic upper limb was therefore developed and the reliability and validity of the form determined. The form was developed from interviews and focus groups with neurophysiotherapists and piloted in clinical practice. It consists of a one page recording form and an explanatory booklet.

The validity of the recording form was tested by a panel of 14 therapists who completed a visual analogue scale (0-100mm) to indicate how accurately it recorded their treatments. The mean score was 79/100 (95% CI = 74-84). Intra-rater reliability was tested by therapists completing the recording form from videotapes of their own treatments, watched on two separate occasions. The overall agreement was 'almost perfect' – Kappa coefficient = 0.81 ($p<0.001$).

This recording form was used in a randomised, observer-blind, pilot trial comparing the effects of conventional physiotherapy at different intensities (standardised using the recording form) and FST, in 30 subjects. After six weeks of treatment, trends for improvement were found for FST for functional ability (action research arm test), dexterity (nine-hole peg test) and muscle strength. The results can now be used to inform the design of a future Phase III trial.

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BIOGRAPHY

Dr Cathy Donaldson trained at Glasgow Caledonian University in the MSc Rehabilitation Science Programme after attaining an earlier BSc in Anatomy at Edinburgh University. She completed both her junior rotations and senior II rotations in the neurosciences at St George's Hospital in London, including a part-time research post. In 2004 she began three years of full-time research at St George's, University of London working with Professors Val Pomeroy and Ray Tallis. This culminated in a PhD entitled *An Investigation of Conventional Physiotherapy and Functional Strength Training for Rehabilitation of the Upper Limb after Stroke*. After a break for maternity leave she now works part-time as a Clinical Specialist for Neuro and Elderly Rehabilitation for Surrey PCT.

Ongoing rehabilitation for the upper limb

in stable stroke patients: the role of Theta Burst Stimulation (TBS) as an add-on treatment

Amanda Wallace Research physiotherapist, Sobell department of motor neuroscience and movement disorders

This is an ongoing double-blind placebo controlled trial aiming to assess the benefits of adding TBS onto a two week physiotherapy protocol for the hand in chronic stroke patients. We will discuss the physiotherapy treatment protocol and present some preliminary results.

Background A single application of non-invasive brain stimulation, used to increase the excitability of the motor areas in the stroke hemisphere (SH) or to suppress interference from the intact hemisphere (IH), can transiently improve hand function in chronic stroke patients. However, it remains unknown whether such transient gains can be translated into long-lasting clinically meaningful improvement.

Design/methods 45 stroke patients will be randomized to receive excitatory TBS on the SH, inhibitory TBS on the IH, or sham TBS, followed by one hour of physiotherapy daily for ten days. The physiotherapy protocol provides intensive, standardised physiotherapy that is based on evidence in the literature for effective therapy interventions and uses a combination of muscle stretches, strength training and functional task practice exercises that are adjusted for each individual depending on their ability at baseline. The intensity and dose of physiotherapy intervention is thus kept similar despite differences between subjects. Hand function is assessed at baseline (pre), and three days (post1), 30 days (post 2) and 90 days (post3) after the treatment period ends using the Jebsen Taylor Hand Function Test (JTT), the 9-Hole Peg Test (9HPT) and strength measures.

Results Here we report preliminary results on the clinical outcomes in 16 patients studied so far. Ten have received real TBS (excitatoryTBS = 4, inhibitoryTBS = 6). Baseline scores were stable and not different among the groups. Daily TBS was safe and well-tolerated. One-factor ANOVAs looking at the main effect of TIME (pre, post 1 and post 2) in each group separately showed a significant effect for the JTT in the inhibitoryTBS group and a near significant effect for the 9HPT in the excitatoryTBS group. Strength measures were improved in all three groups; no other trends were seen in the sham group. When scores were expressed as ratios to the baseline, t-test showed that excitatory TBS tended to improve the 9HPT scores significantly more than sham TBS.

Conclusions/relevance TBS may usefully and safely enhance the efficacy of hand physiotherapy in chronic stroke. Interestingly, different interventions may target different aspects of hand function.

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BIOGRAPHY

Amanda Wallace graduated with a BSc (Hons) in Physiotherapy from Queen Margaret University College, Edinburgh, in 1997. Since then she has developed a clinical career in neurorehabilitation working in the UK and overseas and, for the past three and half years, has also worked as a research physiotherapist at UCL Institute of Neurology, Queen Square, London. Her clinical background includes a wide range of neurological conditions in adults and children, and recently has focused on stroke and upper limb rehabilitation. Her main field of research is upper limb rehabilitation with a specific interest in translational neuroscience and exploring targeted interventions to improve function. She is involved in investigating the use of novel non-invasive stimulation patterns (repetitive Transcranial Magnetic Stimulation) as a therapeutic tool to improve post-stroke motor deficits, and is currently part of a large multi-centre treatment study, where she has had a leading role in developing and implementing the physiotherapy intervention programme. She is studying part-time for her PhD and is also involved in research projects including the use of targeted botulinum toxin injections for active functional improvement and whether brain stimulation can accelerate re-learning of impaired wrist and hand movements early after stroke (both funded by The UK Stroke Association).

The role of Functional Electrical Stimulation

in the rehabilitation of the hemiplegic upper limb. How functional are outcomes for patients?

Geraldine Mann MSc MCSP Consultant Physiotherapist, Department Clinical Science & Engineering, Salisbury NHS Foundation Trust

Functional Electrical Stimulation (FES) is the control of paralysed muscles by electrical stimulation of the corresponding intact peripheral nerves that supply them, in order to produce functional, purposeful movement.

It is important to remember that it is an adjunct tool in rehabilitation therapy and not a stand alone treatment. Until relatively recently, although FES has been successfully applied to the lower limb to assist gait, treatment and research studies into its effect on recovery of the upper limb following stroke have been confined mainly to the application of cyclical stimulation for exercise by the patient at home and/or during physiotherapy treatment sessions. The physiological effects of FES are well documented in the literature with positive outcomes for patients including reduction in impairment and improvements in standardized outcome measures of function. However these changes have not necessarily demonstrated meaningful improvements in activities of daily living (ADL) and quality of life for patients.

There is growing evidence that relearning of function is encouraged by functional practice of meaningful tasks, aimed at acquiring a practical skill rather than repetition of a movement and that the effectiveness of stimulation in promoting lasting motor recovery may be greatest when used in conjunction with functional practice. At the same time there is increased interest worldwide in developing control systems for electrical stimulation so that patients can best drive recovery by being able to 'trigger' stimulation on demand to assist in the performance of relevant, functional tasks. The results of a recently completed study conducted in Salisbury, using a newly developed accelerometer controlled stimulator, demonstrated significant improvements in clinical outcome measures for patients which translated into improvements in ADL and quality of life. There is still much that we do not know about the clinical application of FES for the upper limb such as the optimum dose and length of treatment, the most appropriate time post stroke to begin intervention and the characteristics of those patients most likely to benefit.

So far meaningful functional outcomes for patients using FES for recovery of the upper limb post stroke have been limited and it is essential that patients are not given unrealistically high expectations of treatment. However, advances in control technology and increasing knowledge of the mechanisms of neuroplasticity and motor relearning and how therapy can influence them promise exciting developments.

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BIOGRAPHY

Geraldine Mann is a consultant physiotherapist who has worked at the National Clinical FES Centre in the Department of Clinical Science & Engineering at Salisbury NHS Foundation Trust since 1998. Her current post includes the clinical application of FES devices, teaching FES courses throughout the UK and abroad and research into the clinical effects of FES in neurological patients. Her particular research interests are in the development and clinical application of FES devices for upper limb rehabilitation and the potential use of FES to assist gait in Parkinson's Disease. Prior to her present post she headed the acute inpatient neurological and general medical rehabilitation service in a large district general hospital.

Grasping the concept:
SaeboFlex® at the Oxford Centre for Enablement (OCE)

Emma Heathcote BSc (Hons) MCSP, **Jo Pierce** BSc (Hons) MCSP, Oxford Centre for Enablement

Following a neurological injury, the prognosis of recovery in the arm and hand is generally poor[1,2,3,4]. The current Oxford Centre for Enablement (OCE) approach to upper limb rehabilitation includes a functional upper limb group for patients with a Rivermead Motor Assessment (RMA) score of ≥ 3/15 (arm).

However, many patients do not fulfil this criteria and to date, for those individuals with little power or functional return in their hand, therapy options are often reduced [5,6]. Recently a novel treatment approach called the SaeboFlex® became available; it uses a dynamic hand splint designed to position a patient's hand at a biomechanical advantage, so that grasp and release activities are possible and can be practiced independently[7]. A clinical service audit was conducted to determine the addition of this hand splint to upper limb rehabilitation at OCE.

Methods An audit cycle provided the framework for criteria setting, data collection and analysis of results[8]. Patients were included if they fulfilled the physical parameters for SaeboFlex® training and wanted to participate. Baseline measures were recorded for all SaeboFlex® users prior to upper limb training; the Modified Ashworth Scale (MAS)[9], RMA arm[10] and Motricity Index (MI)[11]. All measures were then repeated at six months. In addition, training intensities were recorded.

Results Over a twelve month period, 23 patients commenced SaeboFlex® training. Eleven complete sets of data were collected (six male, five female, six left, five right, mean age 55.8 years (s 11.7). Before testing RMA mean 4.5 (s 3.5), MI mean 58.4 (s 21.1) and MAS mean 2.5 (s 2.3). Post testing RMA mean 6.7 (s 3.5), MI mean 77.3 (s 14.4) and MAS mean 3.4 (s 2.5). The mean training intensity was seven sessions per week (s 3.9); 39 minutes per session (s 10.4). Having trained with the SaeboFlex®, two patients who would had previously been excluded, were then eligible to attend the upper limb group.

Conclusions More patients were able to access the upper limb group than previously. The increase in both the RMA and MI are indicative of an increase in function for SaeboFlex® users. An increase in MAS was also noted. Robust research is necessary to determine the effect of SaeboFlex® in upper limb rehabilitation.

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BIOGRAPHY

Emma Heathcote is a physiotherapist working in the neurological rehabilitation service at the Oxford Centre for Enablement (OCE). She has worked in adult neurology since 2003 and has been in her current post for two years. She has contributed to the development of the OCE physiotherapy service through clinical supervision and teaching, conducting service audits and co-ordinating a splinting pathway. She participates in the multi-disciplinary triage and spasticity clinics and has also set up a peer-support group for physiotherapists working in neurology within Oxfordshire.

Jo Pierce qualified in 1998. She practices in neurological rehabilitation as a physiotherapist and has been in post at the Oxford Centre for Enablement (OCE) for two years. She is currently undertaking a part-time masters degree in neurological physiotherapy, at Coventry University and has a special interest in spasticity management. She participates in spasticity clinics at the OCE where her role encompasses outreach consultation and injection therapy. She also regularly teaches on spasticity management days.

The redundant hand

Mary Lynch-Ellerington FCSP International Bobath Instructors Training Association Senior Instructor

A clinically based presentation which will review a number of ways in which both the impairment and functional activity of the hand can be addressed in the clinical setting. Treatment will be explored through a number of patient presentations from the acute through to chronic stages of recovery. The treatment ideas are based on my clinical experience of 35 years from novice to supposed expert.

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BIOGRAPHY

Mary Lynch-Ellerington qualified in 1973 from The Bradford School of Physiotherapy with a distinction and the winner of the Jean Brock Memorial Award. She worked from 1974-1979 at Walton Hospital Liverpool specialising from 1976 in neurological rehabilitation and then joined the staff of the Bobath Centre London in 1979-1990 where she worked with Dr and Mrs Bobath and Jennifer Bryce developing the use of the Bobath Concept in the field of adults with neurological impairment. Mary formed BBTA in 1993 and was involved in the formation of IBITA in 1984. She lectures worldwide on the assessment and treatment of adults with neurological impairment and is involved with the training and qualification of instructors in the Bobath concept nationally and internationally. She has a consultancy practice based in York where she treats patients for 15 to 20 weeks per year on an intensive therapy basis. Mary was awarded the fellowship of the Chartered Society of Physiotherapy in 2000.

Lost in translation:
applying CIMT in the current health-care environment

Dr Sarah Blanton Assistant Professor, Emory University School of Medicine

Constraint induced therapy (CIMT) is one of the most researched therapeutic interventions for the upper limb after stroke; yet, despite positive study outcomes, widespread clinical applications of CIMT continues to be limited.

Barriers to integration of this intervention will be identified and potential strategies to overcome these obstacles will be discussed. Through the use of case studies, a review of various characteristics involved in this intervention (including timing, delivery modes, intensity and duration of therapy) will be reviewed to aide in the clinical decision making process in applying CIMT in the current healthcare environment.

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BIOGRAPHY

Dr Sarah Blanton is an assistant professor of rehabilitation medicine at Emory University School of Medicine, Division of Physical Therapy and the manager of the Emory Constraint Induced Therapy clinic. She has been a project coordinator for two multi-site, NIH-funded national clinical trials – the EXCITE (Extremity Constraint Induced Therapy Evaluation) RCT and currently the ICARE (Interdisciplinary Collaborative Arm Rehabilitation Evaluation) RCT. She graduated from the University of Virginia in 1987 with a BA degree in biology, from Emory University in 1992 with her masters in physical therapy and received her clinical doctorate in physical therapy in 2003. She has a specialty certification in neurology through the American Board of Physical Therapy. She spent nine years working as a staff physical therapist at the Emory Center for Rehabilitation Medicine, primarily in the inpatient neurology unit. Currently she is the principal investigator of the Family Centered Care of Stroke Survivors and Caregivers to Facilitate Health Related Quality of Life Assessment and Treatment study. She is author of several peer-reviewed articles, co-author of two book chapters and serves as manuscript reviewer for *Stroke*, *Physical Therapy*, *Journal of Neurological Physical Therapy* and *Archives of Physical Medicine and Rehabilitation*.

ACPIN national conference, Northampton March 2009

Some thoughts on dosage
in upper limb rehabilitation

Dr Andrew King MCSP BA D Phil Senior Lecturer, Physiotherapy and Dietetics, Coventry University

The ACPIN conference was a wonderfully thought-provoking day, but for me the elephant in the room was this: what is the minimum intensity of therapy needed to drive cortical change for control of upper limb function?

Early on, Sarah Blanton reminded us of the Third Step conference (2005) which highlighted (among other things) the need always to relate therapies back to neuroplasticity, and to focus on practice parameters such as dose. At different times during the day the expert lecturers alluded to dosage of rehabilitation, and most also bewailed the lack of evidence. However, there were some revealing opinions about dosage and this is what I would like to draw together here.

Constraint Induced Movement Therapy (CIMT) is a therapy that demands high levels of intensity and many hours of participation. So was the ACPIN Conference and unfortunately Sarah's final session on the EXCITE trial was delivered speedily to tired minds. Nevertheless it was an interesting presentation. Two aspects were particularly relevant to achieving critical dosage: firstly, very careful screening of patients to include only those who were suitably motivated to achieve the hours of participation necessary, and secondly, the 'adherence enhancing transfer packages', incorporating behaviour contracts, caregiver contracts, home journals, and daily schedules. The aimed dosage of 90% of waking hours in the mitt, and a combination of 'shaping' and task training for up to 6 hours a day is an intensity of therapy that is off the scale of normal departments. Indeed, as those reporting the EXCITE trial acknowledge, the intensity of treatment was probably not comparable between the CIMT and control groups, so that the trial cannot say anything reliable about how far the changes were due to the hours of shaping and training, rather than to immobilising the 'unaffected' hand (Wolf et al 2006). Interestingly, Amanda Wallace did report that Transcranial Magnetic Stimulation (TMS) to inhibit the non-lesioned cortex, had positive effects on the excitability of the cortex controlling the hemiplegic upper limb. The implication is that overexcitability of the non-lesioned cortex has some inhibitory impact on recovery of the lesioned cortex, which may be a component of Taub's concept of learned non-use.

Cathy Donaldson's fascinating and honest presentation was concerned firstly with how to report accurately the components of therapy (which I will not discuss here), and secondly with a trial of functional strength training. This trial is in a long line of similar studies comparing conventional therapy with added hours of the same or a different therapy (cf Sunderland et al 1992; Lincoln et al 1999). In her pilot study the control group receiving conventional therapy managed an average total of only 2.8 hours of therapy for the upper limb (I assume over the six weeks of the trial). The intervention groups received a total of 13.8 hours (conventional therapy) and 17.7 hours (conventional plus functional strength training), which is still only an average of just under 3.0 hours a week for the six week trial. (Compare this with 6.0 hours per day in the EXCITE trial.) Can 3.0 hours a week be enough to drive clinically significant cortical change? Interestingly, on some outcomes the control group performed better than the intervention group which received significantly more conventional therapy. Either the conventional therapy is ineffective and increased dose makes no difference, or neither groups were receiving enough to reach a critical dose (or, thirdly, the groups were too small or heterogeneous to provide useful data). (See Donaldson et al 2008) In answer to questions from the floor, Cathy was open about the study's neglect of other inter-

ventions such as occupational therapy. Nor did it record any hours of individual practice performed by participants which might have increased the intensity of the UL rehabilitation. The paper by Donaldson and her colleagues appropriately highlights the need for more research to identify doses of therapy before any phase III trials (Donaldson et al 2008).

The audit (by Emma Heathcote and Jo Pierce) of Saeboflex use the Oxford Centre for Enablement included some rules of engagement with regard to dosage. Each participant undertook to use the Saeboflex twice a day at home, even if the outpatient class was on a less regular weekly basis. The commitment of the participants may be gauged by the fact that all spent over £600 on their own equipment. In fact the audit of the patient diaries showed that intensities of 45 minutes twice a day were rarely met. A once-weekly class is a cheap way to deliver therapy, but can the daily set of exercises reap the dividends necessary to motivate continuing commitment at very high levels? (Perhaps the Saebo intervention needs to include Cathy Donaldson's tins of beans etc rather than just balls, although Mary Lynch-Ellerington was to show that balls are not to be underestimated…)

Which brings me to Mary Lynch-Ellerington's presentation. And to the question, what is the intensity of treatment required from the 'normal' therapy team equivalent to the intensity shown on the videos of her clinics? Her stated opinion about dose was that cortical change for selective control of digits wasn't likely without an intensity of at least 1.5 hours a day for seven days. Interestingly Mary was almost more concerned with the sensory and motivational prognosticators of successful rehabilitation than in the simple motor criteria so often cited in relation to CIMT research. Two-point discrimination for her is a critical sensory and perceptual prerequisite for successful functional change. It is essential for the lateral inhibition that permits the spatial discrimination that gives meaning to cerebellar participation and allows of an accurate body schema. The 'Contactual Hand Orientating Response' forms an important part of this sensory input to the recovering CNS. The most striking images of the conference were perhaps those of a patient standing in Mary's clinic using the fingers of each hand alternately to rotate a tennis ball held in front of him, and then of him bouncing and catching the ball in the fingers of the affected hand, to his evident pleasure. But how do patients and therapists achieve such functional goals, and how do they become permanent gains? Is it just quantity that matters or is it quality, in other words the precision of the therapy input, creating critical levels of summation where without therapy there was none?

Any investigation into the neural substrates of change that explains the mechanisms of neuroplasticity must be helpful to the therapist. Amanda Wallace's presentation on Theta burst Transcranial Magnetic Stimulation (TBS) was at that end of the research spectrum. Amanda referred to several papers suggesting that TBS and other forms of TMS could have depressive or excitatory effects on CNS circuits for up to an hour after sub-threshold stimulation. Interestingly this parallels the timings of Rosenkrantz and Rothwell (quoted by Mary Lynch Ellerington) who record changes in cortical excitability after cutaneous sensory stimulation (Rosenkrantz and Rothwell 2008). This evidence on priming circuits for learning is vital evidence for therapists wanting to make the most of precious upper limb rehabilitation time. If we don't have TMS available(!), then we must think how to achieve appropriate sensory stimulation prior to treatment.

Although Geraldine Mann's presentation on Functional Electrical Stimulation (FES) for the upper limb differed from the others in that it mainly concerned a prosthetic approach, it is worth considering what it might tell us about neuroplastic change. In the audit all 15 people using FES recorded improvements in perceived spasticity, suggesting that change had occurred at spinal or subcortical, if not at cortical, levels. By definition, prostheses driven by implanted accelerometers are available for use throughout working hours. This means the possibility of repeated use, in this case to help in reaching movements. Unfortunately there was little information about volume and intensity of use because of a technical problem with the device, but data like this would have been fascinating and perhaps will be part of future audits.

The on-going debate about fuctional assessment measures will always reappear in upper limb research. The Action Research Arm Test (ARAT) received excellent publicity during the conference, with some interesting comments from presenters Blanton, Wallace and Donaldson on what constitutes meaningful clinical change. Nevertheless, the relationship between functional improvements and cortical change remains unclear. After all, even Nudo's famous monkeys were found, on re-examination of the video evidence, to have been using compensatory movements and grips rather relying on simple cortical recovery of normal finger control (see discussion in Sunderland and Tuke 2005).

The ethics of investigating the minimum effective dose of therapy are interesting, particularly

when the effectiveness of current therapy is uncertain (Pomeroy and Tallis 2003). The ACPIN conference presentations seem to agree that high intensities of treatment – as in the EXCITE trial, Saeboflex, and Mary's clinic – get results, particularly if cortical circuits are primed with appropriate sensory or other stimulation. How many rehabilitation centres are currently able to offer those critical intensities to their clients? Is there a critical dose below which UL therapy becomes ineffective and/or inefficient? And how will we find out? Until we do, what should our clinical standards be for dosage of rehabilitation for upper limb function?

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REGIONAL REPORTS

East Anglia

Nic Hills

2009 has seen a few changes in the East Anglia region: we would like to welcome Wendy Candlin and Charlie Dorer, who should provide a much needed link to the west of the region. Also, we have to say a sad (hopefully short) farewell to Anna Colbear. Anna is handing over her secretary role to Chris Sparkes while she goes on maternity leave. Thank you for all your hard work Anna, you will be missed.

2008 was very successful for East Anglia ACPIN, we ran four well received and attended courses, and have now started planning for hopefully an equally successful 2009.

On the 28th February 2009 we had a Neuro-Pilates study day at Ipswich Hospital. We hope to run the same course in autumn 2009 as this course was hugely oversubscribed.

Forthcoming programme:

- May 2009 (date TBC) – AGM with study afternoon on *Cognition, Implication for Rehabilitation* at Ipswich Hospital. This will include a lecture from Dr Graham, a consultant neurologist and Justine Fawsett, a senior neuro-occupational therapist.
- Autumn 2009 (dates TBC) – Three weekend Bobath course.

The East Anglia page of the ACPIN website is updated regularly, so keep a look out for course details. As ever, we are keen to involve the East Anglia members in course planning, so if you have any ideas, please contact me.

Kent

Janice Champion

We have had another good year with membership numbers staying high for Kent and therefore our committee has been strongly supported led by Cathy Kelly-Jones, our chairperson.

Our 2009 programme started in February with a Saeboflex clinicians training course. This weekend was provided by Glyn Blakely, the UK Saebo representative and was held at Medway Maritime Hospital. The two days were packed with information and gave the clinicians who attended chance to try the Saeboflex on patients.

Our AGM In March was also held at Medway Maritime Hospital and was based around neurolinguistic programming. Our speaker, Martin Burbridge led a fascinating two hours on how NLP could be used to help our clinical and managerial practice. This was followed by tea, muffins and the AGM.

The programme for the rest of 2009 will hopefully include a study day on conversion disorders and a study day on Pilates in neurology

Any ideas from members for future courses are always welcome.

London

Leigh Forsyth

2009 got off to a great start with our AGM and a lecture from Dr Fiona Jones looking at self-efficacy research and implications for practice, there was a good turn out and a lot of discussion afterwards. We have an exciting program lined up for the rest of the year with topics including a spasticity update, for full details please have a look at our region on the ACPIN website or keep checking iCSP.

Please remind any colleagues who haven't got their *Synapse* yet that they need to re-register their details via the website to renew their membership, yes even if they are paying by direct debit! We need to make sure we are not sending information to the wrong addresses. The membership of London ACPIN is growing year on year and we thank you for your continued support at evening and weekend lectures, its great to see so many familiar faces and many new ones. As you can imagine it is a huge task to co-ordinate membership over many regions of the country, we link very closely with the national membership secretary so if there are any problems then please try and speak to one of the committee members at the next event.

You may have noticed there have been some changes on the committee; we welcome all of our new committee members into their new roles, and finally as my last regional rep report I would like to thank everyone for their help and assistance in this role. Details of my successor are on the website.

Manchester

Helen Dawson

Happy belated new year to all in the Manchester region.

Firstly thank-you to all the speakers and everyone involved for their hard work to create a successful programme for the region in 2008.

We have a packed year ahead planned for you in 2009!

We kicked off with our January evening lecture on current research studies hearing from Dr Sarah Tyson, Senior Research Fellow at Salford University, Paula Beech, a research nurse and Claire Bendrey from our Manchester ACPIN committee.

Forthcoming programme:

- Thursday 21st May *Hydrotherapy in Neurorehabilitation* Susan Filson, venue TBC.
- June As an added extra we hope to hold the splinting course originally planned for 2008 TBC.
- Wednesday 8th July *Gym Ball use in Neurorehabilitation* Kristina Wright, venue TBC.
- Monday 21st September *Spasticity management* Chris Flemming, venue TBC.
- Tuesday 24th November *Anatomy Workshop* lead by ACPIN committee members, venue TBC.

As always we always welcome any comments, questions, suggestions: Email us on: acpinmanchester @yahoo.co.uk

Northern Ireland

Joanne Wrigglesworth

Hello to all our existing and prospective members! The NI branch of ACPIN has had a good autumn/winter season, with excellent workshops on neurological assessment, orthotics, botulinum toxin and injection therapy and an AGM with a session on cerebellar rehabilitation, to name but a few. As always, thank you to all of our speakers. The planning for our new year (starting in September) is already underway, so any ideas for lectures or courses are always greatly received.

NI ACPIN are acutely aware of the strain that both the *Review of Public Administration* and some outcomes of the *Agenda For Change* processes have placed on physiotherapists throughout the country. Our workshops have proved a forum and sounding block for many of us and, hopefully, we can continue to support each other in the future.

On an entirely different note, the committee would like to extend their congratulations to our secretary, Laura McKean on the birth of her beautiful baby boy!

The information mapping exercise, to gather a 'map' of clinical specialism throughout the country, has begun and anyone who would like further information on this should contact me.

Finally, we, as a committee, are always searching for new members, new workshop ideas and acting as a resource for queries on neurological physiotherapy. Looking forward to you getting in touch!

Oxford

Sophie Gwily

At last spring is here and happy 2009 to all our members. We started the year with a talk by Professor Wade (neuro-rehab consultant) and Hannah Williamson (OT) on vegetative and minimally aware states. This was well received by all and extremely thought provoking.

March has been busy with an neuro-orthoptics evening lecture and at the end of the month our AGM with speaker Richard Sealy talking about orthotics.

Our prize draw of a ticket to national ACPIN conference was won by Fiona Walton.

The rest of the programme for 2009 is still being finalised but includes:

- 22nd April evening lecture *OCE Proprioceptive Neuromuscular Facilitation* Claire Guy.
- May *Spinal injuries workshop* Stoke Mandeville Hospital.
- June *Spasticity update* OCE.
- July *Summer social* – ideas gratefully received, no punting this year!
- October *Patient practical – Complex long term disability* OCE.

We advertise in *Frontine*, by flier and on iCSP, we have also started regularly updating our section on the national acpin website – click Oxford branch!

We say goodbye to Nicola James and Claire Fordham who have left the committee, thank-you for all your hard work!

We would welcome new committee members or links in other venues across our branch, which extends far out of Oxfordshire. Please contact me, or any committee member, if you would are interested in joining the committee or hosting an ACPIN lecture in your area.

Lastly, thank you for all your support, in attending evening lectures and courses, and entering into lively debate at times ... it is what makes the branch successful!

Scotland

Dorothy Bowman

Welcome to any new and existing members. Hopefully you will all have received your newsletters.

There are four main courses organised for the year

- Friday 15th May *Practical Approach to Treatment of Cognitve/ Perceptual Disorders* Therese Jackson (Consultant OT), venue Stirling TBC.
- August/September *AFO Management of the Lower Limb in Neurology*, Glasgow. Speaker and venue to be confirmed.
- Saturday 23rd October *Lower Limb* Paul Johnstone (Bobath Tutor), venue TBC.
- Saturday 21st November *The Foot* Helen Lymfield (Bobath Tutor), Raigmore Inverness.

The committee welcomes feedback on courses and any suggestions for either short evening or longer courses are always very welcome. As a committee we would like to thanks all those who attend and support the courses and those that have organised or been a speaker. Could anyone who is interested in being involved in the Information Mapping Project (details in newsletter and opposite) please complete proforma and return to me.

Also a reminder to those in Stroke that the new SIGN guidelines on management of Stroke or TIA : assessment, investigation, immediate management and secondary prevention(December 2008) are available on www.sign.ac.uk

South West

Katy Moss

Thank you to all South West ACPIN committee members for a successful 2008! We look forward to a varied and dynamic programme in 2009 with courses planned over a variety of locations covering topics such as splinting, motivational interviewing and impact of new stroke strategy. Courses for 2009 will be advertised via email to members and advertised in *Frontline*.

Courses in 2008 included an MS study day in Nailsea which was well received with excellent feedback and a plan to repeat the day again in the future. We also ran a practical weekend in Exeter on integrating left and right side following stroke with Heather Bright. This also received positive feedback from all who attended.

We contacted all members via email during 2008 to canvas their opinions on what they would like to see within the ACPIN programme for 2009 in terms of course contact and location of courses. If you have any ideas/comments or would like to be part of the ACPIN committee please contact me via email on katy.moss@glos.nhs.uk

Surrey and Borders

Kate Moffatt

2008 has been another successful year with an increasing number of members joining our region. I hope that you all find the email newsletters informative and thank-you to all those who completed the information mapping forms.

We also welcome an additional committee member, Emma Jones! Our committee work really hard to provide an exciting annual programme for all members to enjoy and benefit from. Due to previous feedback from members, we have reduced our number of evening lectures and instead focused on providing two half study days over the year.

Apologies for the cancellation of January's evening lecture with David Constantine on 'Seating in the Developing World: Challenges and solutions to Neurological Problems'. It is to be re-scheduled later on in the coming year, so keep a look out!

The AGM was a part of our, 'Outcome Measures Study Half Day' including Sarah Tyson, Sara Demain and Paula Kersten as lecturers. This proved popular and created some interesting discussion within the work groups.

Forthcoming programme:

- 21st May 7:30pm evening lecture *Acupuncture in Neurology*, Val Hopwood, Frimley Park Hospital.
- Saturday 26th September (Date TBC) *Facial Oral Tract Therapy- Study Day for Physios/ SLTs/OTs*, RSCH, Guildford.
- November evening Lecture (Date TBC) *Pain of Neurological Origin*, Dr Markham (Consultant in Pain Management).

Please keep a look out for updates on all evening lectures and study days in *Frontline* and on iCSP.

Please also drop me a line if you have further comments and requests to make this and next years programme even better for you!

Sussex

Clare Hall

We are delighted to have a full committee and present a combination of evening lectures and study days. We endeavour to have these at varying venues. If you'd like to host an event, please just get in touch.

The Spasticity Study Day held on 8th November at Worthing Hospital was a great success. There was a good balance of speakers from different fields, and feedback was very positive.

On the 10th December, Margaret Hewett, Clinical Specialist in Neurology, gave an excellent presentation on 'The lived experience of TIA'. This gave detailed insight into the subject matter, and also on the research processes used.

The AGM and study day on Multiple Sclerosis was held on 14th February. Speakers were Lawrence Owers, Jane Ware and Nikki Penny.

Forthcoming programme:

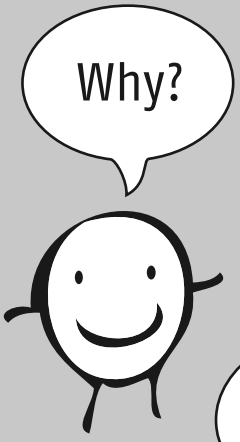
- *Vestibular Rehabilitation study day*, joint event with Kent ACPIN.
- April/June *Pilates in Neurology*.
- September *FES in the Upper Limb*.
- November *ME/Encephalitis*.

All details of venues and speakers are to be confirmed. See icsp or www.acpin.net for details.

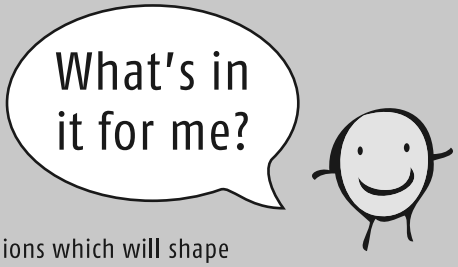
As ever we are always seeking further ideas for topics, speakers and venues. Please let us know about your wishes for the year's programme: contact details are on the ACPIN website.

Are you an ACPIN member?
And a senior practitioner?
...in a clinical, managerial or research role
And contactable by email?

Then you are invited to join ACPIN's Information Mapping Team



We occasionally need to gather opinions, comments and informed perspective at a local, regional or national level to help guide ACPIN's position on topical issues and we would like your help to do this.



- Contribute opinions which will shape neurological physio practice
- Links with your KSF evidence
- Be the first to know what is going on in neuro-rehab; clinically, politically and managerially

Please contact your regional representative for more information

Regional representative details on ***www.acpin.net***

...because the more the merrier!

Wessex

Hayden Kirk

2009 promises to be an exciting year for Wessex ACPIN! We started the new year with an update on MND management & research by Clare Erridge followed in February by a talk about interacting with families and carers on acute stroke units by Marie-Anne Cody.

Forthcoming programme:

- June *Spasticity study day*.
- September *Splinting course*.
- November *Vestibular rehab course*.

Further details of these can be found on the ACPIN website or by contacting me directly. To improve attendance the committee decided to try reducing the number of evening lectures but run more courses throughout the year. Do let us know how you feel this works.

There has been considerable change within the committee with the baby boom seeming to never end. Whilst we welcome back Mary Vincent we lose (for just a few months hopefully), Marjon Van Wees, Heather Ross, Gina Turner and Jenny Baker and thank them for their hard work and wish them all the best. Stepping up to the plate are Louise Johnson (chair), Janet Littlewood (treasurer) and Jenny Barber/Anna Gould (secretary). We also tried to improve our communication and participation by appointing committee members to act as representatives within the region. They are Kelly Saunders, (Salisbury), Katie Bright (Lymington/New Forest), Olivia Chuter (Southampton), Sam Botting (Portsmouth), Bethan Edwards (Poole), and Jenny Barber (Winchester). As always we would welcome anyone to the committee, age and experience no barrier, just a dose of enthusiasm required.

West Midlands

Katherine Harrison

Having taken over the regional representative position from Fiona Wallace I am pleased to report West Midlands ACPIN has lots of exciting plans for 2009. We finished last year on a high note after a successful FES vs orthotics study day in November and an educational evening lecture on spasticity and botox in December.

There was a Parkinson's study day in March based at Birmingham University. The day was jam packed with speakers on a variety of topics including the latest physiotherapy research in Parkinson's. A weekend with Mary Lynch (Bobath tutor) has also been organised for April and is already fully subscribed.

A course on cerebral palsy focusing on the transition from childhood to adulthood is also provisionally booked for November. Other possible courses in the pipeline are ataxia, PNF and an evening lecture on GBS, so watch this space!

Thanks to all our members for their continued support in 2009. If you have any queries or suggestions please contact me on: Katherine.harrison@heartofengland.nhs.uk

Yorkshire

Jill Fisher

Many thanks to Catherine Crampton for all she has done for Yorkshire ACPIN as secretary and as a very active committee member. She has had to take a break from the committee at the moment for personal reasons.

Events

Janice Champion led a very well received day course in September, with a focus on patients with severe problems. Jill Shelton gave an evening lecture on adult cerebral palsy in Goole and District Hospital in November. This was a new venue for Yorkshire ACPIN, responding to a request at last years AGM to hold lectures more accessible to members in the east of our region. Thanks are due to Kirsty McLaren for taking the lead in organising the evening. Twenty-five people attended and there was good feedback following the talk. On March 11th Lyn Fletcher was the tutor for an 'Ataxia' Study Day. The Yorkshire AGM will be on Saturday 25th April combined with a day course. In the morning we are hoping to arrange a session covering dynamic lycra splinting including a patient demonstration. In the afternoon we hope to have a talk and demonstration on sleep systems. There are a number of other events planned but not yet confirmed.

GUIDELINES FOR AUTHORS

***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:**

Case Reports
Synapse is pleased to accept case reports from practitioners, that provide information which will encourage other practitioners to improve or make changes in their own practice or clinical reasoning of how to influence a change or plan a treatment for that condition. The maximum length is 2000 words including references. An outline is given as follows:

Introduction
State the purpose of the report and why the case is worth reading about to include in short sentences:
- The patient and the condition.
- How the case came to your attention.
- What is new or different about it.
- The main features worth reporting.

The patient
Give a concise description of the patient and condition that shows the key physiotherapeutic, biomedical and psychosocial features. The patient's perspective on the problem and priorities for treatment are important. Give the patient a name in the interests of humanity, but not the real name. Do not include any other identifying details or photographs without the patient's permission.

Intervention
Describe what you did, how the patient progressed, and the outcome. This section should cover:
- Aims of physiotherapy.
- Treatment, problems and progress.
- Outcomes, including any changes in impairment and disability.
- Justification of your choice of treatment; clinical reasoning
- The patient's level of satisfaction and the outcome and the impact on quality of life.

Method
This should clarify what intervention took place and what measurements were taken. It should include:
- Description(s) of outcome measures used and reference
- Interventions carried out (where, when, by whom if relevant)

Implications for practice
Discuss the knowledge gained, with reference to published research findings and/or evidence about clinical effectiveness. For example:
- Outcome for the patient.
- Drawbacks.
- Insights for treatment of similar patients.
- Potential for application to other conditions.

Summary
List the main lessons to be drawn from this example.

References
These should be in the Harvard style (see section on 'Measurements' below).

Further guidelines for writing case reports were published in the Spring 2001 issue of *Synapse*, page 19.

Abstracts of thesis and dissertations
Abstracts from research projects, including those from undergraduate or postgraduate degrees, audits or presentations. They should be up to 500 words and where possible the conventional format: introduction, purpose, method, results, discussion, conclusion.

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. This could also include a Service Development Quality Assurance Report of changes in service delivery aimed at improving quality. These should be up to 2000 words including references.

Review of Articles
A critical appraisal of primary source material on a specific topic related to neurology. Download the ACPIN information sheet Reviewing research articles for further guidance from the ACPIN website.

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

Review of books, software and videos
Short reviews of up to 500 words to include details of availability, price and source for purchasing.

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*.

PREPARATION OF EDITORIAL MATERIAL

Copy should be produced in Microsoft Word. Wherever possible diagrams and tables should be produced in electronic form, eg Excel, and the software used clearly identified.

Hard copies should be as close to journal style as possible, on one side of A4 paper with at least a 25mm margin all around, consecutively numbered.

The first page should give:
- The title of the article
- The names of the author(s)
- A complete name and address for correspondence
- Professional and academic qualifications for all authors, and their current positions
- For research papers, a brief note about each author which indicates their contribution and a summary of any funds supporting the work

All articles
- The text should be well organised and written in simple, clear correct English. The positions of tables, charts or photographs should be appropriately titled and numbered consecutively in the text.
- All abbreviations must be explained.
- Any photographs or line drawings should be in sharp focus with good contrast for best reproduction.
- All charts should be in black and white only and captions should reflect this.
- References should be listed alphabetically, in the Harvard style with punctuation as follows: Bloggs A, Collins B (1998) The use of bandages in treating head injuries Physiotherapy 67,3 pp12–13.
- In the text, the reference should be quoted as the author(s) names followed by the date: Bloggs A (1994)
- Acknowledgements are listed at the end.

Measurements
As the International System of Units (SI) is not yet universal, both metric and imperial units are used in the United Kingdom in different circumstances. Depending on which units were used for the original calculations, data may be reported in imperial units followed by the SI equivalent in parentheses, or SI measurements followed by imperial measurements in parentheses. If the article mentions an outcome measure, appropriate information about it should be included, describing measurement properties and where it may be obtained.

Permissions and ethical certification
Protection of subjects: Either provide written permission from patients, parents or guardians to publish photographs of recognisable individuals, or obscure facial features. For reports of research involving people, written confirmation of informed consent is required. The use of names for patients is encouraged in case studies for clarity and humanity, but they should not be their real names.

Submission of articles
The disk and two hard copies of each article, should be sent with a covering letter from the principal author stating the type of article being submitted, releasing copyright, confirming that appropriate permissions have been obtained, or stating what reprinting permissions are needed.

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

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