

Syn'apse

Spring 2010

- ▶ ***How to prepare a poster***
- ▶ ***Hip flexor to extensor ratio in Parkinson's Disease***
- ▶ ***Commissioning and service development***



ACPIN'S AIMS

1. To promote and facilitate collaborative interaction between ACPIN members across all fields of practice including clinical, research and education.
2. To promote evidence informed practice and continuing professional development of ACPIN members by assisting in the exchange and dissemination of knowledge and ideas within the area of neurology.
3. To provide encouragement and support for members to participate in good quality research (with a diversity of methodologies) and evaluation of practice at all levels.
4. To maintain and continue to develop a reciprocal communication process with the Chartered Society of Physiotherapy on all issues related to neurology.
5. To foster and encourage collaborative working between ACPIN, other professional groups, related organisations ie third sector, government departments and members of the public.

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FROM THE CHAIRS

Well it's a hello and welcome to this Spring 2010 edition of *Synapse* as well as a goodbye from the co-Chairs!

As we have repeatedly said, "time flies when you're having fun" and we don't quite know where our two years at the 'ACPIN helm' have gone. However, as agreed when taking over in March 2008, succession planning for the future is all important in any organisation, hence we are delighted to be handing over to the very capable hands of Siobhan MacAuley as Chair and Gita Ramdharry as the newly elected Vice Chair. We know they will be ably supported by our President Dr Margaret Mayston, the rest of the executive and national committee and most of all by you the membership. We wish them all the very best!

The committee as ever have been busy undertaking activities on behalf of ACPIN, details of which can be found in the Chair's report from our recent AGM and conference. The conference, 'Fit for Life? Exercise and Neurology' was a great success and speakers' abstracts are printed for the benefit of all in this edition. The attendance was excellent which vindicates the committee's decision to considerably subsidise places for members this year, indeed making the delegates fees the cheapest they have been for several years. This was important to us as we know only too well the difficulty of funding for courses in the current financial climate. ACPIN always tries to give the best value for your membership money and remember the Regions host courses too at very reasonable rates so do make sure you support your local ACPIN group! Please do check the website www.acpin.net, iCSP or *Frontline* for all the latest events.

ACPIN is not alone in undergoing change: you may be aware that the CSP are also in the process of making changes to their organisation, its accountability and reviewing the role of clinical interest groups and they want our views on proposed options for changes. As one of the largest clinical interest groups ACPIN felt strongly that the membership were involved in having a say and thank you to all of you that responded either directly to the committee or via your regions. As ACPIN is a well structured organisation the executive is in no doubt that we will meet any new standards set and are hopeful that changes will further enhance working with the CSP and other related CIGs and strengthen our collective voice. You will doubtless hear more of this in later editions and on iCSP.

As with most people, leaving the ACPIN executive committee, does not mean we are stopping our work on behalf of ACPIN (Mary Cramp and Nicola Hancock have still not escaped!) Cherry will continue her work with Nicola at the RCP Intercollegiate Stroke Working Party on the stroke guidelines and sentinel audit and on continuing to drive forward a new global neurological organisation (International Neuroscience Physical Therapy Association – INPA) which is hoping to be launched at the World Congress of Physical Therapy next year in Amsterdam. Jo in the meanwhile will continue to further the work towards producing new splinting guidelines together with the neurological section of the College of Occupational Therapy.

All it leaves us to say now is thank you for your support and over to Siobhan and Gita! We hope you enjoy your time in 'the Chair' as much as we have.

Jo and Cherry

PRESIDENT'S ADDRESS

A blank sheet

Margaret Mayston AM FCSPhD

No coloured hats, no philosophy as in previous contributions. In fact it was very tempting to submit a blank page for this edition's presidential contribution, which also forms the basis of my presidential address at this year's ACPIN AGM.

Bobath has been in the news yet again (*Frontline*, Jan 2010), evidence based practice is continuously being promoted, and yet nothing seems to change very much. There is no evidence to suggest that Bobath is better than anything else, but there is no robust evidence for other interventions such as muscle strengthening either. Two recent reviews came to conflicting conclusions about the efficacy of muscle strengthening post-stroke (Ada *et al* 2006; Bohannon 2007). It seems to me that a more fruitful enterprise would be to investigate which strategies used by therapists work best and for whom, rather than trying to show that one approach is better than another. And so the same discussions seem to take place with little or no significant progress.

In my last contribution (*Synapse* Autumn/Winter 2009) I suggested that perhaps a blank sheet might be taken and that we consider what neurorehabilitation could look like. What would it be like if the 'neuropsychiotherapy treatment strategies memory' was erased and we all had to design a therapy contribution to neurorehabilitation from scratch? I think it is an exciting idea and one that should be taken seriously.

Each client population could be taken eg stroke, acquired brain injury, multiple sclerosis etc and working groups could design therapy guidelines, in a similar way to the *National Stroke Guidelines* (RCP, 2008). What might come out of this? I imagine that firstly consideration might be given to finding out what the client's goals are (where possible – obviously not possible in the comatose person) and then to set realistic achievable goals and a time frame for their achievement. Next would be to decide how best to achieve these goals. This would depend on the stage of recovery or disease progression in the various neurological conditions managed by therapists. General guidelines for achievement of the person's goals

could be determined drawing on physiology (eg muscle physiology, motor control, neuroplasticity), experimental evidence (studies of disease mechanisms, outcomes of intervention studies), clinical expertise (case reports and experimental studies as relevant) and patient preferences. Perhaps the *International Classification of Functioning Disability and Health* might form a useful basis for goal setting and intervention (ICF; WHO 2001). The ICF provides a useful summary of the person's activity and participation. For treatment, a thorough analysis of the patients' impairments is required, therefore detailed information would need to be derived about the impairments. This requires objective testing in addition to the expert observations, analyses and interpretations of the neurotherapist (Carr & Shepherd 2003). Objective measures need to be used and regular outcome measures carried out. How much of the intervention is hands-on or hands-off, 'high-tech' or 'low-tech' will probably be determined by the severity of the impairments encountered in each condition. What adjuncts might be used would also require careful thought – what about the new brain stimulation techniques, the role of splinting/orthoses and specific training regimes such as the treadmill?

There are probably a few main ingredients which are common to all. For example, musculoskeletal integrity is essential for optimal muscle functioning, active participation in meaningful activities is needed for learning, and practice is essential to drive positive adaptive changes (neuroplasticity) in the nervous system. This also needs to be applied in context and requires an understanding of the possibilities and limitations of the damaged nervous system. Clearly further work needs to be done in the area of disease mechanisms so that treatment can be planned from a rational starting point. What can potentially be changed and what not?

If this dramatic course of action were taken what would we find? I suspect we would discover that much of what we do is still relevant. But I hope that we could 'prune and tune' our current therapy activities and offer a targeted, dynamic, progressive patient-centred therapy, fully

supported by all in the neurorehabilitation environment and shared using a common language. Alongside this, research dialogue between clinicians and scientists would enable therapy activities to be fully investigated and developed as robust experimental evidence is produced.

This would not negate the need for courses for therapists to develop their clinical skills. Indeed more courses are needed to equip therapists with the wide range of skills needed when working with the person with neurological impairment. Therapists need to reacquaint themselves with exercise training, task learning, to acquire specialist handling skills and expand into many others areas of knowledge.

The 'blank sheet approach' could generate an explosion of constructive design (Mayston, *Synapse* Autumn/Winter 2009) and could be exciting, transforming and energising for our clinical practice. Will we accept the challenge?

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How to prepare a poster

Julia Williamson ACPIN Honorary Research Officer

Poster presentations seem to be ubiquitous these days. Every national conference has a section devoted to this medium and even in-house study days may involve the display of posters. This article will explain the role of the poster, what should (and should not) be included and how to go about preparing one.

THE GOOD THINGS ABOUT POSTERS

Posters allow the succinct dissemination of the results of smaller projects or those still in the planning stages. Unlike journal articles where there may be a delay of several months, posters can be concurrent with the progress of the project. The audience is able to absorb information at their own pace during a poster viewing and to take in more posters per hour than is possible with platform presentations.

The chance to meet those viewing your poster and discussing your project with your audience can be invaluable for networking. You can produce a small A4 summary of your poster for them to take away to jog their memory later (the most important thing on this document is a working email address).

THE NOT-SO-GOOD THINGS ABOUT POSTERS

It is just not possible to get everything onto the poster. Tables need to be extremely clear and may therefore be stripped of the detail possible in a journal publication. Posters require a great deal of planning and editing and not everyone is blessed with the kind of visuo-spatial skills necessary to transfer a block of text to a visually interesting poster. Pictures can be especially tricky.

"BUT I AM NOT DOING RESEARCH SO I CAN'T PRODUCE A POSTER"

It is true that some conferences only want the results of research. However, there are plenty of forums (ACPIN national and regional events for example) where posters giving the results of audit or sharing best practice are *very* welcome. The best thing to do is to read the specifications under the "call for posters". If in doubt email or tele-

phone the organiser to discuss whether your work will be suitable. The worst that can happen is that they say no and (as this is done discreetly without public humiliation) that isn't too bad!

SO WHAT GOES INTO A POSTER?

Basically, a synopsis of your work. After the title (which should be eye-catching enough to draw in the reader but not ridiculously cryptic) follows a brief introduction (with perhaps a couple of references) and a statement of the problem. An outline of the methods used to tackle the problem follows, then the results, discussion and references. Figures (graphs, pie charts etc) work really well in this format and help to break up the text making the whole poster more appealing to the reader. Unfortunately it is not possible to cut and paste the text directly from your article, presentation or dissertation as the writing style and content has to change. An average poster will support 300-500 words (that really is not many, this article is 1,300!) The key is to distil the key points of your study without leaving the reader trying to fill too many gaps. For example '50 questionnaires were distributed to patients and their carers, of which, 25 were returned' becomes '50% of questionnaires were returned completed' Short sentences work best.

"I HAVE NO IT OR GRAPHIC DESIGN SKILLS"

If you can use Microsoft *PowerPoint* then you can design a poster. It is true that a graphic designer is worth their weight in gold but they are not essential. Even the best designer will need considerable input from you, as they have no physiotherapy qualifications. The more you can give the designer, the happier both of you will be with the end result. Most trusts will have someone whose remit it is to help and/or produce posters, it is just a case of tracking them down and feeding them chocolate hobnobs until the project is finished*.

SO HOW DO YOU PRODUCE THE BASICS?

Decide whether your poster is going to be A0 or A1 size. (This may be directed by the organisers.)

- Write out the basic sections: abstract, introduction and problem, method, results and tables, discussion and references.
- Edit
- Edit again
- Now cut out about 500 more words!
- Decide if your poster will be portrait or landscape
- Decide how many columns you want. The suggested layout below (*Figure 1*) is from Thomas, Nelson and Silverman (2005), page 403.

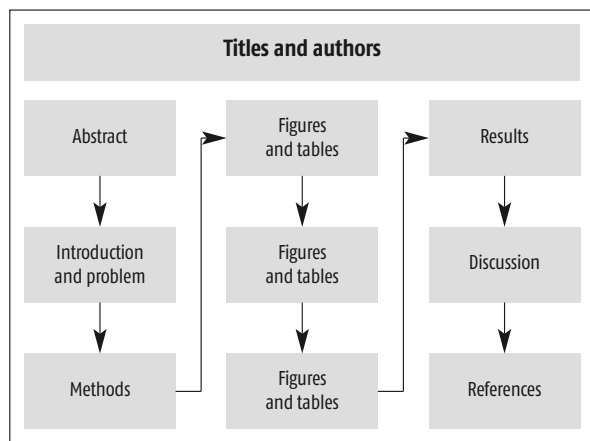


Figure 1 Suggested poster layout

It is best to allow gravity to direct the reader, ie work down the poster in columns rather than across in rows. However, this is by no means the only layout, different work may require a different approach.

There is a wealth of advice on the Internet. The site I have drawn from in this section can be found at <http://www.bristol.ac.uk/is/learning/documentation/pptxp-ss3/pptxp-ss3.pdf>

How to design a poster in Microsoft PowerPoint†

- Open PowerPoint
- Choose a blank slide
- Go to **File / Page Setup**
- In the 'slides sized for' list, choose **Custom**. Then click to the dimensions you need
 - A0** 1189mm x 841cm
 - A1** 841mm x 594mm
 - A2** 594mm x 420mm
 - A3** 420mm x 297mm
- Using guides and the ruler helps you keep text in columns. To turn the ruler on (or off) click **View / Ruler**. To add guides click **View / Grid and Guides**. This gives you one horizontal and one vertical guide. They can be dragged across and down the screen. To add more guides hold down **Ctrl** and drag an existing guide. Play with this until you have a layout you are happy with and which will accommodate your text.

* Other types of biscuit are available

† Other types of software are available I believe.

- To add **text**, click on the **text box icon** and drop it where you need it. You can either type directly into this or cut and paste from a word document. Pictures and graphs can be similarly imported.
- **Colour** can be used to emphasise headings or take home messages. Go to **Format / Background** to add a background colour but do so judiciously. You may need to change the colour of you text (white for dark backgrounds, black for light backgrounds). To colour a text box go to **Format / Text box** choose **Fill colour**, **Line colour** and **Line weight**. Try to avoid swamping your poster with all the colours available. Perhaps stick to two shades of the same colour with a contrasting one for the main headings.
- The same goes for **fonts**, this may be your favourite but no one is going to be able (or bothered) to read it. Times New Roman or Arial are the safest bets. Font size is important too. At least 20 point for text, 28 to 32 point for headings and 64 point for titles.

Don't get carried away with too many font sizes. It is distracting!

- **Pictures** must be prepared in advance and saved ready to import into the poster. They must be of a suitable resolution so they do not go fuzzy when stretched.

PRINTING?

This is where it gets a little harder. Obviously your standard desktop isn't going to cope. Many NHS trusts and all universities will have facilities to print posters but costs and time frames will vary. Failing that, commercial printers will be able to produce what you give them but may not be able to help in the design. Costs will vary so enquire in advance.

So go-on then... dig out the results of that audit that went rather well and have a go! I look forward to seeing your poster (and you) at Conference!

REFERENCES

I have drawn extensively on information from the website given in the text
<http://www.bristol.ac.uk/is/learning/documentation/pptxp-ss3/pptxp-ss3.pdf>

Other useful sites include:

- <http://physio.ucsf.edu/desai/Support/Preparing%20an%20Academic%20Poster.doc>
- <http://connect.le.ac.uk/posters>

Also:

Thomas JR, Nelson JK, Silverman SJ (2005) *Research Methods in Physical Activity* 5th Edition Champaign, Illinois. Human Kinetics Ltd.

Hip flexor to extensor ratio in Parkinson's Disease

Hip strength in Parkinson's Disease and how does this relate to function?

Emily L Jay King's College Hospital, London

PD is among the most common neurological diseases and is characterised by rigidity, bradykinesia, tremor, weakness and loss of postural control (Berardelli 2001). PD is a disorder characterised by insidious onset. The first clinical signs occur when about 60% of the dopamine-producing cells in the substantia nigra have degenerated. The mean age of onset of PD is in the mid fifties, with increasing incidence and prevalence with age. (MacMahon and Findley 2000).

While individuals with PD often complain of difficulty with the development of muscle torque, detecting weakness during manual muscle testing is characteristically difficult (Bridgewater and Sharpe 1998). Studies have suggested a central origin to the weakness, with a larger reduction in the strength of extensor muscles than flexor muscles. This pattern of weakness has mainly been identified in the upper limbs (Kakinuma *et al* 1998, Robichaud *et al* 2004). Studies have failed to fully examine the hip extensors, which are one of the largest groups of muscles in the body and are important for many functional activities. Most studies have not compared the agonist and antagonist muscles at the joints studied. Therefore it is not clear whether the weakness present is from a central origin or due to disuse. Additionally rigidity of the antagonist could result in a restriction in force production of the agonist. The proposed aim of this study was to use a ratio of hip flexors to hip extensors which will also allow for comparisons to be made between patients and matched controls.

Problems with sit to stand (STS) are a common complaint of individuals with PD. Brod *et al* (1998) questioned patients with PD and found that of 101 respondents, 81% reported problems with STS. Hip extensor strength is fundamental to a

humans ability to carry out functional tasks such as STS and gait (Carr and Shepherd 1998). Weakness and difficulty generating and timing sufficient force may result in several deficits in function. Despite the importance of the STS movement in daily activities, there are few reports on the lower limb dynamics during STS in PD subjects. Consequently, it remains unclear whether motor deficits in PD subjects during STS are related to lower limbs torques, and whether muscle weakness and rate of force generation contribute to the reduced ability to perform STS activity in PD subjects. Therefore part of this study's aim will be to determine whether there is correlation between the ratio of hip flexor to hip extensor strength and its relationship to STS, using the timed up and go (TUAG) as the outcome measure.

A hand held dynamometer (HHD) was chosen to measure hip strength. The HHD provides a quantitative measurement of isometric muscle strength. It has good face and concurrent validity (Bohannon 1997). Many studies have used the HHD to evaluate isometric strength in a wide range of pathologies. It is feasible to use the HHD in clinical practice, as it is light and transportable. Several authors have shown good reliability when using the HHD in varying patient groups (Goonetilleke 1994).

It is important to examine how any possible deficiency found at the hip in subjects with PD translates into function. The TUAG is a performance measure which measures speed during several functionally important tasks that potentially threaten balance (Podsiadlo and Richardson 1991). It has been widely used in the PD population and has been shown to have high retest reliability ($r = 0.8 - .98$) and inter-rater reliability ($r = .87 - .99$) both in the 'on' and 'off phases' of medication (Morris *et al* 2001). The TUAG has been shown to be able to discriminate perform-

ance between people with PD and samples of older people (Morris *et al* 2001). It also has normative values that allow comparison (Steffen *et al* 2002, Isles *et al* 2004).

MAIN STUDY AIMS AND HYPOTHESES

The aim of the research was to conduct a pilot study to evaluate the hip flexor: hip extensor ratio of subjects with PD.

Primary patient objective

The primary patient objective of the trial was to determine whether patients with PD have a significant difference in hip flexor power: hip extensor power ratio to matched normals.

Secondary objectives

To determine whether the ratio hip flexor power: hip extensor power ratio correlates with TUAG.

METHODS

Subjects with PD were recruited from the Parkinson's Clinic at King's College Hospital London. The control subjects were selected from friends or relatives who attended with a patient. The aim of this group was to have normal data to allow matching.

Individuals with PD may experience symptoms on one side of their body early in the disease that later affect both sides of the body eg, tremor. Kakinuma *et al* (1998) demonstrated that in patients who had laterality of symptoms (one side more affected) weakness of extensors was worse (although this has not been assessed at the hip). Patients were questioned to determine if they had laterality of symptoms. Their response was recorded to allow for separate statistical testing if required.

Standardised positions for muscle testing using the Lafayette manual muscle test system (model 01163) was utilised and all outcome measurements were completed using a set protocol.

Ethical considerations and informed consent

The study's aims and design comply with the declaration of Helsinki (World medical association, 2000). Ethical approval was gained prior to the study commencing from King's College Hospital NHS trust via the COREC process and Glasgow Caledonian University Ethics Committee. The study was also reviewed and approved by King's College Hospital Research and Development board.

Calculation of hip ratio

$$\text{Hip ratio} = \frac{\text{hip flexors}}{\text{hip extensor}}$$

No unit of measurement is given to the ratio value. A larger ratio could either suggest a small hip extensor value or a larger hip flexor value. Having a ratio allowed comparisons to be made with normals. It could also be suggested that disuse would cause weakness in both the flexor and extensor and the ratio would be unchanged therefore any change in the value of the ratio in those with PD when compared to normals was more likely to be due to an imbalance at the hip complex.

RESULTS

Descriptive summary statistics

Data was collected over seven PD clinic sessions. In total 32 patients attended the clinic over the seven sessions. Of these patients 13 met the criteria and provided informed consent and were included in the study. Reasons for exclusion are shown in *Table 1* below. The main reason for exclusion from the testing was other co-morbidity that prevented testing

Reason for exclusion	Number
DNA	5
Declined	2
Unable to speak English	2
Unable to lie prone	2
Unable to produce movement against resistance/ sustain the position.	2
Other co-morbidity	6

Table 1 Reasons for PD subject's exclusion

Ten patients who consented attended with a relative or friend and of these four had co-morbidities therefore only six sets of normal data were collected.

Demographic comparisons

No significant difference was found in any of the demographic data collected between the two groups (age, sex, height and weight).

Hip ratio of PD and normal subjects

When the mean ratio was analysed using a two-sample two independent sample t-test a p-value of 0.012 was found. This suggests that there was a significant difference between the hip ratio of subjects with PD when compared to normals. As the data was expressed in ratio format and there were not enough normals for matching it is unclear whether a larger ratio was due to a weaker hip extensors or stronger hip flexors.

TUAG for PD and normal subjects

Statistical testing used a two-sample two independent sample t-test ($p = 0.09$). The subjects with PD had a similar minimum TUAG scores but a larger maximum score of 36.62 seconds resulting in larger standard deviation.

Correlation between hip ratio and TUAG

Figure 1 below shows the correlation between hip ratio and TUAG (in seconds) for each group. The normal (round markers) demonstrate a narrower grouping of data than the subjects with PD (square markers). Notably the PD group has an outlier who has a small hip ratio but a slow TUAG score of 36 seconds. When the Pearson correlation co-efficient was used to examine each group separately there was a poor correlation between hip ratio and TUAG in subjects with PD ($r = 0.000$). This demonstrates no correlation between TUAG and hip ratio in subjects with PD. The test was repeated for normals ($r = 0.53$) demonstrating a higher level of correlation than the PD group but this was not significant with a p value = 0.89. Cohen (1996) regards $r = 0.53$ as a positive medium/large correlation.

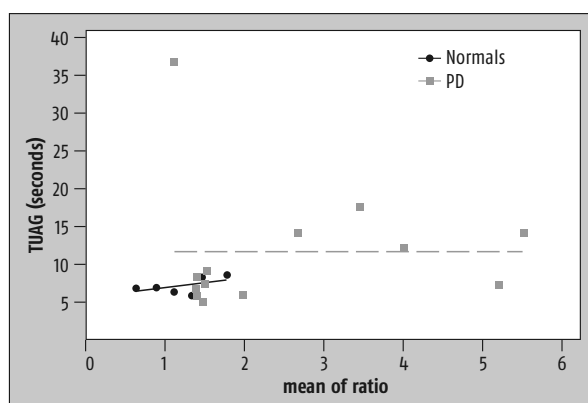


Figure 1 Scatter plot of hip ratio against TUAG for both normals and subjects with PD

When the PD population was further examined, it was decided to remove the outlier who scored a TUAG of over 36 seconds due to periods of freezing. When this outlier for the PD population was removed Figure 2 was produced. This appears to show better linear correlation between hip ratio and TUAG speed. This suggests that those with a higher ratio and therefore an imbalance between their hip flexors and extensors are slower during TUAG. Due to the lack of normal matched data, it cannot be determined whether this was due to weaker hip extensors or stronger hip flexors.

When examined using Pearson's Correlation co-efficient there was a positive large correlation

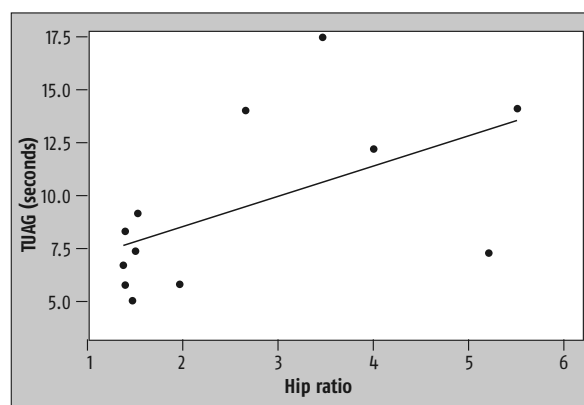


Figure 2 Scatter plot to show correlation when outlier removed - PD subjects

found, $r = 0.55$ (Cohen 1996), due to the small sample size the p-value = 0.06. With a larger sample, this correlation would have been likely to reach significance.

DISCUSSION AND CONCLUSION

Overall the results from this study found that there were significant differences between the ratio of hip flexor to extensor strength when comparing a sample of patients with PD against a sample of normal subjects. No significant difference was found between the mean TUAG of the two groups. When the outlier was removed from the PD population to examine the correlation between TUAG and hip ratio a positive large correlation ($r = 0.55$) was found but did not reach significance, p-value = 0.06.

The findings from this study support the results of previous studies that have suggested an imbalance of flexors and extensors at other joints. Whilst the findings of this study support an imbalance in the ratio, further laboratory-based studies are necessary to determine the cause of the altered ratio. The majority of previous research suggests that extensor muscles are weaker therefore it is likely that the larger ratio found in subjects with PD was caused by weaker hip extensors rather than overactive/stronger hip flexors. Additional research is needed to confirm this hypothesis. Although the study detected an altered flexor: extensor hip ratio, the relative contribution of the central and peripheral nervous system could not be assessed.

TUAG may not have revealed a significant difference between PD subjects and normals as PD subjects may be using other muscle groups and strategies to compensate for their altered hip ratio. Lomaglio and Eng (2005) reported that paretic hip extension strength did not relate to STS performance in chronic stroke patients. They suggested that other lower extremity muscles

demonstrated greater strength deficits and hip extension strength was not likely to be the limiting factor in this particular group of individuals. This suggests that it may have been useful to also examine knee flexor and extensor strength instead of/as well as muscles around the hip. Secondly the PD subjects may have used their upper limbs to assist with the STS portion of TUAG.

Subjects with PD showed a slightly better correlation than normals when hip ratio to TUAG was examined ($r = 0.55$ and 0.53 respectively). This suggests that hip ratio is an important factor in the ability to carry out TUAG but perhaps is a more vital factor in subjects with PD than those without. A larger sample size in both groups may have revealed better correlation and significance.

A larger r -value may have been produced if another functional outcome measure had been selected. TUAG not only examines STS but also turning and gait. During turning and gait the muscle activity at the hip complex may not be the most vital component and other limiting factors may be contributing to the score rather than hip ratio (eg freezing). It may have been useful to have selected a measurement that only included STS for example the STS30 (Liang & Cameron Chumlea 1998) or the Five-Times-Sit-to-Stand Test (FTSST) (Whitney *et al* 2005). Neither has been studied for validity or reliability in the PD population. Secondly while a large correlation was found this does not imply causation and a suggested correlation once the outlier was removed (although not statistically significant) can not validly be used to infer a causal relationship between the variables.

Limitations

A larger sample size may have provided more definitive results and reduced the risk of a type II error occurring.

Recruitment of normals was lower than predicted due to the logistics of the clinic and the time required to test the subjects. Only family members, friend or carers of patients who consented were approached. This meant that a maximum of 13 normals could be approached in total. Further studies would benefit from recruitment of normals from other sources so that matching is possible. Equally if other methods of muscle testing could be used that already have normative data this would remove the need to collect normal data and allow increased time per clinic to collect PD subject's data.

Hip extension in prone was problematic for many patients and those patients who were unable to achieve testing position were excluded

from the study. Prone testing was recommended by Forstang and Baker (2006) as hip extensor muscles are a strong muscle group and the position chosen allowed a mechanical advantage for the tester. A limitation identified with this position was that those subjects who could achieve the position and complete the movement against gravity often could not complete the test with the resistance of the dynamometer. This may have been due to the muscle having to work in the maximal inner range position, a position which has been shown to be difficult for muscle contraction due to the large amount of cross over of sacromeres (McArdle *et al* 2006). Additionally, a flexed posture is a common side effect of PD and many subjects with PD found it difficult to use end range hip extensors possibly as they were often flexed this may have contributed to the difficulty with activating hip extensors in this position.

Modifying the position eg prone standing may have increased the number of subjects with PD who could have performed the test, although prone standing would have been harder to control range of movement. Secondly the tester may have been unable to overcome the strength of those with strong hip extensors in this position. Other methods of measuring hip strength such as EMG may have provided useful information about muscle activity during resisted movements. Clinical methods of muscle testing such as six or ten repetition max may have improved recruitment. Statistical testing of TUAG revealed no significant difference between TUAG of the subjects with PD compared to the normal subjects, despite Morris (2001) demonstrating that the TUAG was able to discriminate performance between people with PD and samples of older people. This may suggest that the subjects who were included with PD may be in the fairly mild stages of the disease. This cannot be substantiated as no data was collected regarding this. However the ratio between the two groups was significantly different. It may have been useful to collect data using a disease rating score for example the Unified Parkinson's Disease Score (UPDS) or by recording their Hoehn and Yahr Staging Scale (Goetz *et al* 2004). Conversely if the sample studied predominantly contained those in the milder stages of the disease it may be concerning to see a significantly different ratio hip flexor to hip extensor, despite there being no significant difference in TUAG between the PD group and the normal group. This may in itself warrant further exploration. This could suggest that these subjects are demonstrating changes at an impairment level and could benefit from early therapy input.

While time of medication was recorded it was

not possible due to ethical reasons to control timing of patient's medication therefore it is unclear if medication had an effect on extensor strength. All data was collected in a morning clinic and overall all patients had taken their medication to ensure they were at optimal function so that they could attend their appointment.

CLINICAL MESSAGE

- There is an imbalance in muscle power at the hip in subjects with PD between the hip flexors and hip extensors.
- This imbalance may be due to weakness of the hip extensors.
- It is importance to address altered hip muscle power in patients from the time of diagnosis of their PD.
- A larger alteration in ratio between hip flexors and extensor has a negative impact on a patient's ability to stand up and walk.
- Patients are often not referred to physiotherapy until they are experiencing problems with function and this study highlights that early changes are occurring at the hip complex that may warrant early intervention.

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This article was originally submitted as a dissertation in part fulfilment for the Master of Science in Physiotherapy, Glasgow Caledonian University, August 2008.

Commissioning and service development

notes from Congress

Louise Rogerson service reform lead for clinical pathways

Presenting at Congress 2009 was an enormous privilege. It not only gave me the opportunity to share my experience with my clinical colleagues, it also gave me cause to pause and reflect on my ongoing internal argument of clinician versus commissioner. In this article I hope to capture some of the salient points from my lecture, but also share some insights into commissioning in today's NHS from my perspective.

CONTRACTUAL BASIS OF SERVICES

There are three main contractual agreements in place:

- **Activity contracts** – these are tariff based contracts including Payment by Results (PBR) tariffs. These contracts are nationally set with local plans and quality indicators overlaid. Tariffs will be set according to the input required for the procedure described, and include an agreed length of stay (trim point). Payment is then made per unit of activity.
- **Block contracts** – built on a national framework with locally agreed volumes of activity and service specifications. Payment is on a block basis rather than individual activity units.
- **Specialist contracts** – this covers the highly skilled, small volume services and is often commissioned across several PCTs. An example of this may be neurosurgery or transplant services.

Individual packages of care

This is bespoke commissioning for individual patients on a case per case basis. Each PCT will have an application process for these packages and a clearly defined approval process.

COMMISSIONING DRIVERS

In order to understand commissioning decisions you need to be aware of your local drivers. The

following documents will give you valuable insight:

- **World Class Commissioning assurance handbook** – describes the 11 competencies of commissioning and how they are measured (DoH website)
- **Annual Health Check** – part of the Care Quality Commissioning performance assessment (www.cqc.org.uk – search for annual health check and follow the links)
- **Vital Signs** – similar to *Annual Health Check* but is governed by the DoH and is available via the DoH website
- **Operating Framework** from which a local Operating Plan is derived for each organisation (DoH website holds the operating framework)
- **Commissioning Strategic Plan** – developed by the PCT and published as part of the World Class Commissioning assessment
- **Joint Strategic Needs Assessment** – this describes the local population demographics and health needs in context – this is carried out by the local council and the PCT public health teams. Also consider national information portals such as the NHS information service (www.ic.nhs.uk)

These documents will demonstrate local performance and allow you to understand the issues for your local population and the priorities for them. Once you have the broader context you can identify links with your patient population or service.

QUALITY MARKERS

One of the biggest complaints from clinicians is that commissioners only look at numbers not quality. On the surface this appears to be true but look again at the 'numbers'. The aim of 90% of patients staying on a stroke unit was put in place after the quality evidence suggested that stroke units provide the best care. Beyond that, commissioners review other quality measures in the

sentinel audit to ensure the stroke unit is adequate. Unfortunately, evidence based quality markers and outcome measures are highly variable between providers and are therefore difficult to capture, benchmark and compare. Quality measures are improving. Local CQUIN indicators can be used to encourage local improvements and the use of Patient Reported Outcome Measures as part of the Advancing Quality Agenda may offer a real future for rehabilitation services. These measures not only assess the patient experience within the service, but also the impact of the intervention on the life of the individual.

AFFECTING CHANGE

As a clinician working with patients every day you will be continually reviewing and amending your practice to deliver best care. This methodology can also be applied to services as a whole to identify opportunities for improvement. If no resources are required, discuss this with your line manager or try a local commissioning or action group to help evaluate and authorise/implement any changes. If resources are required, the 'business case' comes into the picture. As a service reform lead I am continually constructing business cases to justify investment and inform commissioning decisions in my local organisation. The following elements are integral to any business case:

- **Context** – demonstrate an understanding of the area covered, but also how this sits within the local health economy priorities. Also consider the numbers of patients affected by your case – use external statistics sources to add to your local knowledge. Each organisation has an information team who will be collating data and completing national statistical requirements, they will often offer support to services looking for relevant numbers and targets.
- **Driver for change** – clearly describe why change is required, what it will achieve for the individual, the organisation, and the health economy – where possible, link this to targets or priorities identified for your local area.
- **Resources** – describe the current resources and what is required in the future to deliver the required outcomes. Make the efficiencies clear within this part of the plan. In the current climate 'cost neutral' is the preferred option. Make sure that any savings delivered will provide the required resource to implement the changes. The savings need to be sufficient, but they also need to be delivered to the appropriate organisation. A good example of this is length of stay. With the 'trim point' associated with tariff, any reduction of length of stay within the trim point will deliver savings to the provider organi-

sation and improve patient flow. Beyond the trim point, the commissioner pays for each additional day therefore any reduction in these days will deliver cost savings to both the commissioner and the provider.

- **Performance monitoring** – use key milestones to demonstrate how implementation will be achieved and outcomes monitored. Clear planning of the monitoring process gives the reader confidence that the plan will be delivered or modified as required.
- **Option appraisal** – every business case must offer choices – one of which should always be to do nothing. Make sure you have explored all options fully no matter how radical.
- **Recommendation** – you have an opportunity to put forward your recommendation – ensure that all boxes are ticked within your preferred option.

Remember to identify your audience clearly and structure your arguments accordingly. If your proposal is going to be reviewed by non-clinicians ensure your messages are clear and jargon free.

MAKING CONNECTIONS

Within your organisation, understand the management structure around you and where decisions regarding your service will be taken. Also understand the wider health economy and the key stakeholders across all sectors. My advice for clinicians would be to develop a network of contacts throughout the organisation and beyond. These contacts need to include your physiotherapy leads, service improvement managers, operational managers with a responsibility for performance and quality, and commissioning leads for your clinical area. Commissioners should be seeking to engage with clinicians to inform decisions about future healthcare, are they doing this in your area? Are there groups that your multi-disciplinary team colleagues attend that may be influential? Are there local voluntary groups that could assist you?

CONCLUSION

I hope this article has provided a starting point for those of you trying to improve patient services within the NHS. As a neurophysiotherapist it is very disappointing that neurology issues are so low down on the national agenda, and as a consequence they are low on the commissioning plans. As a profession, we need to ensure that we continue to raise the profile of this group of conditions at a policy making level. However, quality improvement and efficiency agendas are applied across all health areas and so provide an opportunity to make changes.

As a commissioner I can see how the diseases killing my local population need to be prioritised, but I can also see that small changes in other areas would deliver significant improvements for individual patients. One of the biggest issues continues to be the co-ordination of services from both the patient perspective and from an efficiency perspective. The much used 'right treatment, right person, right time, right place' really is the way forward. National guidelines are the building blocks for local policy, but there are

opportunities for local issues to be addressed. By engaging with commissioners, referrers, service users, and external groups, the likelihood of achieving the desired changes is much higher. By describing the benefits for patients in the short term and long term and how this can be measured, service managers and commissioners will be able to see the return on their investment in terms of quality and cost. I haven't met a commissioner yet who doesn't mention patient care above everything else – so there is hope...

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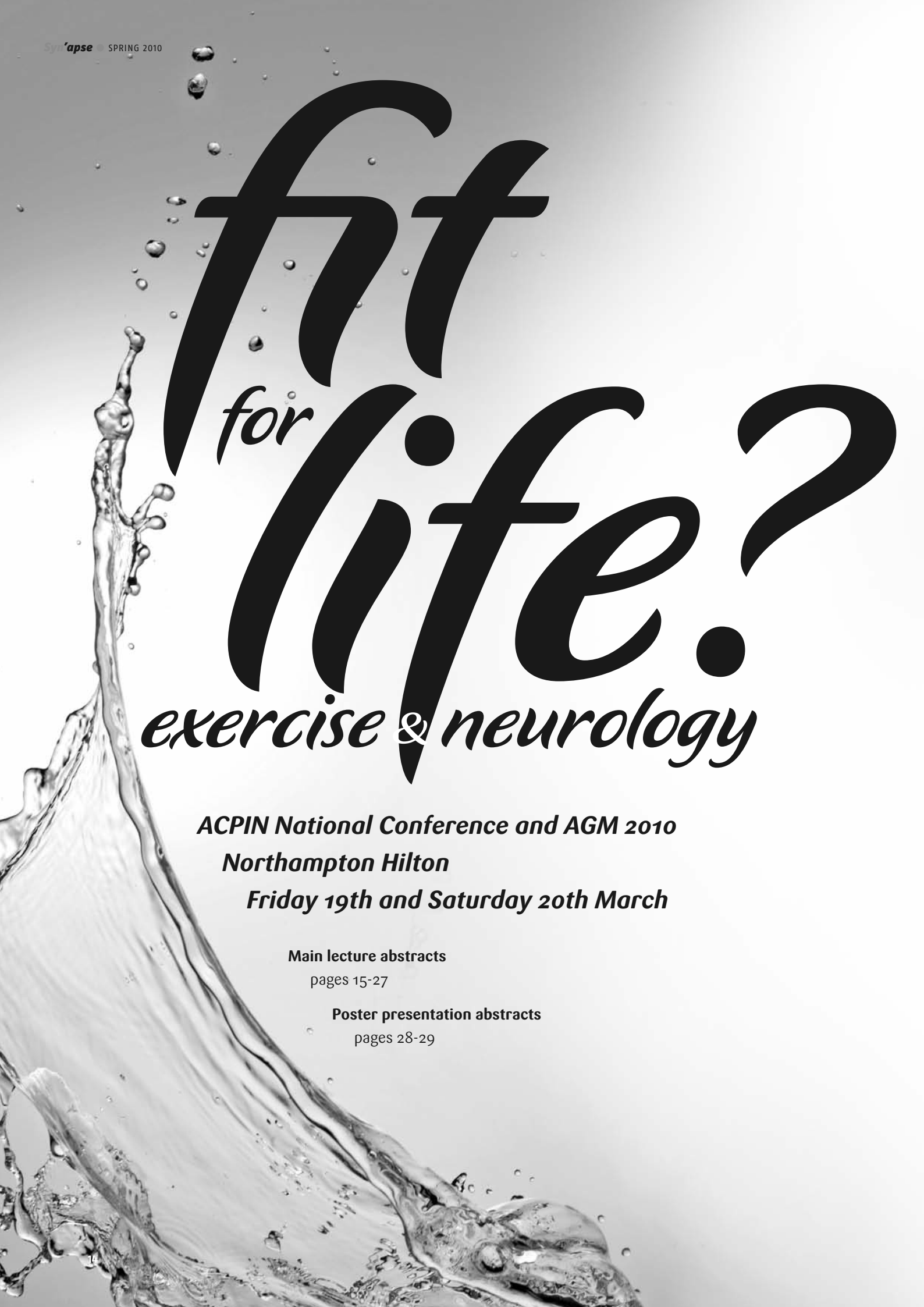
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fit for life?

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Neural changes in response to activity

Dr Nick Ward

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Fifty years ago, scientists would have viewed the growth of new connections in brain damage as impossible. In the intervening years, experiments in basic science have demonstrated that the adult brain has the capacity to change the way it is organised during the learning of a new skill. This process is often referred to as ‘plasticity’ and is believed to be a critical factor in helping patients regain lost skills after brain damage. These remarkable scientific advances point to the immense potential for restoration of function even in the damaged adult human brain.

So how can we measure these changes in organization in the human brain? Cutting-edge brain imaging techniques such as functional magnetic resonance imaging (fMRI) have developed to the point where a detailed appreciation of the damage to brain structures and their connections is possible. Not only this, but we can determine whether apparently healthy parts of the brain are functioning normally. Changes in the pattern of brain activation during movement of an affected limb can be measured over the first few weeks and months after stroke. Studies have already suggested that after stroke-related damage reorganization within surviving brain regions and networks can help maximize recovery. For example, parts of the brain normally involved in more complex movements help recovery of simple movements after stroke. Over time, it seems that these more extensive patterns of brain activity can be modified towards a more normal pattern during recovery. This ‘focusing’ is very similar to that seen during learning of a new complex motor task in healthy adults. However, this reorganisation can only take place within brain regions left undamaged and the quality of recovery will depend on how effective these regions are at generating signals to the affected areas.

How can brain imaging help rehabilitation of stroke patients? Treatments designed to improve arm or leg weakness after stroke are based on promoting

reorganisation in the way surviving brain regions interact with one another in order to increase the chances of signals reaching the muscles. Currently there is no way of telling how well these treatments will work in individual patients. Measurement of how a patient’s brain networks are organised provides an opportunity to predict the chances of responding to a particular type of treatment, in other words a biomarker of the potential for plastic change. For example, it might be that one treatment works best if it can increase activity in a particular brain region, whereas another treatment might stimulate a different area. Because strokes affect different areas of the brain in each patient, each of these treatments might be better suited to particular individuals but not others and functional brain imaging has the potential to reveal that information. Furthermore, longitudinal studies during treatment programmes could indicate to clinicians whether a treatment continues to have the desired effect or whether to try a different approach. In this way it might be possible to tailor treatment programmes to suit an individual’s brain.

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BIOGRAPHY

Dr Nick Ward completed his training as a clinical neurologist at the National Hospital for Neurology and Neurosurgery, Queen Square and at the Royal London Hospital. He was subsequently appointed the Stroke Association Clinical Fellow in Stroke Medicine, at the National Hospital for Neurology and Neurosurgery, Queen Square, in order to further his experience in vascular neurology. He currently holds the post of honorary consultant neurologist at the National Hospital for Neurology and Neurosurgery, Queen Square.

He is also currently a HEFCE Clinical Senior Lecturer in the Sobell Department of Motor Neuroscience with interest in the use of imaging techniques, particularly functional magnetic resonance imaging to study cerebral reorganisation following focal

brain injury and its role in facilitating functional motor recovery. An emphasis on translation research is the key element in his long-term research strategy. His intention is to develop an empirical understanding of cerebral reorganisation and how it may be influenced to promote recovery, such that the population of stroke patients will benefit from empirically derived treatment regimes. Funding for this work comes from The Wellcome Trust, MRC, European Commission (FP7), Brain Research Trust.

The body's response to exercise; cardiopulmonary adaptations

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The capacity to perform large muscle, moderate-to-high intensity exercise reflects the functional state of the cardiovascular, respiratory, and neuromuscular systems. The role of exercise as a prophylactic was first discovered in the 1950's. The past 50 years has seen an exponential rise in the numbers of research studies linking improved cardio-respiratory fitness with a decreased mortality and increased quality of life.

A decrease in aerobic fitness (VO₂max) is associated with increased risk of cardiovascular disease and mortality (Blair et al 1995). The relative contribution of central (cardiac output) and peripheral (ie blood flow distribution and oxygen extraction) components to aerobic fitness – VO₂max) is a widely debated topic. Exercise per se is known to produce both acute and

chronic cardiovascular adaptations including alterations in cardiac output, myocardial contractility, blood flow and ventilatory equivalents.

A recent 40 year follow up of the often quoted *Dallas Bed Rest and Training Study* indicates that three weeks of bed rest can equate to 40 years of ageing



(McGavock et al 2009). Today's presentation will examine the factors affecting cardiovascular responses and adaptations to both acute and chronic exercise. The time course to achieving (and losing) cardio-respiratory fitness will also be identified.

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BIOGRAPHY

Dr Fergal Grace is currently a senior lecturer in exercise physiology at Kingston University London. Fergal has been studying human physiology for 14 years and has a particular interest in exercise physiology and sports medicine. He graduated with a first class honours degree in 1999 and was awarded a Doctoral position at Glamorgan University. During this time he became involved in the area of clinical exercise physiology and collaborated with The University of Wales College of Medicine, Royal Glamorgan Pathology Unit and Oxford University. Following the completion of his doctoral studies, he was awarded a post doctoral research fellowship during which time he examined the cardiovascular effects of long term anabolic

androgenic steroid use. Fergal has in excess of 50 peer reviewed publications in the sports medicine literature.

Fergal has a keen interest in sport both as a participant and providing scientific support. He has previously worked as physiologist for Wales Rugby Union, Cardiff and Llanelli Rugby Union, Cardiff Devils Ice Hockey and Cardiff City Football Club.

Fergal has also provided scientific expertise for BBC Television, Radio Wales and contributes to the 'Ask an expert' page of *Runners World* and *Triathlete's World* magazines.

The body's response to exercise; muscle plasticity

Dr Mike Trenell

Diabetes UK RD Lawrence Fellow and Director, MRC Muscle Institute of Cellular Medicine, Newcastle University

Both physical inactivity and activity have a powerful effect upon muscle. Indeed, physical inactivity is attributed to two million deaths worldwide, 15% of cancer development and over 20% of heart disease (World Health Organisation 2009) – all conditions which effect people with neuromuscular disease. Low levels of physical activity are common in neuromuscular disease partly due to ambiguity about advice on physical activity and exercise.

Emerging evidence shows that exercise therapy can be a potent therapy in the management of neuromuscular disease. The challenge ahead is to understand if and how this can be translated into clinical care. Maybe it is time to question how we spend our energy in the care of neuromuscular disease ... is doing nothing really worse than doing something with some muscle diseases?

BIOGRAPHY

Dr Mike Trenell is a clinical physiologist with a background in biochemistry and genetics. In January 2009 he established the Medical Research Council Muscle Performance and Exercise Training Laboratory with clinical colleagues in Newcastle and now leads a clinical research team specialising in muscle performance in three main streams of work: ageing, neuromuscular disease and metabolic

disease. He has worked in a varied range of clinical groups from sleep disorders and diabetes to HIV and neuromuscular disease. The common theme to these is understanding more about the physiological and genetic mechanisms of disease and how these can be improved. He currently leads physical activity and exercise studies in mitochondrial disease, muscular dystrophy, inclusion body myositis and stroke. ►►

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Behaviour change science and exercise

Dr Falko Sniehotta

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There is a compelling body of evidence linking physical exercise for prevention, treatment and rehabilitation to health outcomes. Translating this evidence into successful interventions for health involves prescribing considerable and very specific changes in behaviour, for example, adopting specific exercises, with a specific intensity, frequency and duration or attending regular treatment sessions.

Evidence shows that such behaviour changes are difficult to implement. Even well informed and highly motivated individuals regularly fail to adhere to exercise recommendations, guidelines and prescriptions. In the past, health care interventions involving behaviour change were mostly based on intuition and trial-and-error, and thereby not making use of the best available evidence about behaviour change.

Behavioural science has made progress in understanding the mechanisms underlying behaviour change and suggested scientific methods for intervention development based on scientific theory and evidence. An overview over current theorising and methods of intervention development will be presented and illustrated by empirical applications.

BIOGRAPHY

After studying psychology and completing his PhD 2004 in Berlin Dr Falko Sniehotta has been working as a lecturer (2004) and senior lecturer (2008) at the University of Aberdeen and will be moving to Newcastle University as a reader in Health Psychology from June 2010.

He is interested in behaviour relevant to health, particularly in physical activity. His research programme aims at developing and testing a) theory of behaviour change and b) interventions to change behaviours relevant to health and health care.

Selected recent publications

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Fit for LIFE? How to ... PASS (Physical Activity Support Scheme)

Charlie Winward presenting on behalf of the LIFE Steering Group*

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Participation in regular physical activity improves health and wellbeing^{1,2}. Accordingly efforts have been made to encourage physical activity in all. In the United Kingdom Exercise Referral Schemes (ERS) have been introduced to encourage physical activity in sedentary and clinical populations^{3,4} but attaining a physically active lifestyle in people with long-term neurological conditions (LTNC) can be complex because these conditions may present with physical and cognitive impairments. Moreover people with LTNC are often deterred from using community facilities⁵ and participating in exercise even though they wish to be active⁶⁻⁹.

The National Institute for Health and Clinical Excellence (NICE) guidelines emphasize that practitioners, policy makers and commissioners should only endorse ERS that are part of rigorously designed and controlled research studies so that better ways of increasing exercise in LTNC are developed and their effectiveness determined¹⁰. We have therefore set out to develop and evaluate an exercise support system for this group of people.

Aim

The aim of this lecture is to describe how to implement a community based exercise support system in long-term neurological conditions. The system is called the Physical Activity Support Scheme (PASS) and is intended to enable people with LTNC to safely and effectively use local gym facilities in the UK. It has

been evaluated recently in the long-term individual fitness enablement (LIFE) project. LIFE is a phase II randomized controlled trial designed to determine the feasibility of delivering this system.

Results

Ninety-nine participants attended the gym an average of once per week over a twelve-week period. There was an average of three face-to-face sessions with the physiotherapist supporting participants in their exercise regime. When participants were asked to rate PASS components; the fitness professional, centre staff attitudes and adequate equipment were the most important factors for participation, followed by good centre access and the support of the health professional. One third of individuals were still exercising the week following the end of the study. ►►

Conclusions

Our provisional findings suggest the PASS was well tolerated. To date, there is no standardised system for enabling physical activity for people with long-term neurological conditions. Our observations suggest that using PASS may be successful in initiating and maintaining exercise in people with LTNC in the short-term.

* Winward CE^A, Dawes HA^B, Elsworth CE^A, Wade DT^C and the LIFE Steering Group^D.

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^B Department of Clinical Neurology, Oxford University.

^C Oxford Centre for Enablement, Nuffield Orthopaedic Centre NHS Trust, Oxford.

^D LIFE Steering Group: K Barker, J Bateman, P Esser, J Freebody,

D Hilton-Jones, C Meek, C Minns-Lowe, S Pagett, R Parnell, C Sackley,

A Soundy.

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BIOGRAPHY

Charlie Winward qualified (1989) with a diploma from the Middlesex School of Physiotherapy, London. After a brief sojourn as a sports injuries physiotherapist she was introduced to the world of neurology and has remained challenged by it ever since. She has been fortunate enough to work as both a clinician and researcher at the Rivermead Rehabilitation Unit,

Oxford (developing the Rivermead Assessment of Somatosensory Performance), the Department of Clinical Neurology Oxford University (measuring fatigue in TIA and Stroke) and the Movement Science Group, Oxford Brookes University (researching exercise in long term neurological conditions). Her research interests are exercise in neurological conditions and measuring sensoria post stroke.

Following the birth of her son Arthur she has developed a curiosity in postnatal supported exercise groups and health walks. She lives in the serenity of Oxford, by the canal - fence to prevent toddler falling in is imminent!

Selected recent publications

Winward CE, Halligan PW, Wade DT (2007) **Somatosensory recovery; a longitudinal study of the first six months after unilateral stroke** *Disability and Rehabilitation* 29 (4) pp293-299.

Elsworth C, Dawes H, Winward C, Howells K, Collett J, Dennis A, Sackley C, Wade D (2009) **Pedometer step counts in individuals with neurological conditions** *Clinical Rehabilitation* 23 (2) pp171-175.

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Physiological responses of athletes with a spinal cord injury to exercise

Professor Ian G Campbell

Centre for Sports Medicine and Human Performance
Brunel University, West London

Compared to our knowledge concerning the responses to exercise of able-bodied athletes there is relatively little known about the exercise responses of athletes who have a spinal cord injury (SCI). The purpose of this study was to determine the physiological characteristics of trained wheelchair athletes, and examine selected physiological responses of wheelchair athletes, with different levels of SCI, to endurance exercise.

The mean peak oxygen uptake (VO_2 peak) achieved by the group of 27 trained wheelchair athletes during wheelchair treadmill exercise was $2.11 \pm 0.53 \text{ l}\cdot\text{min}^{-1}$. When athletes were grouped according to lesion level (tetraplegics (TP; $n=3$); high level paraplegics (HP; $n=12$); low level paraplegics (LP; $n=12$) the VO_2 peak values were $1.28 \pm 0.16 \text{ l}\cdot\text{min}^{-1}$, $2.10 \pm 0.43 \text{ l}\cdot\text{min}^{-1}$ and $2.32 \pm 0.52 \text{ l}\cdot\text{min}^{-1}$ respectively. The mean peak heart rates of these groups were $112 \pm 4 \text{ b}\cdot\text{min}^{-1}$, $190 \pm 9 \text{ b}\cdot\text{min}^{-1}$ and $200 \pm 9 \text{ b}\cdot\text{min}^{-1}$ respectively.

Athletes also performed an endurance test on the treadmill adapted for wheelchairs. In general, it was found that wheelchair athletes are able to maintain a

speed equivalent to 75% VO_2 peak for prolonged periods of time, irrespective of their lesion level. There were no significant differences found between the paraplegic groups. The tetraplegic athletes appeared to exhibit lower heart rate, blood lactate, blood glucose and respiratory exchange ratio values throughout the duration of the test.

The results of the study suggest that the amount of muscle mass available for recruitment during exercise and the degree of disruption to the sympathetic nervous system play an important role in determining the responses to exercise of wheelchair athletes with a SCI.

BIOGRAPHY

Professor Ian Campbell is Professor of Exercise Physiology and Pro-Vice-Chancellor for External Relations and Teaching Quality. He also has special responsibility for leading Brunel's programme of development and activities in the run-up to Olympic and Paralympic Games in 2012.

Ian gained his PhD from Loughborough University in 1992. His work examined the influence of spinal cord injury on the physiological and metabolic responses of wheelchair athletes to exercise and performance. He has developed an international reputation, with numerous publications in this area examining 'factors influencing the performance of wheelchair ath-

letes' and has been invited to present his findings in Europe, the USA and China.

Over the past 20 years, Professor Campbell's research has altered the training practices of wheelchair athletes and the way they prepare for competitions. He has also led a team providing sport science support for wheelchair racing for two Paralympic Games and was part of the ParalympicGB support team in Sydney 2000.

Selected recent publications

Gates PE, Campbell IG, George K (2002) **Absence of training specific cardiac adaptation in paraplegic athletes** *Medicine and*

Science in Sports and Exercise 34 pp1699-1704.

Gates PE, George KP, Campbell IG (2003) **Concentric adaptation of the left ventricle in response to controlled upper body exercise training** *Journal of Applied Physiology* 94 pp549-554.

Price MJ, Campbell IG (2003) **Effects of spinal cord lesion level upon thermoregulation during exercise in the heat** *Medicine and Science in Sports and Exercise* 35pp1100-1107.

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Aerobic exercise training in a brain injured population

Dr Jane Culpan

Senior Lecturer

School of Health and Bioscience, University of East London

Early after ABI most younger adults undergoing inpatient rehabilitation have a reduced aerobic exercise capacity. The level of physical activity in this group may not be enough to prevent further functional decline, and they may continue to lose aerobic capacity if their rehabilitation programme does not provide sufficient intensity of appropriate physical activity.

This presentation will explore the suggestion that those adults with low peak should be monitored and supported to engage in aerobically challenging activities which they may otherwise avoid or be excluded from.

BIOGRAPHY

Jane Culpan is a Senior Lecturer in Professional Health Sciences in the School of Health and Bioscience and member of the Human Motor Performance Group at UEL. Her PhD was on the effects of aerobic training on rehabilitation outcomes in adults with acquired brain injury and her current research is extending this work. She is interested in the specificity of exercise

prescription for improving both muscle and functional performance. Together with Dr Mary Cramp she is supervising two PhD students studying the effect of exercise intensity on training response after stroke. In addition she is currently investigating the use of near infra red spectroscopy and open circuit spirometry to evaluate exercise training related changes.

Selected recent publications

Bateman A, Culpan FJ, Pickering AD, Powell JH, Scott OM, Greenwood RJ (2001) **The effect of aerobic training on rehabilitation outcomes after recent severe brain injury: a randomized controlled evaluation** *Archives of Physical Medicine and Rehabilitation* 82 (2) pp174-82.

Culpan J, Bateman A, Dawes H, Scott O, Greenwood R (2003) **Exercise capacity and functional ability early after acquired brain injury** 14th International WCPT Congress, Barcelona, Spain: RR-PL-1722. The World Confederation for Physical Therapy. London, UK.

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Dawes H, Bateman A, Culpan J, Scott O, Wade DT, Roach N, Greenwood R (2003) **The effect of increasing effort on movement economy during incremental cycling exercise in individuals early after acquired brain injury** *Clinical Rehabilitation* 17 (5) pp528-534.

Mead D, Culpan J, Cramp MC, Scott OM (2007) **Investigation of changes in oxygenation of human quadriceps femoris during ischaemia and fatiguing muscle contractions** Poster, Physiological Society - Life Sciences. Glasgow, UK.

Exercise in Parkinson's conditions

Bhanu Ramaswamy

Consultant AHP in Intermediate Care
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The fields of cellular biology and animal-model research are increasingly showing evidence of the benefits of exercise on the central nervous system in hitherto unrecognised ways. Research is suggesting that exercise might potentiate protective mechanisms, and possibly aid in the restoration of impaired neural function.

Physiotherapists are one of the few professions at the forefront of providing expertise in exercise prescription and education, and the evidence has the capability of altering how we might approach management of conditions such as Parkinson's.

In 2009, the Special Parkinson's Research Interest Group (SPRING) held a two day conference looking at the current evidence for, and how the developments in the disease-modifying possibilities of exercise on Parkinson's might be taken forward; Bhanu Ramaswamy was a member of the organising committee.

In this session those lectures, presented by researchers from the world of science, clinical practice and the arts, will be summarised looking at the information provided from the perspective of a physiotherapist. In particular, the latest evidence will be reviewed that might assist our practice where the FITT principles of exercise impact the most ie frequency, intensity, type and time.

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Falvo MJ, Schilling BK, Earhart GM (2008) **Parkinson's disease and resistive exercise: Rationale, review, and recommendations**

Movement Disorders 23 (1) pp1-11.

Fisher BE, Wu AD, Salem GJ, Song J, Lin C, Yip J, Cen S, Gordon J, Jakowec M, Petzinger G (2008) **The effect of exercise training in improving motor performance and corticomotor excitability in people with early Parkinson's disease** *Archives of Physical Medicine and Rehabilitation* 89 (7) pp1221-1229.

Goodwin VA, Richards SH, Taylor RS, Taylor AH, Campbell JL (2008) **The effectiveness of exercise interventions for people with Parkinson's disease: a systematic review and meta-analysis** *Movement Disorders* 23 (5) pp631-40.

Kwan BM, Bryan A (2010) **In-task and post-task affective response to exercise: Translating exercise intentions into behaviour** *British Journal of Health Psychology* 15 (1) pp115-131.

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Sage MD, Almeida QJ (2009) **Symptom and gait changes after sensory attention focused exercise vs aerobic training in Parkinson's disease** *Movement Disorders* 24 (8) pp1132-1138.

Tanaka K, Quadros AC Jr, Santos RF, Stella F, Gobbi LT, Gobbi S (2009) **Benefits of physical exercise on executive functions in older people with Parkinson's disease** *Brain and Cognition* 69 (2) pp435-41.

BIOGRAPHY

Bhanu Ramaswamy is a Consultant Physiotherapist in Chesterfield and has a joint practitioner-lecturer post with Sheffield Hallam University. She participates in national lectures on topics pertaining to her area of work. Her work with older people in rehabilitation has included positions on the National Committee of both ACPIN and AGILE (the CSP Older People Clinical Interest Group) and she currently project works on Parkinson's Disease for such areas as the development of the 2006 NICE Guidelines for Parkinson's, its imminent audit and development of UK clinical guidelines and standards. Bhanu's strategic role includes advising the Parkinson's Disease Society and producing tools for physiotherapists as well as people with the condition. Her current interest relates to the impact of exercise in chronic conditions having been involved in running exercise classes in ►►

Sheffield as well as seeing the benefit of graded exercise in her role as residential physiotherapist at the annual week-long Holistic Programme for Parkinson's at Blackpool, providing varied therapy from one to one sessions to group exercise classes.

Selected recent publications

Ramaswamy B (2006) *Exercise and Parkinson's Disease HealthEX specialist* [1744-9375] 9 pp9-12.

Parkinson's Disease Society (2008) *Professionals Guide to Parkinson's Disease (Physiotherapy chapter)* PDS London.

Ramaswamy B, Jones D, Goodwin V, Lindop F, Ashburn A, Keus S, Rochester L, Durrant K (2009) *Quick Reference Cards (UK) and Guidance Notes for physiotherapists working with people with Parkinson's disease* PDS London.

Columnist for the PDS quarterly magazine *Parkinson's* writing the 'Healthy Body' articles.

Exercise in neuromuscular disease

Dr Gita Ramdharry

Senior Lecturer

St George's School of Physiotherapy, London

Neuro-muscular disease (NMD) is an umbrella term that covers wide range of diseases involving dysfunction of the anterior horn cell, peripheral nerves, the neuromuscular junction and muscle. The pathology and progression varies greatly between the different conditions.

Common impairments to many NMDs are muscle weakness and fatigability leading to reduced activity, deconditioning and chronic fatigue. Exercise is commonly prescribed to manage these impairments in other neurological conditions, but there has traditionally been some reluctance with NMD due to fears of overwork weakness.

There is a growing body of evidence demonstrating physical and functional improvements of exercise in many NMDs without detriment to participants. There is still a need, however, for further research into the dosage and efficacy of particular types of exercise to inform prescription in the clinical environment.

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White CM, Pritchard J, Turner-Stokes L (2004) *Exercise for people with peripheral neuropathy* (review) *The Cochrane Database of Systematic Reviews* issue 4.

week working on an exercise trial for people with Charcot-Marie-Tooth disease at the MRC Neuromuscular Centre in London. She has just been awarded an NIHR clinical lectureship which will enable her to pursue further rehabilitation research and clinical practice for people with neuromuscular disorders at the MRC centre.

BIOGRAPHY

Dr Gita Ramdharry qualified as a physiotherapist from UEL in 1995 and developed a love of neurology while working as a junior physiotherapist at King's College Hospital. She specialised through rotational positions as a Senior 2 at St George's Hospital then a Senior 1 at the National Hospital for Neurology and Neurosurgery. In 2004 she embarked on a research position at the UCL Institute of Neurology completing a PhD in 2008 on compensatory walking patterns in people with Charcot-Marie-Tooth disease.

Gita now works as a senior lecturer at St George's School of Physiotherapy and spends a day a

Exercise interventions for people with Multiple Sclerosis

Dr Susan Coote PhD, HDip Stats, BSc(Physio), MISCIP

Lecturer in Physiotherapy

University of Limerick

In the past there was a belief that people with MS shouldn't participate in strenuous exercise as it was thought that it would increase the risk of relapse. Now there is a growing body of evidence that suggests that exercise interventions have many positive effects¹⁻³ and do not increase relapse rate. People with MS have reduced physical activity levels compared to both healthy individuals and those with other chronic diseases⁴. This places them at increased risk of secondary cardiovascular disease – a risk that can be reduced with exercise⁵.

The literature to date has failed to take into account the influence of varying mobility levels and different symptoms on response to treatment and the influence on fatigue and quality of life.

Our study was a randomised controlled trial that stratified people with MS according to mobility level⁶. For those who use at most a stick to walk outdoors, significant improvements in fatigue, impact of MS and mobility were seen in response to a combined aerobic and progressive resisted exercise programme. The results were similar to programmes led by fitness instructors. While yoga programmes had only slightly smaller effects on fatigue and impact of MS, they did not translate to improvements in gait ability.

For those who use bilateral support to walk we compared a group intervention of strengthening and balance exercises to individual treatment. Significant improvements in fatigue and impact of MS were found. While the control group had a reduction in balance scores, both physiotherapy treatment groups had significant improvements, with reductions in the risk of falls.

This study provides additional evidence to support exercise interventions in people with MS, and challenges how we provide services in Ireland for this group.

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3. Hogan N, Coote S (2009) *Therapeutic interventions in the treatment of people with multiple sclerosis with mobility problems: a literature review* Physical Therapy Reviews 14 (3) pp160-168.

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people with multiple sclerosis

BMC Neurology 9 (34) 16 July. For information on the *Getting the Balance Right* interventions go to: www.ms-society.ie/pages/information--reading

BIOGRAPHY

Dr Susan Coote's area of clinical and research interest is in neurological rehabilitation incorporating technology in rehabilitation, and specific physiotherapy interventions. Her teaching role includes an undergraduate and a postgraduate module on neurological rehabilitation. Her clinical experience in this area was gained in the USA and Ireland, working mainly with people with stroke and multiple sclerosis, and also with people with head injury, Parkinson's Disease, cerebral palsy and mobility problems.

Susan's PhD evaluated the effect of robot mediated therapy on upper extremity function post stroke, as part of the GENTLE/s project.

Current projects include an evaluation of physiotherapy and exercise programmes in collaboration with Multiple Sclerosis Ireland, as part of the *Getting the Balance Right* project; a profiling study of people attending physiotherapy services in Ireland; the use of activity monitoring as a tool to increase participation in exercise programmes; measuring physical

activity and energy expenditure in MS; augmenting strengthening exercises with electrical stimulation and evaluation of exercise classes by the users. Other research includes the evaluation of falls prevention programmes, FES for foot drop post stroke and physiotherapy services for children with cerebral palsy.

Selected recent publications

Coote S, Garrett M, Hogan N, Larkin A, Saunders J (2009) **Getting the balance right: A randomised controlled trial of physiotherapy and exercise interventions for ambulatory people with multiple sclerosis** *BMC Neurology* 9 pp34.

Garrett M, Coote S (2009) **Multiple sclerosis and exercise in people with minimal gait impairment - a review** *Physical Therapy Reviews* 14 (3) pp169-180.

Hogan N, Coote S (2009) **Therapeutic interventions in the treatment of people with multiple sclerosis with mobility problems: a literature review** *Physical Therapy Reviews* 14 (3) pp160-168.

The effects of type and intensity of physiotherapy on strength and function after stroke

Dr Emma Cooke

Operations Manager for Therapies in Neurosciences
St George's Hospital, London

Stroke survivors are often left with permanent impairment and this may be due to the fact that the conventional therapy is ineffective or that the dose is insufficient. The appropriate dose and type of physiotherapy for patients who have sustained a stroke is uncertain. The limited empirical evidence suggests that increasing the dose of therapy and including strength training in conventional practice might be beneficial.

A systematic review and meta-analysis of randomised controlled trials comparing different intensities of exercise based therapy for adults after stroke was completed using the Cochrane methodology. Of the 187 studies identified, five trials met the pre-determined inclusion criteria for this review. The findings suggested that, immediately after treatment there was a significant difference in favour of increased intensity of conventional physiotherapy (CPT) for motor impairment (WMD (95% CI) 19.6 (8.77, 30.60 $p=0.0004$), movement control (WMD (95% CI) 0.23 (0.04, 0.41 $p=0.01$) and functional mobility (WMD (95% CI) 1.01 (0.34, 1.68 $p=0.003$). These results need to be interpreted with caution as the majority of comparisons only contained one trial.

It was concluded that there was a need for further primary studies comparing the effects of different intensities of well-defined physical therapies.

CPT was defined prior to commencing the randomised controlled trial by conducting ten recorded semi-structured interviews with senior physiotherapists who treated stroke patients. The interviews were transcribed and a content analysis of the transcripts was conducted by two independent researchers. A focus group was held with the interviewees in order to formulate a draft treatment schedule. The draft schedule was piloted in clinical practice at the trial centres. The schedule was then modified and a final treatment schedule was produced (Pomeroy and Cooke *et al* 2005). The treatment schedule was used by both the

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conventional and research physiotherapists as a way of describing type and intensity of their treatment session.

A multi centred, observer blinded, randomised controlled trial investigating the effects on strength and function after stroke of different intensities of CPT, and comparing CPT and functional strength training (FST) was carried out. Subjects were allocated to one of three groups: CPT (control); CPT plus CPT (experimental 1); CPT plus FST (experimental 2). One hundred and nine subjects completed the study. There

were no statistically significant differences between the groups for the primary outcome measures (muscle strength around the paretic knee – maximum torque – and walking speed) or the secondary measures (Modified Rivermead Mobility Index and the measures of the electromechanical properties of muscle contraction). There was however, a statistically non-significant trend towards improvement with additional CPT or FST compared to a standard amount of CPT with respect to recovery of strength and function (Cooke *et al* 2010).

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Selected recent publications

BIOGRAPHY

Dr Emma Cooke qualified from the University of East London in 1996. She has specialised in neurology since 1998. She completed a PhD from St George's University of London in 2008. Her research investigated the effects of type and intensity of physiotherapy on lower limb strength and function after stroke. She is currently employed as Operations Manager for Therapies in Neurosciences at St George's Hospital and Wolfson Neurorehabilitation Centre in South West London. Prior to this post she worked as a clinical specialist physiotherapist at St Peter's Hospital and a research physiotherapist at St George's, University of London.

POSTER PRESENTATIONS

What are the effects of reciprocal pedalling exercise on motor function after Stroke? A systematic review

NJ Hancock¹, W Winterbotham², L Shepstone¹ and VM Pomeroy¹

Background/purpose

Cycling exercise (pedalling) is a familiar, task-orientated activity requiring repetitive lower limb movement and co-ordination of agonist and antagonist muscles. This systematic review aimed to determine whether there is sufficient research evidence to justify using pedalling to enhance lower limb motor recovery after stroke.

Method

Cochrane methodology was employed. The search strategy was run in relevant electronic databases. Lead authors were contacted and reference lists of included papers hand-searched. The first author and

reviewer independently identified papers meeting predefined inclusion criteria.

Analysis

Included studies demonstrated heterogeneity across domains including design, participants, methods and outcomes therefore meta-analysis was not indicated. Data synthesis and interpretation was qualitative with reference to the methodological quality of included studies and outcomes categorised and reported within the ICF framework.

Results

Of 1,341 titles, 34 papers were identified for full text review, 11 of which met study

criteria for inclusion in the final synthesis. Study designs ranged from case series to small randomised controlled trials.

Conclusion

Results suggest a paucity of good quality research into effects of pedalling on lower limb motor recovery after stroke. The authors recommend further research, particularly controlled trials of standardised pedalling interventions, is required before informed clinical recommendations can be made.

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Use of the Wii-Fit to improve balance and walking speed – two case studies

Tamsin Openshaw Grad dip MCSP Bsc and Lisa Cobb MCSP Bsc

Wellington Hospital Neuro-rehabilitation Unit

Purpose

To evaluate the feasibility of using the Wii gaming system to improve standing balance and walking speed in an adult neuro-rehabilitation unit.

Background

In the last couple of years the emergence of the Nintendo Wii has stimulated interest and fierce debate over whether it is a clinically effective tool in neurological rehabilitation. There are few studies, mostly looking at the effect on mood and social interaction as well as some case studies looking at its use to improve upper limb function and balance. Despite the lack of larger studies, several rehabilitation units are using this tool to supplement their programs. More research is required to determine its effectiveness.

Design and methods

The design was a simple AB design using two case studies. The outcome measures were recorded pre treatment and on the last day of the intervention. The outcome measures used were the Berg and the 10-metre walk test. Posturography was used in addition for patient 1 who was functioning at a higher level and was able to tolerate the required assessment time. Both patients were asked to fill in a short questionnaire at the end of the Wii intervention week.

Intervention

Patients received daily sessions using predominantly the WiiFit games (ranging from 10 minute to 40 minute sessions excluding set up) alongside one session of standard physiotherapy treatment for five consecutive days.

Results

Following the intervention there was a clinically meaningful improvement in the Berg balance scale score and the 10-metre walking test in both patients. The posturography results for patient 1 had also improved.

Conclusion and relevance

This initial pilot study reveals that the Wii can be used alongside normal therapy, in an inpatient unit to improve balance and walking speed. There were no adverse effects and many unmeasured secondary effects were noted and reported in the questionnaire. This needs to be looked into on a larger scale with more patients of varying functional levels.

Comparing activity levels between people with Charcot-Marie-Tooth disease and healthy controls – a pilot study

Alex Pollard¹, Gita M Ramdharry^{1,2}, Sarah Moore³, Kate Hallsworth³, Jonathan F Marsden⁴ and Mary M Reilly¹

Background/aims

This pilot study aims to compare physical activity levels, recorded using the SenseWear activity monitor (SAM), in people with Charcot-Marie-Tooth (pwCMT) and healthy matched controls. Correlations between SAM activity levels, self reported activity levels and impairments were investigated.

Methods

Twelve pwCMT and 12 healthy matched controls wore a SAM for the waking hours of seven days. Primary comparisons of body mass index (BMI), calorie expenditure, energy expenditure (METs), time spent performing sedentary (<3 METs) and moderately vigorous (≥3 METs) activities were measured using the SAM in both groups, expressed as an individual's mean day. Secondary measures included reported activity levels (Phone-FITT questionnaire) and fatigue severity (FSS questionnaire) plus disease severity using the CMT Examination Score (CMTES).

Results

There were no significant group differences between calorie expenditure, energy expenditure, or time spent performing sedentary or moderate activities.

Disease severity, self reported activity, and fatigue did not correlate with any of the SAM measures in pwCMT. No difference was seen in BMI (pwCMT mean BMI 25 ±3; Controls mean BMI 26 ±4), but both groups showed correlations between energy expenditure and BMI (pwCMT=0.61, P=0.035; Controls=0.61, P=0.031). PwCMT also showed a correlation between sedentary activity and BMI (0.64, P=0.027).

Conclusion

These early results indicate that pwCMT have levels of physical activity comparable with healthy controls. This contrasts with previous literature that reported pwCMT as an under-active population. The SAM and self reported measures of physical activity did not

correlate, perhaps because the Phone-FITT questionnaire doesn't account for occupational activity. The correlation between BMI and activity variables raises general health and well-being implications. A larger trial will be required to see if there are any between group differences in physical activity with more subjects.

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Setting up a community MS exercise group

Angela McEwan

Aim

To assess the value of a physiotherapist supervised exercise class in the community for people with MS.

Method

Two groups of five patients were offered eight one-hour exercise sessions to improve activity levels, encourage participation in exercise in the community and/or motivate to continue an exercise programme at home. All patients had a diagnosis of MS and were independently mobile with/without a walking aid with a

TUG of less than or equal to 20 seconds.

All patients were assessed by the physiotherapy team and had variable compliance with exercise programmes. Ten patients attended on average 6.5 sessions (range 5-8), six patients completed the audit.

Results

Berg balance scores remained unchanged, TUG and repeated Chair Stands improved. Speed and time achieved on the treadmill improved.

Analysis

Improvements in outcome scores seen, motivation and compliance improved, physiotherapy and peer support were valued and all patients enjoyed the sessions. Completion of the eight subsequent sessions was difficult for these patients.

Next steps

Consider completion of sessions when patients achieve goals, offer up to twelve sessions. Invite patients to sessions when places become available to achieve a regular group.

Audit into the effectiveness of a 'fitness class' for newly injured SCI individuals on cardiovascular fitness as part of their rehabilitation program

S Edmundson and H Proctor

Physiotherapy Department, National Spinal Injuries Centre, Stoke Mandeville Hospital

Purpose

Cardiovascular disease (CVD) is the major cause of morbidity of both the able bodied and the spinal cord injury (SCI) population¹. However, it appears that individuals with SCI have an increased CVD mortality rate, at an earlier age². This has been attributed to physical inactivity and marked deconditioning among the SCI population³. Therefore, within the National Spinal Injuries Centre, it was decided to introduce a fitness program to run alongside the current rehabilitation program offered. The aim was to introduce the concept of physical exercise early on within an individuals rehab in order to help promote ongoing exercise through the use of a simple program within the home environment after they have been discharged. The focus of this audit was to evaluate the effectiveness of the fitness class as part of the rehabilitation program for newly injured SCI patients in improving overall fitness.

Methods

Data was collected from eleven individuals of between 27 and 65 years old (mean: 41 years old). The heart rate of patients who attended the fitness class (which is run twice a week for one hour) was monitored and analysed. The class comprised of pushing drills, skills and circuits (cardiovascular and strengthening stations) of 1.5 min duration.

Results

Heart Rate Reserve (HRR) was then calculated for each individual and used to analyse the effectiveness of individual activities within the class and the overall intensity levels that individuals were working to. HR readings showed that the majority of the activities were only working the individuals at a low intensity (40-50% HRR), with the exception of some of the circuit exercises.

Conclusion

The current class needs to be adapted in order to increase exertion and duration of

each exercise, to try to raise HRR within a higher intensity parameter. It is acknowledged that most of the activities were working the participants to a low intensity. However, they were still raising the individual's heart rate as well as working on upper limb strengthening, balance and wheelchair skills, all of which are beneficial as part of their rehabilitation. It also enables the individuals to have ideas of a basic program, which they can continue with at home along with an awareness of ways to reduce secondary disability and illness as a result of their SCI.

¹ Whiteneck *et al* 1992.

² Yekutieli *et al* 1989; Whiteneck *et al* 1992; DeVivo *et al* 1993; Bauman *et al* 1999b.

³ Jacobs and Nash 2004.

ACPIN AGM 2010

ACPIN AGM 2010

AGM Minutes

1. **Welcome and introduction**
to committee members.
2. **Apologies**
Sandy Chambers and Jo Jones.
3. **Minutes of the 2009 AGM**
Accepted as an accurate account.
4. **President's address**
Margaret Mayston.
5. **Chairs' address**
Cherry Kilbride and Jo Tuckey.
6. **Treasurer's report**
Jo Kileff. Accountants voted in with a majority vote.
7. **Election of executive committee members**
Membership Secretary:
Sandy Chambers;
proposed – Kate Moffatt
2nd – Helle Hampson

PRO: Adine Adonis;
proposed – Gita Ramdharry
2nd – Louise Rogerson

CIG Liaison: Jakko Brouwers –
proposed – Chris Manning
2nd – Nicola Hancock

Committee member and iCSP lead:
Chris Manning;
proposed – Lorraine Azam
2nd – Cherry Kilbride

Committee member: Lisa Knight;
proposed – Adine Adonis
2nd – Jakko Brouwers

Committee member: Anita Watson;
proposed – Emma Procter
2nd – Julia Williamson
8. **AOB**
CSP/CIG consultation document – the CIG structure is under review, and a response is required from ACPIN by 31st March 2010. Members were encouraged to comment on the

document via their regional representative, directly via email, or on the stand at the conference.

Move for Health – Chris Manning delivered an overview of the *Move for Health* programme and members were encouraged to review the information available at the conference and via iCSP.

Chairs address

Cherry Kilbride and Jo Tuckey

Jo and I cannot quite believe that it is two years already and we are about to step down from our shared 'Chairship' of ACPIN... it must be true that time flies when you are having fun! Thank you all for making our time at the helm of one of the largest CIGs so enjoyable. Thank you for trusting us and thank you Professor Sue Mawson (our President before Margaret) for giving us the encouragement (or the kick up the gluts!) to take up the mantle – you were right, we would survive and so would ACPIN! Indeed we hope that you agree that ACPIN has continued to flourish and has moved onwards and upwards. But remember that behind every successful Chair is a whole army of people, so thank you to the national and executive committee, the regional reps and the regional groups across the four countries and of course you the members.

So what have we achieved during our term in office? Don't worry I am not about to trawl through the last two years but just highlight a few gems... such as Jo's public trip on the podium last year which she is never allowed to forget... one less noticeable change is that following the constitutional review with the CSP we have finally dropped the 'interested' from our name... we are now the Association of Chartered Physiotherapists in Neurology, but please rest assured we are still most definitely

interested in all things to do with the nervous system! Under the guidance of our PRO Officer Adine Adonis the website has undergone a face lift and contains timely information that is regularly updated so please do take a look and become a regular visitor. *Synapse* also continues to progress under the editorial guidance of Louise Dunthorne and the posse of peer reviewers who help behind the scenes to support fledgling authors – please do continue to contribute your clinical cases for publication as we feel that this clinical perspective is what defines *Synapse* as a journal that belongs to you the members.

During our two year tenureship we have also been fortunate to be associated with the delivery of two exceptional neurology programmes at CSP Congress; Siobhan MacAuley aka your new chair has certainly set out her stall as being capable of delivering the goods so be rest assured you are in good hands, along with Gita Ramdharry your new vice chair. The UK Stroke Forum is another high profile event that ACPIN is an integral part of, and although I am still recovering from the loss of Betty's Tea Rooms by the venue relocating from Harrogate across Hadrian's Wall to Glasgow thanks to Dr Fiona Jones the programme last December was another roaring success. Both these events look set to be equally riveting and informative this year. Fiona is still taking suggestions for therapists for delivering a keynote talk so please do contact her on F.Jones@sgul.kingston.ac.uk with any suggestions. The multi-disciplinary therapy training afternoon at this year's Stroke Forum will be focusing on goal setting with parallel sessions on intensity and motivation, technology eg robotics, the Wii, vision and much much more including a potential debate on early supported discharge. The CSP Congress is pleased to be welcoming Dr Janice Eng from Canada as keynote speaker for the neurology strand.



From left to right: retiring chairs Jo Tuckey and Cherry Kilbride with the new Chair Siobhahn MacAuley and Vice Chair Gita Ramdharry

We are delighted to report that the long awaited *Splinting Guidance* has taken a HUGE step forwards. Thank you to the 450 people who responded to the SurveyMonkey questionnaire – this has been invaluable in providing evidence to the CSP and College of Occupational Therapy (COT) from the membership for the need of a guidance document in this area of practice. As we want to make sure that the final product meets the needs of our membership we are seeking further input over the course of this conference so please be sure to visit the board outside to offer your ideas and comments. The end product of this work stream will be the first joint document to be produced by ACPIN/CSP and the COT Special Section Neurological Practice.

ACPIN has also been making its voice heard in the development of other guidance documents such as the recent consultation on the scope for the up and coming NICE stroke rehabilitation



guidelines and the *Scottish Stroke Guidelines* (amazingly like buses these came along together). This was our first chance to test the water with our Expert Mapping group, although we are looking for a new name as it is not just experts that we want as we would like to encourage all members at whatever stage of their career to have a say. Thank you to all those who gave up their time to read and comment on the documents, the CSP

Retiring Chairs with the winners of the poster competition.

were very impressed with our comprehensive response.

So finally this is our swan song – this conference is really going to help us feel like we are going out on a high. Last week we were at the House of Commons at the launch of the new CSP and Stroke

Association reports to highlight and promote the need for ongoing treatment in the community. So from the seat of Parliament to the centre of Middle England, Jo and I would like to say thank you once more and please enjoy the rest of the conference.

Treasurer's Report

Jo Kileff

I will now present a summary of the financial accounts for National ACPIN for the year end 31st December 2009.

The total income was £68,765 (see *Figure 1*), very similar to last year's income. However the breakdown of income varied. Last year saw a large income from our courses, which was right down this year as we had hoped. However membership was up significantly this year, presumably aided by the online renewal system. This has also led to an increase in capitation. Bank interest is right down, and the committee need to consider our investment policy, as currently we are earning very little on large sums of money and we need to find somewhere that'll give us a better return on our monies.

	2009 £	2008 £
Course fees	17,430	31,940
Congress	2,129	–
Membership	42,510	33,923
Capitation	5,554	2,130
Synapse	200	110
Database	883	295
Bank interest	59	1,382
Total	68,765	69,730

Figure 1 Income

Expenditure (see *Figure 2*) for 2009 was up by £3,539 compared to 2008. This was primarily due to an increase in our travel expenses. This is partly due to more long distance travel to meetings and the increased fares being applied nationally, but mainly due to funding airfares for a

	2009 £	2008 £
Courses	20,825	21,908
Synapse	6,854	6,034
Travel	10,036	6,177
Administration	3,554	2,922
Capitation	5,168	5,060
Research bursary	1,000	600
Computer costs	1,980	2,832
UK Stroke Forum/ Stroke guidelines	681	261
Accounts, bank sundry	1,542	2,307
Total	51,640	48,101

Figure 2 Expenditure

couple of international speakers at our conference and at the UK Stroke Forum conference. Other expenses have stayed much the same.

As mentioned in previous years, costs continue to arise from the UK Stroke Forum. ACPIN have a representative on this forum and fund two committee members to attend the annual conference with a view to holding programmes at this event in future years.

As planned the March conference was run at a loss, with low course fees in order to put some money back into the membership (see *Figure 3*). Congress expenses were largely organised by the CSP and hence there were minimal costs incurred.

	2009 Income £	Expenditure £
March conference	17,430	18,547
Congress	2,129	2,278

Figure 3 Courses

The balance sheet (see *Figure 4*) on the 31st December 2009 showed a profit of £17,125 and we carry forward reserves of £95,677 into 2010. We would welcome any ideas from members as to how we might put some of this money back into

	£
Reserves brought forward	78,552
Surplus/(deficit)	17,125
Reserves carried forward	95,677

Figure 4 Reserves

the membership. We are currently heavily subsidising this course, but any other thoughts are welcome.

Copies of Accounts 2009

Full copies of the ACPIN accounts for 2009 are available on request

Vote for Accountants

Vote to retain the current accountants for 2010: Langers, 8-10 Gatley Road, Cheadle, Cheshire, SK8 1PY.



Conference this year hosted an impressive range of trade stands which were very well received by the delegates.



A delegate's view

Dr Sara Demain

Lecturer Physiotherapy, University of Southampton

To paraphrase Orson Wells “who, in the last years of the 20th century, would have thought that the ACPIN Conference, 2010, would focus on exercise and fitness?”

Fifteen years ago, the idea that physiotherapists would send people with neurological conditions to a local gym might have surprised, or even alarmed, many ACPIN members. Yet on 19th and 20th March 2010, over 200 physiotherapists gathered in Northampton to learn how to prescribe and incorporate aerobic and strengthening exercises into neurological rehabilitation.

The focus on Friday was on the underlying physiological and psychological mechanisms which underpin the recommendation that people with neurological conditions should exercise. Dr Nick Ward highlighted how exercise can change both brain structure and function, that lesion induced neurological changes actually worsen in the absence of sufficient physical stimulation and that disuse atrophy occurs at a chemical, synaptic and cellular level. Given this evidence, Dr Ward suggested we should be re-evaluating the concept and causes of recovery plateau. Dr Fergal Grace and Dr Mike Trenell built on this information, providing evidence that plasticity extends to both the cardiovascular system and skeletal muscle. Both experts highlighted that the most sedentary people – ie most of our patients – would see the greatest benefits from exercise and suggested that exercise is currently the most powerful therapy for neuromuscular disease. Having stretched our physiological knowledge, we were then treated, by Dr Falka Sniehotta, to an expertly guided whistle-stop tour of the psychology of behavioural change and reminded that there is little point prescribing exercise unless patients understand that they should exercise, want to exercise and believe they can exercise. Finally, Friday was drawn to a close with feedback on

the Fit for Life project. Charlie Winward highlighted the physical, psychological and social barriers and facilitators for people with neurological disease in taking part in exercise and provided all delegates with useful practical tips, and a handy booklet to help us facilitate exercise.

Saturday provided a similarly stimulating programme. Expert sport scientists and physiotherapists, including Professor Iain Campbell, Dr Jane Culpan, Bhanu Ramaswamy, Dr Gita Rhamdarry, Dr Susan Coote and Dr Emma Cooke, highlighted evidence about the role of exercise and activity in the management of spinal cord injury, brain injury, Parkinson's Disease, neuromuscular disorders multiple sclerosis and stroke. Although each disease expert highlighted specific features relevant to their specialist topic there was an amazing similarity in the key message of each speaker: that exercise is safe, effective and neuro-protective.

It is clear that, ten years on from the beginning of the millennium, a silent revolution has been occurring. Clinical and academic physiotherapists have been applying and developing research evidence to support the use of aerobic and graded progressive exercise in neurological conditions and now fully recognise these as key components of neurological physiotherapy practice. It is clear, however, that there is still substantial scope for research and clinical development, particularly in determining the most effective and acceptable forms of exercise and activity for our clients. The ACPIN executive should be congratulated for bringing the best current evidence to its membership and for encouraging physiotherapists to further develop the evidence base so that people with neurological conditions can be 'Fit for Life'.

ARTICLES IN OTHER JOURNALS

AMERICAN JOURNAL OF PHYSICAL MEDICINE AND REHABILITATION Volume 88:8

• Park JH, Chun MH, Ahn JS, Yu JY, Kang SH *Comparison of gait analysis between anterior and posterior ankle foot orthosis in hemiplegic patients* pp630–634.

Volume 88:9

• Kim JH, Jang SH, Kim CS, Jung JH, You JH *Use of virtual reality to enhance balance and ambulation in chronic stroke: A double-blind, randomized controlled study* pp693–701.

Volume 88:10

• Kim DY, Ohn SH, Yang EJ, Park CI, Jung KJ *Enhancing Motor Performance by Anodal Transcranial Direct Current Stimulation in Subacute Stroke Patients* pp829–836.

• Lakse E, Gunduz B, Erhan B, Celik EC *The effect of local injections in hemiplegic shoulder pain: a prospective, randomized, controlled study* pp805–814.

Volume 88:11

• Lam T, Luttmann K *Turning capacity in ambulatory individuals poststroke* pp873–886.

Volume 89:1

• Cano-de-la-Cuerda R, Pérez-de-Heredia M, Miangolarra-Page JC, Muñoz-Hellín E, Fernández-de-las-Penãs C *Is there muscular weakness in Parkinson's Disease?* pp70–76.

• Chen CH, Lin KH, Lu TW, Chai HM, Chen HL, Tang PF, Hu MH *Immediate effect of lateral-wedged insole on stance and ambulation after stroke* pp48–55.

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• Chern JS, Lo CY, Wu CY, Chen CL, Yang S, Tang FD *Dynamic postural control during trunk bending and reaching in healthy adults and stroke patients* pp186–197.

• Lin KC, Chung HY, Wu CY, Liu HL, Hsieh YW, Chen IH, Chen CL, Chuang LL, Liu JS, Wai YY *Constraint-induced therapy versus control intervention in patients with stroke: a functional magnetic resonance imaging study* pp177–185.

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• Johnston TE, Smith BT, Mulcahey MJ, Betz RR, Lauer RT *A randomized controlled trial on the effects of cycling with and without electrical stimulation on cardiorespiratory and vascular health in children with spinal cord injury* pp1379–1388.

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• Brown LA, de Bruin N, Doan JB, Suchowersky O, Hu B *Novel challenges to gait in Parkinson's disease: the effect of concurrent music in single- and dual-task contexts* pp1578–83.

• Meythaler JM, Vogtle L, Brunner RC *A preliminary assessment of the benefits of the addition of botulinum toxin A to a conventional therapy program on the function of people with longstanding stroke* pp1453–1461.

• Niessen MH, Veeger DH, Meskers CG, Koppe PA, Konijnenbelt MH, Janssen TW *Relationship among shoulder proprioception, kinematics, and pain after stroke* pp1557–1564.

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• Gary K, Arango-Lasprilla J, Ketchum J, Kreutzer J, Copolillo, Novack T, Jha A *Racial Differences in Employment Outcome After Traumatic Brain Injury at 1, 2, and 5 Years Post injury* pp1699–1707.

• Lang CE, MacDonald JR, Reisman DS, Boyd L, Jacobson Kimberley T, Schindler-Ivens SM, Hornby TG, Ross SA, Scheets PL *Observation of amounts of movement practice provided during stroke rehabilitation* pp1692–1698.

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• Winkens L, Van Heugten C, Wade D, Habets E, Fasotti L *Efficacy of Time Pressure Management in Stroke Patients With Slowed Information Processing: A Randomized Controlled Trial* pp1672–1679.

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• Cumming TB, Plummer-D'Amato P, Linden T, Bernhardt J *Hemispatial neglect and rehabilitation in acute stroke* pp1931–1936.

• Murguía M, Corey D, Daniels S *Comparison of Sequential Swallowing in Patients With Acute Stroke and Healthy Adults* pp1860–1865.

• Švehlík M, Zwick E, Steinwender G, Linhart W, Schwingenschuh P, Katschnig P, Ott E, Enzinger C *Gait Analysis in Patients With Parkinson's Disease Off Dopaminergic Therapy* pp1880–1886.

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• Cumming T, Plummer-D'Amato P, Linden T, Bernhardt J *Hemispatial Neglect and Rehabilitation in Acute Stroke* pp1931–1936.

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• Bagiella E *Clinical Trials in Rehabilitation: Single or Multiple Outcomes?* S17–S21.

• Cicerone K, Azulay J, Trott C *Methodological Quality of Research on Cognitive Rehabilitation After Traumatic Brain Injury* S52–S59.

• Kroll T, Morris J *Challenges and Opportunities in Using Mixed Method Designs in Rehabilitation Research* S11–S16.

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• Sosnoff JJ, Shin S, Motl RW *Multiple sclerosis and postural control: the role of spasticity* pp93–99.

• Walker ML, Ringleb SI, Maihafer GC, Walker R, Crouch JR, Van Lunen B, Morrison S *Virtual reality-enhanced partial body weight-supported treadmill training poststroke: feasibility and effectiveness in six subjects* pp115–122.

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• Gebruers N, Vanroy C, Truijen S, Engelborghs S, De Deyn P *Monitoring of Physical Activity After Stroke: A Systematic Review of Accelerometry-Based Measures* pp288–297.

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CLINICAL REHABILITATION

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• Borisova Y and Bohannon RW *Positioning to prevent or reduce shoulder range of motion impairments after stroke: a meta-analysis* pp681.

• Glinsky J, Harvey L, van Es P, Chee S and Gandevia SC *The addition of electrical stimulation to progressive resistance training does not enhance the wrist strength of people with tetraplegia: a randomized controlled trial* pp696.

• Phillips M, Flemming N and Tsintzas K *An exploratory study of physical activity and perceived barriers to exercise in ambulant people with neuromuscular disease compared with unaffected controls* pp746.

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• Schyns F, Finlay LPK, Ferguson C and Noble E *Vibration therapy in multiple sclerosis: a pilot study exploring its effects on tone, muscle force, sensation and functional performance* pp771.

• Stock R, Mork PJ *The effect of an intensive exercise programme on leg function in chronic stroke patients: a pilot study with one-year follow-up* pp790.

• Tyson SF, Connell LA *How to measure balance in clinical practice. A systematic review of the psychometrics and clinical utility of measures of balance activity for neurological conditions* pp824.

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• Murray J, Young J, Forster A *Measuring outcomes in the longer term after a stroke* pp918.

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• Tyson S, Connell L, Busse M, Lennon S *What do acute stroke physiotherapists do to treat postural control and mobility? An exploration of the content of therapy in the UK* pp1051.

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• Bryant MS, Rintala DH, Lai EC, Protas EJ *An evaluation of self-administration of auditory cueing to improve gait in people with Parkinson's disease* pp1078.

• Ng SSM, Hui-Chan CWY *Does the use of TENS increase the effectiveness of exercise for improving walking after stroke? A randomized controlled clinical trial* pp1093.

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• Harrington R, Taylor G, Hollinghurst S, Reed M, Kay H, Wood VA *A community-based exercise and education scheme for stroke survivors: a randomized controlled trial and economic evaluation* pp3.

• Langhammer B, Stanghelle JK *Exercise on a treadmill or walking outdoors? A randomized controlled trial comparing effectiveness of two walking exercise programmes late after stroke* pp46.

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• Tyson S, Greenhalgh J, Long AF, Flynn R *The use of measurement tools in clinical practice: an observational study of neuro-rehabilitation* pp74.

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• de Groot S, Bevers GE, Dallmeijer AJ, Post MWM, van Kuppevelt HJM and van der Woude LHV *Development and validation of prognostic models designed to predict wheelchair skills at discharge from spinal cord injury rehabilitation* pp168.

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• Cruz T, Dhaher Y *Impact of ankle-foot-orthosis on frontal plane behaviors post-stroke* pp312–316.

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• Ness L, Field-Fote E *Whole-body vibration improves walking function in individuals with spinal cord injury: A pilot study* pp436–440.

• Nieuwboer A, Rochester L, Herman T, Vandenberghe W, Emil G, Thomaes T, Giladi N *Reliability of the new freezing of gait questionnaire: Agreement between patients with Parkinson's disease and their carers* pp459–463.

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• Brauer S, Meg Morris E *Can people with Parkinson's disease improve dual tasking when walking?* pp229–233.

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SHARING GOOD PRACTICE

An audit of the physiotherapy service provided to stroke patients in a small community hospital

Kerry Taylor-Holt Senior physiotherapist Suffolk PCT

The National Clinical Guidelines for Stroke (NCGS (2008)) recommends all clinicians working with stroke patients should be involved in the audit of stroke care and use the results to plan for the provision of future services. An intermediate care ward in a small district community hospital in Suffolk was the setting for this band six physiotherapist's first undertaking of an independently planned and completed audit. The following is an account of the outcomes of this audit and the experience of the process.

The topic was prompted by two statements in the NCGS (2008):

1. Stroke patients should be treated by specialist clinicians.
2. Discharge to generic facilities is not recommended.

Aim

To undertake a retrospective audit of the physiotherapy outcomes for stroke patients in a small District Community Hospital.

Objectives

- To benchmark the clinical outcomes for stroke patients against national standards.
- To use the findings to influence service delivery for stroke rehabilitation.
- To personally gain audit experience.

METHOD/PROCEDURE

It was decided to scrutinise three factors:

- Mobility on discharge – determined by the last recorded entry of mobility status,
- Improvement in mobility – determined by the difference in Rivermead Motor Assessment (RMA) score on admission and discharge and
- Length of stay (LOS) in days.

Three criteria were then formulated relevant to all stroke patients, the stroke guidelines and the local trust policy. The criteria were given a percentage that represents the amount of the population that you expect to achieve the criterion, known as the standard.

Criterion	Standard
1 To enable stroke patients to be independently mobile (with or without aid) on discharge	50%
2 To improve each patients mobility (Rivermead score) by 10 or more points	80%
3 Timely discharge (approximately 42 days)	90%

Table 1 Criterion standards

Each standard was set using the available literature from Medline and Cinhal for results obtained with similar patient groups. PEDro was also searched to determine the strengths of studies.

Criterion 1

Five studies reported levels of mobility achieved with stroke patients. The literature demonstrated a wide variation of 33% to 63% of patients that were able to mobilise independently on discharge (Mayo 1991, Lord 2008, Fulk 2008, Jorgensen 1995, Kollen 2006). Taking into account the size and applicability of the above studies it was decided the standard should be set at 50%.

Criterion 2

For the improvement in mobility four studies compared the use of the RMA in similar patient groups between admission and discharge. These studies reported an average of 6 to 13 point improvement (Lincoln 1999, Soyuer 2005, Scheidtmann 2001, Putman 2007). The benchmark for improvement was therefore set at ten points. The standard for criterion two was set at 80 percent; as high a

percentage as possible, whilst accounting for the wide spectrum of types and severity of stroke patients which varies the outcomes on discharge.

Criterion 3

The Department of Health (DoH 2001) states that all patients within an intermediate care setting should be discharged in a timely manner, no longer than six weeks. This standard was set at 90%, to allow for the many factors, medical and social that can delay discharge.

When all criterion and standards were in place, the raw data was obtained from twenty consecutive stroke patients' sets of notes, from February 2007 to August 2008 (NSAS 2006) and arranged in table format (*Appendix 1*). This facilitated the calculation of all intended percentages and graphs.

RESULTS

Criterion	Standard	Obtained
1 To enable stroke patients to be independently mobile (with or without aid) on discharge	50%	65%
2 To improve each patients mobility (Rivermead score) by 10 or more points	80%	70%
3 Timely discharge (approximately 42 days)	90%	50%

Table 2 Percentage achieving the criterion standard

The results of this audit demonstrate that thirteen patients were independently mobile (with or without aid) on discharge (*Appendix 2*). Fourteen patients achieved a ten or more point improvement when reassessed with the RMA on discharge (*Appendix 3*) and only ten patients were discharged in a timely manner (*Appendix 4*). This leads to the conclusion that only one out of three standards was achieved.

DISCUSSION

Criterion 1

This criterion exceeded the standard, and had the potential to score higher as three of the patients that required supervision with their mobility were subjectively almost independent on discharge.

Criterion 2

This fell slightly short at seventy percent. Reasons for not achieving this standard could be:

- The wide variability of stroke patients.
- The author's expectations may have been too high.

The average improvement of the four reviewed studies was eight points. If this was set as the standard criterion 2 would have been achieved. The author however, had decided on ten points improve-

ment level using study data from stroke units. The current ward is not a stroke unit, therefore the authors expectations may have been too high.

One issue that prompted this audit was the question: does this generic facility provide an optimum rehabilitation service for stroke patients? Could staff training have influenced the outcomes? In this instance the current physiotherapist completed the Introductory Bobath training approximately halfway through this audit but unlike the comparison studies the physiotherapist was not deemed to be a stroke specialist as treating 22 stroke patients in a 20-29 bedded facility over 18 months does not equal the one third of caseload criteria for a stroke specialist clinician, set by the Stroke Service Specification (2005) and recommended by the NCGS (2008). It is also possible that the decreased availability of resources – namely staff and time may have lowered the improvement in RMA score.

Criterion 3

Four main areas caused delays of discharge (*Appendix 1*). Fifty percent could be deemed a respectable score but it highlights that there is room for improvement.

CONCLUSION

The NCGS (2008) recommend that specialist physiotherapists should be available to stroke survivors for as long as they need it. Suffolk does not have stroke specialists outside the main hospital or in the community as recommended. It is felt that guidance from a more senior (specialist) clinician may help to improve the mobility and therefore decrease the level of dependence of stroke patients in this county. The issues highlighted in this audit would support this and hopefully act as a catalyst for future service development. Although only one of the three standards in this audit was achieved, the results from this generic facility are quite positive, with the possibility to improve further, with investment.

The completion of this audit has provided the author with valuable experience of the audit process. It took longer than expected but the actual process is not difficult. The longer time-frame was probably due to the authors lack of experience in designing an audit, which would not be the case in future ventures. The hardest part was making the choices that allow correct wording of the criterion so you are able to test exactly what you intended. Two good things about the audit process are:

1. No statistical analysis required and
2. It is a good (different) form of CPD and a way to potentially influence change within your department (or wider).

There is also a large amount of satisfaction on completion as it should benefit the patients.

If this was to be repeated things that should be done differently would include registering this audit with the trusts clinical governance (audit) department as they can provide guidance, not attempting to address such a big topic all at once or delegate if possible, use the audit cycle to fully design the audit and set criterion before collecting the data in order to provide more focus on the subject and decrease any possible bias.

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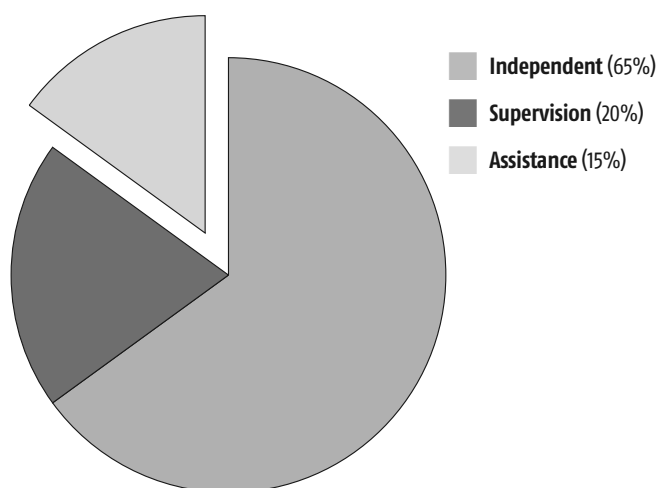
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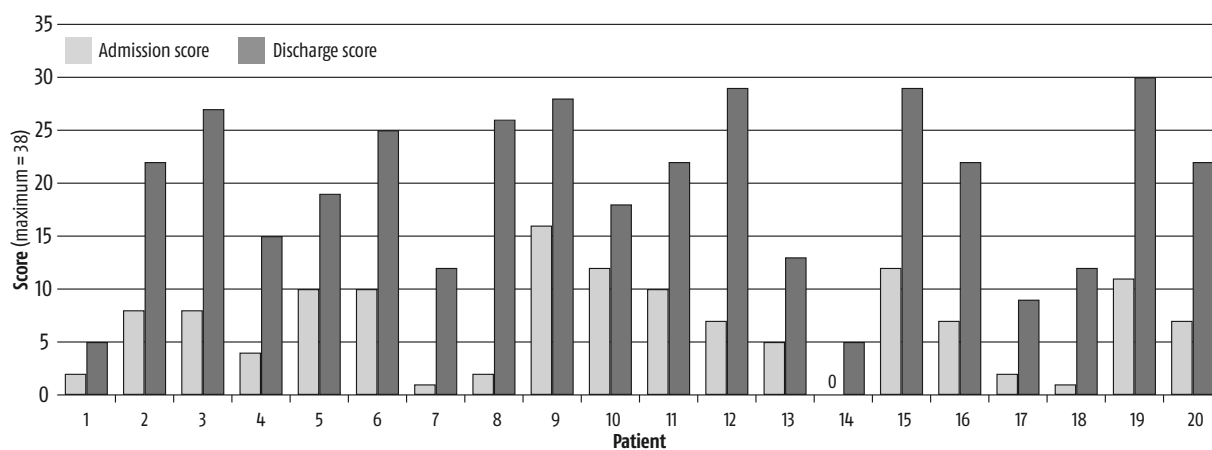
APPENDICES

Patient	Criterion 1	Criterion 2				Criterion 3	Reason for delay
	Mobility	Admission score	Discharge score	Improvement	% improvement	Stay (days)	
1	A	2	5	3	8	30	
2	I	8	22	14	37	70	Carers
3	I	8	27	19	50	39	
4	I	4	15	11	29	18	
5	S	10	19	9	24	63	Carers
6	I	10	25	15	39	41	
7	S	1	12	11	29	75	Carers
8	I	2	26	24	63	94	Waiting RH
9	I	16	28	12	32	30	
10	S	12	18	6	16	58	Extra time
11	I	10	22	12	32	28	
12	I	7	29	22	58	65	Adaptations
13	I	5	13	8	21	38	
14	A	0	5	5	13	58	Carers
15	I	12	29	17	45	35	
16	I	7	22	15	39	28	
17	S	2	9	7	18	51	Extra time
18	A	1	12	11	29	19	
19	I	11	30	19	50	68	Extra time
20	I	7	22	15	39	49	Adaptations
Averages	13I 4S 3A	7	20	13	34	48	

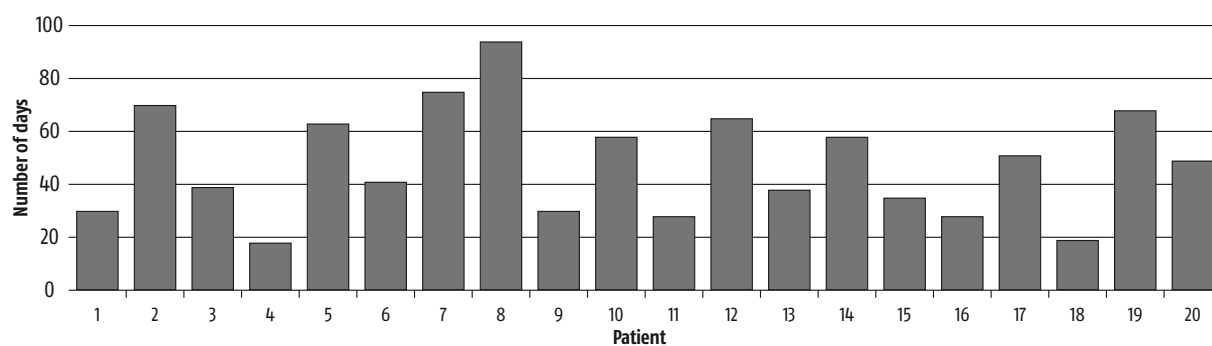
Appendix 1 Patient data from February 2007 to August 2008



Appendix 2 Patient mobility level on discharge



Appendix 3 Rivermead scores of all stroke patients on admission and discharge



Appendix 4 The length of inpatient stay for each stroke patient

FOCUS ON...

Physiotherapy guidance

for people with Huntington's Disease

Monica Busse and Lori Quinn

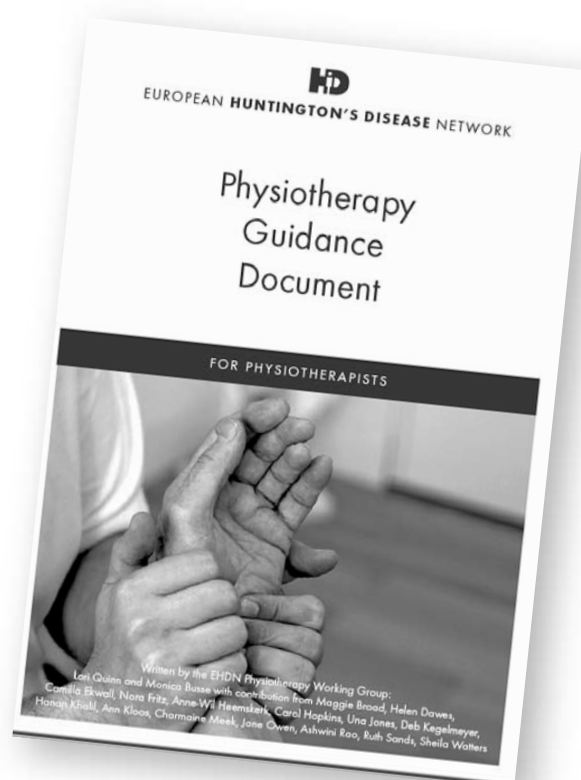
on behalf of the European Huntington's Disease Network (EHDN) physiotherapy working group

Physiotherapy may provide a means of delaying onset or progression of Huntington's Disease (HD), resulting in improved daily functioning and quality of life. Physiotherapy is being more frequently recommended for people with HD but there have been no specific guidelines published for implementation of a structured plan of care for people with HD and literature in support of the efficacy of physiotherapy is lacking.

The Physiotherapy Working Group (PWG) of the European Huntington's Disease Network (EHDN) set out to develop a comprehensive guidance document for physiotherapists to provide best practice guidelines. A systematic review of the literature was conducted. Databases searched were Ovid MEDLINE(R) 1950 to March Week 2 2009; EMBASE 1980 to 2009; Week 12, 21st March 2009; EBSCO CINAHL 1981 to 21st March 2009; PEDro 1929 to 21st March 2009. Search terms included: Huntington's Disease, Chorea, Huntington, Huntington Chorea; Physical therapy modalities, physical therapy, physiotherapy, rehabilitation, occupational therapy, physical activity, exercise therapy, activities of daily living, physical mobility, muscle stretching exercises, stretching, respiratory therapy, flexibility, range of motion, range of movement, upper extremity, upper limb, reaching, reach, grasping, grasp, reach to grasp, posture, balance, accidental falls, falls, equipment and supplies, equipment, seating, positioning, transfers, functional status, gait.

Inclusion criteria were: articles published in English; therapy in human HD subjects only; subjects to be of 18+ years of age with a confirmed diagnosis of HD.

Three reviews, nine PT related studies, ten gait specific, one muscle strength, three balance and mobility, one dystonia, two upper limb specific and



one paper regarding multi-sensory stimulation were identified. The identified evidence was then summarised to produce an initial guidance document. Due to the paucity of scientific evidence, recommendations were also formulated based on expert consensus from the EHDN PWG. Following completion of the initial draft document, the guidance document was disseminated to all members of the PWG and other interested healthcare professionals. Amendments were made to the document based on their feedback. In a second phase of development, sections of the Guidance Document were reviewed in detail by subgroups of two to three members of the PWG.

A final guidance document covering eight specific areas pertaining to physiotherapy management of HD was developed as result of the above described process. Topics include: Evaluation/Assessment, Intervention, Outcomes,

Equipment, Case Reports, Suggested Activities and Exercises, Frequently Asked Questions, and Resources. The guidance is a resource to be used by physiotherapists to implement a plan of care that is currently consistent with best practice for individuals at all stages of HD. Due to the progressive nature of HD, the needs of people with HD change over time, and the role of the physiotherapist should be flexible in response to the clinical need over the prolonged course of the illness. While the evidence supporting physiotherapy interventions for people with HD is limited, there is some evidence from HD and from other similar neurodegenerative diseases that exercise and other PT strategies may be useful in minimizing the effects of this devastating disease.

The *Physiotherapy Guidance Document* has been developed based on expert consensus and currently available evidence. The document does, however, continue to be a work in progress and will require review and updating as new research

becomes available. The current version (February 2010) is freely available to members of the HD community at <https://www.euro-hd.net/html/network/groups/physio>

Any feedback on content is very welcome.

Acknowledgement:

The authors would like to acknowledge the contributions of Maggie Broad, Helen Dawes, Camilla Ekwall, Nora Fritz, Deb Kegelmeyer, Hanan Khalil, Charmaine Meek, Ruth Sands, Ann Kloos, Sheila Watters, Jane Owen, Ashwini Rao, Carol Hopkins, Anne-Wil Heemskerk and Una Jones to the writing of the guidance document. The authors would also like to acknowledge Raymond Roos and Sheila Simpson for their input and the European Huntington's Disease Network for their support in developing the guidance document.

FIVE MINUTES WITH...

Margaret Mayston

Who or what has been a key influence on your clinical practice?

In my early clinical years in Melbourne, a therapist I worked with inspired me to do the Bobath course – she had done it in London and she seemed to know what she was doing with her patients. So I decided to go to London to do it – instead of going to Sydney to do it with Roberta Shepherd! I became hooked on London and then started work at The Centre with the Bobaths – Mrs Bobath, Jenny Bryce, and Liora Williams taught me a vast amount about how to optimise activity and participation in the clients I worked with – both adults and children. The three questions 'what', 'how' and 'why' are always in my head. Undertaking the MSc in Physiology at Kings and then the PhD and post-doc fellowship at UCL increased my thirst for knowledge and for exploring ways that it might be used to underpin clinical practice.

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

Develop skills in analysing patient activities comprehensively so that you can identify the key ways to helping them to optimise their outcomes. Question every thing you do – is this really the best way to enable the person I am working with to achieve their goals? We help patients to solve their task goals. Oh, and another: keep it simple and relevant.

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

Firstly, using neurophysiological techniques to understand how the nervous system controls movement and their possibility to show changes in motor control associated with lesions and therapy interventions, as explored for my PhD and Post-doc. Secondly, the need for finding simple ways for patients to practice independently so that it becomes a way of life like going to the gym for general fitness and wellbeing. I think the experience of working with the lycra sleeve

taught me that we need simple manageable ways for clients to practise whatever it is they want to achieve (realistic of course). Easy task activities and manageable adjuncts, accompanied by clear, illustrated instructions for use and application, which motivate the person to want to do it: just because they can.

Can you describe your greatest achievement in your career so far?

The award as Member of the Order of Australia on Australia Day 2009, as a member in the general division, AM. That is the Oz equivalent to an MBE. My mother still talks about it and thinks it is a great excuse for champagne at any time.

What are your aspirations for the future of neurophysiotherapy?

That therapists will have common sense and keep their intervention simple and patient centred. That they will explore the wealth of knowledge that is available, get excited about it, and apply it to their clinical practice.

NEWS ACPIN

ACPIN Constitution

The amended copy of our constitution can be found on the website – www.acpin.net

ACPIN now stands for Association of Chartered Physiotherapists in Neurology.

Engagement Exercise

Over the next year you may find requests for your postcode on the bottom of ACPIN course feedback forms. This is an exercise to map engagement in our courses across the membership and will enable us to target events in alternative locations if needed.

Jump on 'the Board'!

Emily Rogers and Alice Wilson

We have enjoyed going to ACPIN lectures over the past couple of years, and had always wondered who was behind the scenes making sure we all had something interesting to come and listen to. However when someone suggested I get involved, I thought that with only a few years of experience I would be far from being of any use on a committee comprising very experienced and knowledgeable clinicians. Against my better judgement I went along anyway, and have had a great experience since. I was welcomed by the team, and felt that my opinions have been listened to. I have hopefully been able to be of some use, and feel that my involvement has been appreciated. By going along to the meetings I have learnt a lot in terms of current topics and issues, and the organisation of presentations and courses. It has been great for CPD and as a way to network locally with other physiotherapists sharing our common interest. I am glad that I have had my opinion changed regarding what committee work is about, and feel it is a great thing to get involved in. Why not contact your local committee and pop along to a meeting – they would love to see some new faces.

NEWS GENERAL

CARF Accreditation

National Spinal Injuries Centre Stoke
Mandeville Hospital Aylesbury
Claire Guy Rehabilitation Lead NSIC

In December 2008 the NSIC gained CARF accreditation, valid for the maximum of three years. CARF, which stands for Commission on Accreditation of Rehabilitation Facilities is a 'not for profit' organisation which has been active in the field of accreditation since 1966.

Throughout the world there are currently 56,000 programmes accredited, over 19,000 sites serving 7.3 m people.

It was around 2005, after seeing other accredited units in the States when staff at the NSIC identified CARF accreditation as a baseline to establishing a quality framework. At the time, and also now, in my view this is the most thorough rehabilitation specific accreditation.

To achieve accreditation the facility has to give evidence against the standards applicable to its survey. The NSIC was surveyed against the Rehabilitation Process, the business practices of the host Trust, its inpatient programmes and the Adult and Paediatric Spinal Cord Injury programmes. In total there were about 250 standards to align to and provide evidence for our practice. In addition to the Spinal Injury Programmes all aspects of rehabilitation can be accredited including limb loss, Stroke, Brain Injury and Residential Care. These may be within a DGH or PCT based.

CARF standards provide a comprehensive, consistent quality framework for patient centred care. They are reviewed by an international team yearly for updates following critical analysis of need, are then published and available for purchase through their website in the Medical Rehabilitation section. They promote quality and value, seek performance improvement, demand outcome management and transparency of information. There are sections that apply to all the programmes such as the business practice and rehabili-

tation process, which must be completed; and it is to these that the specific programmes are added eg Spinal Cord Injury or Stroke systems of care.

CARF accreditation gives a structure for integration of business and delivery of care, and standards are field driven such that all the parties involved in delivery of care are included in the process ie consumers, providers and purchasers. The process supports innovation and guides planning of services as clinicians can use the standards alongside service development. The NSIC has used this baseline to build services ensuring quality in patient centred rehabilitation. The standards are regularly peer reviewed and changed if required.

For the future in the UK? All BIRT units are CARF accredited but the jury is out as to whether other specialist units adopt this approach. It does demand time and commitment but those who have adopted it see the framework an invaluable tool for the quality framework.

For more information contact Claire.guy@buckshosp.nhs.uk or visit www.carf.org and follow 'medical rehabilitation'.

Latest Stroke Matters now available

The latest issue of *Stroke Matters* is now available – featuring all the news from the UK Stroke Forum Conference, December 2009.

Produced by The Stroke Association, *Stroke Matters* is a quarterly e-publication for professionals with an interest in stroke. 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.

The latest issue is now available. To subscribe for free, please visit www.stroke.org.uk/strokematters and complete the online subscription form.

Interactive CSP update

February 2010

Chris Manning iCSP link moderator for neurology

The discussion area is very active as usual. The Nintendo Wii® discussion is still very active, and there have been two examples of really appropriate use of the discussion forum. A physiotherapist, going to Haiti to assist with setting up rehabilitation services for people injured in the January earthquake, requested information about spinal cord injury. The prompt response by the network members produced very helpful information and contacts, including one from a neurophysiotherapist working in a similar situation in China in the aftermath of the Sichuan earthquake. Secondly, there has been a very interesting and constructive discussion, Hands on or not? The replies have been thoughtful and informed by evidence.

There are currently 1,500 discussions on the network so search to check if there is already a discussion on a topic and remember only use the email members option if an urgent reply is needed. Documents can be added to discussions. If you do this, everyone can see rather than having to email individuals separately.

Two new documents published by the CSP have been added recently to the documents section.

- *Aspiring to excellence* Guidance for commissioners and a resource for providers to assist in developing a shared approach in achieving an improved quality of life for stroke survivors.
- *Moving on* Improvements made in the acute phase of stroke care must now be replicated in the 'life after stroke' phase – the time when a person leaves hospital and adjusts back to life either at home or in a care institution.

Don't forget CSP Congress 15th–16th October 2010 where we will be picking up some of these themes.

Keep in touch.

www.interactivesp.org.uk

The Walton Report

The Walton report is a recently published document outlining an enquiry launched by the All Party Parliamentary Group (APPG) in December 2008. The investigation was carried out in response to concerns about the provision of specialist neuromuscular services across the UK. The evidence presented did indeed demonstrate that in some areas the services provided fell well below minimum acceptable standards, directly impacting on the well-being and even survival of people with neuromuscular diseases. In addition to regional differences, services in the UK were seen to lag behind some other European countries affecting survival rates into adulthood of men with Duchenne's muscular dystrophy.

The reasons for these shortfalls were explored with accusations of a lack of accountability by the NHS in taking personal responsibility for patients and families and addressing service failings. Poor transition from paediatric to adult services was also highlighted with patchy support for patients and families. Strategic Health Authorities have been advised of this report and will oversee local Primary Care Trusts and regional Specialised Commissioning Groups rolling out the recommendations for access to specialist regional services.

More encouragingly, the report highlighted clinical trials into management of these conditions but acknowledged the need to develop a robust research infrastructure around specialist, regional neuromuscular clinical services.

Poor access to physiotherapy is mentioned in the report several times with accounts of people travelling long distances to access physiotherapy in specialist multi-disciplinary teams. Commissioners are advised to look at access and workforce in their local areas to support the recommendations of the report. This may result in the development of more specialist roles for neurophysiotherapists, particularly in adult services where there are very few currently in existence.

For more information the Walton report can be downloaded: www.muscular-dystrophy.org/assets/0000/9943/Walton_report.pdf

Working with people who have communication, memory or concentration difficulties

A new resource from the Talking Mats Research and Development Centre, University of Stirling, has just been launched entitled *To see ourselves as others see us: a resource for comparing perspectives and enhancing understanding within relationships*.

Talking Mats is a framework which allows people to express their views on an infinite range of topics. It involves the user placing symbols on a mat along a visual scale in order to indicate how they feel and therefore speech is not essential. This can be an excellent way for people with little or no spoken language to express themselves. It can also help people who have memory problems or difficulty concentrating to follow a conversation and stay involved for longer.

The resource *To see ourselves as others see us* was developed as part of an ESRC funded research project investigating the impact of aphasia (difficulty using and understanding spoken and written language) on close relationships. The researchers found differing views between the people with aphasia and their partners as well as significant misunderstandings. The resource was developed to address this issue and to provide a tool for professionals to use when working with a range of clients, and their family or friends. It can be challenging for professionals to meaningfully involve clients and their families in the decision-making process and to take into account all points of view. This new resource is

specially designed to compare viewpoints and to help discuss any issues that might arise when two people have different opinions with the aim of increasing mutual understanding within a relationship and aiding any decision-making or goal-setting negotiations. Feedback from clients who have used the resource reveals that they find it a helpful and non-threatening way to discuss sensitive issues which may otherwise have been overlooked or might have ended in confrontation.

The resource has also been short-listed in the upcoming Advancing Healthcare Awards 2010 in the category 'Enhancing Self-care and Independent Living'. This category seeks to celebrate 'patient-centredness' by demonstrating how healthcare professionals can encourage and support people in self-care and independent living. The UK awards for Allied Health Professionals and Healthcare Scientists, organised by Chamberlain Dunn, recognise and reward projects and professionals that lead innovative healthcare practice and make a real difference to patients' lives.

For further details about Talking Mats resources or training courses, see www.talkingmats.com or call 01786 458105.



MS Trust launches exercises on the web

Simon Webster Information Officer
MS Trust

Following the success of the book *Exercises for people with MS*, the MS Trust has launched a new set of web pages full of exercises for people with MS. The new pages build on the popular book, 45,000 copies of which have been sent out since it was launched in 2004.

The Exercises pages, put together with specialist physiotherapist Liz Betts, contain simple but effective exercises for all people with MS. The exercises are arranged in categories based both on how they are done and the type of problems they address.

Each exercise includes step-by-step instructions as well as an animation to illustrate the movement. Individual pages can be downloaded, enabling people to compile a personalised set of exercises to meet their own particular needs.



To see the Exercise pages go to:
www.msstrust.org.uk/exercises

REVIEWS ARTICLES BOOKS COURSES

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

EQUIPMENT

Vibration plate therapy Queen Elizabeth's Foundation Neuro-Rehabilitation Services for people with Acquired Brain Injury from ages 16-35

Review by **Emma Berkshire** BSc(hons) MCSP Senior Physiotherapist, Queen Elizabeth's Foundation Neuro-Rehabilitation Services, Banstead

What led to purchasing the Vibration Plate?

We work within an acquired brain injury setting, where our patients are of a highly complex nature and so we are always keen to try and incorporate new and novel treatment techniques. Over the past few years, vibration plates have become increasingly popular within the leisure industry as there is growing evidence to suggest they can improve strength (Delecluse *et al* 2003), flexibility (Fagani *et al* 2006), circulation (Mester *et al* 2006), bone density (Verschuere *et al* 2004) and balance (Bruyere *et al* 2005). There is also some anecdotal evidence to suggest they can have an effect on spasticity, sensation, core stability and proprioception. Because the vibration causes involuntary muscle contraction, there is an argument to suggest that it can be used to recruit more motor units than voluntary muscle contraction alone – up to 100% of muscle fibres compared to 40–60% in a conventional recruitment pattern (Bishop, 1974), and to recruit inactive postural muscles by reflex (Jordan *et al* 2005).

What clinical benefits have been seen?

In addition to observing the well documented effects on strength, flexibility and circulation, we have also observed some clinical evidence of reduced muscle tone in spastic muscle groups. This has been an immediate effect which has then been used to enable the patient to activate the opposing muscle group. One example of this is a patient with increased tone in his long finger flexors which, prior to intervention, limited his active wrist extension to 10°. Following three 30-second bursts of vibration, this tone decreased from a Grade 2+ to a Grade 1 on the Ashworth scale and enabled the patient to achieve 20° more active wrist extension. This is just one example of how a resultant reduction in muscle tone has been used to improve selective movement.

We have also been using the vibration plate for sensory and proprioceptive stimulation to the feet as part of balance re-education. Following a short session on the vibration plate in either sitting or standing, patients have been seen to show improved balance reactions, increased intrinsic muscle activity in their feet and better interaction with the supporting surface.

Positioning the patient to use the machine

Positioning of the patient in order to access the vibration plate can be challenging, however, we have been able to get round these difficulties in several ways. Patients who are unable to stand on the plate can use it from a seated position in their wheelchair. For those who can stand but require a lot of support, we have used an adapted standing frame, positioned next to the plate, to block the patient's knees in standing. Hand blocks or foam rolls can also be used to transmit the vibration through to the upper limb if the patient is unable to achieve a fully extended hand or wrist.

What other benefits are there specific to the patient group?

Working with patients with cognitive and behavioural difficulties presents the challenge of sustaining their interest and attention during treatment. The vibration plate is a novel treatment modality which has proven extremely popular with our patients. Another advantage is that, once trained, physiotherapy assistants and/or rehabilitation support staff at our Centre can take on responsibility for carrying out tailored programmes with the patients outside of therapy time.

What are the potential disadvantages?

The only complete contra-indications to using a Vibration plate, as described by the manufacturers, are pregnancy, cancer and pacemakers. However, within our patient group, caution has also been taken with patients with: internal fixators, previous tumours, VP shunts, heterotopic ossification, uncontrolled epilepsy and recent craniotomies.

When using the vibration plate, there are certain rules that must be followed to ensure there are no adverse effects, for example, that vibration is not transmitted directly up the spinal column. Because of this, consideration must be taken before using the machine with patients who can

be unpredictable or have severe cognitive impairments that limit their ability to follow instructions.

Use by other neurological patient groups

Vibration plates are being used quite widely by MS sufferers both in the UK and abroad. Some of the anecdotal benefits from this client group are increased muscle strength, improved circulation and reduced spasms. However, they do also warn about the potential risk of fatigue caused by vibration therapy.

Research

The large majority of the existing research on vibration therapy looks at its potential for increasing muscle strength, circulation and flexibility. The majority of this research has been carried out on young, fit individuals, although there have been a few studies which have looked at the elderly population in regards to falls risk (Bautmans *et al* 2005; Bruyere *et al* 2005; Verschueren *et al* 2004). In order to expand its use within neurological physiotherapy, more research needs to be carried out with neurologically impaired individuals. This research needs to focus on both the immediate and long-term effects of vibration on altered muscle tone, balance, core stability, reduced sensation and proprioception, as well as ascertaining whether the same potential strengthening effects exist with neurologically impaired muscle.

The clinical findings described in this article are based solely on the experience of the physiotherapy department at the QEF Neurorehabilitation Services; transferability to other settings can obviously not be guaranteed.

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BOOKS

Bobath Concept: Theory and Clinical Practice in Neurological Rehabilitation.

Blackwell Publishing 2009

ISBN 978 1 4051 7041 3

Edited by **Sue Raine, Linzie Meadows, Mary Lynch-Ellerington**

Review by **Margaret Mayston**

This long awaited book from the British Bobath Tutors Association (BBTA) is one of several which have been written since the Bobaths died in 1991. The book contains eight chapters, beginning with an overview of the so-called contemporary Bobath Concept which was mostly based on surveys conducted by the author and seemed rather limited. It is followed by three chapters on elements of background to the application of the Concept, such as the relevance of effective movement and assessment. The remainder covers different aspects of the therapist's role in motor recovery and rehabilitation of the person who has had a stroke. The contributors have gone to considerable lengths to research the literature relating to each chapter which is a strength of the book, but it seemed to me that studies cited were not sufficiently related to the topics under discussion. The reader needs to have prior knowledge and understanding of the Bobath Concept to fully understand what the authors are discussing, but even then I am not really sure that it is clear from the book what the Bobath approach actually is. Often the prose turns to jargon, and some descriptions in the text were not physiologically correct. It is difficult to understand how figures 6.20 and 6.21 can represent 'strengthening of the gastrocnemius'.

My other main criticism is that the book leaves the reader thinking that Bobath is really a hands-on approach, and yet Mrs Bobath indicated that

while 'hands-on' is important, it is not the most important aspect, rather the emphasis is on the active participation of the patient (Bobath 1990, p9). Of the 92 treatment related photos in the BBTA book, 83 (76%) had the therapist's hands on the patient, leaving the reader with the impression that Bobath is all about having the therapist's hands on the patient. Furthermore in some of these the therapist's hand positioning could be considered invasive of the person's dignity, and might be questioned. In contrast, in Bobath (1990), 118 out of 195 (60%) treatment photos depicted hands-on, and one of the most common phrases in the 1970 text was 'the patient must practice...'. In fact I felt that the adult hemiplegia books by Bobath (1970, 1978, 1990), provide a better clinical basis for treating the patient than this new book by BBTA, though clearly the theory of 1970-1990 is hopelessly out of date. It is no surprise that therapists would arrive at the Bobath Centre having read those early books and say - "I followed what the book told me to do with the patient and this is what we have achieved", often with good outcomes. These books explained why the patient presented as they did, how to manage them through various stages of recovery, and how to maximise their functional outcome through practice at every point along the way. The contributors have made a good attempt to support their suggestions with evidence and knowledge but it does not make the mark as a book about Bobath - at least not for me. This book will do little to quell the critics; in fact it will no doubt give them more fuel for the fire.

See the editor's response to this review in *Letters* on page 50.

Review by **Jakko Brouwers**, Superintendent Physiotherapist for Specialist Rehabilitation, Rookwood Hospital, Cardiff

Finally! The long overdue update of the Bobath Concept is here! This book is written by Bobath Tutors who are all members of BBTA. It aims to update and lift 'the Bobath approach to the assessment and treatment of individuals with disturbances of function, movement and postural control, due to a lesion of the central nervous system' to the current time and expectations by clear description and by reference to recent evidence and literature. The systems approach to motor control by Bernstein from 1967, is claimed to still provide the foundation of the current theoretical underpinning of the Bobath Concept.

The book is laid out well with clearly defined chapters each written by another (team of) BBTA member(s). It seems to follow the practical teaching of the Bobath concept and is obviously intended to be used to supplement the various courses provided by BBTA. It uses case examples

and photos of patient treatments to illustrate and explain key elements in the chapters.

This book is a must read for those interested in or in the process of training in the Bobath Concept as well as for those who trained some time ago and like to update themselves on 'the current thinking' about the Bobath Concept by the British Bobath Tutors Association.

Although the title 'Bobath Concept' will continue to create controversy, this book will without doubt take up a new cornerstone in the vast array of books that have been published on the topic of neuro rehabilitation since the last publication by Berta Bobath in 1990. With its publication it puts the criticism to bed that the currently taught approach has not been well described or well supported with current knowledge, evidence, research and literature.

Oxford Handbook of Clinical Rehabilitation

Second Edition Oxford University Press 2009
ISBN 978 0 1995 5052 4

AB Ward, MP Barnes, S Stark, S Ryan

Review by **Julia Williamson** ACPIN Honorary Research Officer

This pocket-sized volume contains more than would be thought possible to cram into its 450 pages. Part of the *Oxford Handbook* series it aims to provide an introduction and overview of rehabilitation for trainee grade professionals and students from the whole multidisciplinary team. Although not specifically aimed at the field of neurological rehabilitation, two of the authors work in this field and many of the clinical examples used will be familiar to neurophysiotherapists.

The chapters are arranged systematically to take the reader through the whole concept of rehabilitation. The book starts with an overview of the World Health Organisation International Classification of Functioning, Disability and Health followed by chapters on measurement of outcome, goal setting, team composition and organisation of services.

The book moves on to specific impairments such as spasticity, continence and sexuality before discussing participation issues caused by psychological, cognitive and psychiatric problems.

The final section discusses specific conditions such as Multiple Sclerosis, acquired brain injury, stroke, epilepsy, spinal cord injury and Parkinson's Disease as well as amputation and musculoskeletal pain. Each chapter is structured along similar lines with an overview of the pathology, followed by acute and long-term management (if appropriate), outcome measures and psychosocial sequelae. There are useful paragraphs on such topics as changing terminology

and nomenclature that is no longer in use or now considered offensive. Of particular interest is the chapter describing the effects of ageing on those with a disability.

The authors of this book have obviously had to balance brevity and readability with a hugely broad and complex subject area. The experienced clinician may find the lack of depth in certain areas a little frustrating but as an overview and *aide-memoire* it would be a very useful addition to the desk drawer. Those who are new to the field of rehabilitation (band 5 or recently promoted band 6 perhaps) will find this a very readable, comprehensive, non-threatening addition to their bookshelf. I especially feel it will be useful for those trained exclusively in the medical model as it will facilitate the broadening of perception necessary to work successfully in the field of rehabilitation.

This edition boasts extended and updated reference and further reading lists. These do not over-burden the reader but point them to seminal texts and useful websites. The reference lists are found at the end of each chapter. This avoids breaking the flow of text which can prove frustrating to those absorbing new concepts. The converse of this is that there are some occasions where it would have been useful to identify whether the author was reflecting consensus in the literature or their own viewpoint. The lists of useful websites are especially helpful in areas that change frequently such as the law regarding driving.

At around £25 (depending on where purchased) this represents extremely good value for money and will be a useful and oft thumbed volume for the department or personal library.

Health Professionals' Guide to Physical Management of Parkinson's Disease

Human Kinetics 2009

ISBN: 978 0 7360 7492 6

Miriam P Boelen

Review by **Jo Kileff** Physiotherapy Lecturer, School of Health Sciences, University of Southampton

This book is written by a physical therapist in the States, who has been treating PD exclusively for 18 years. It attempts to highlight all the different areas that need addressing in a person with PD, to improve their overall quality of life.

There is a summary of medical management at the beginning which puts the book in context. This is a useful reference. The book then concentrates on the physical management of a person with PD. The author uses case studies to illustrate the area being discussed in each chapter. Within each chapter, as well as treatment strategies,

some theory underpinning the treatments is also given. This is very easy to read but gives a bit of evidence base to the treatment approaches.

The book is split into five sections. This breaks up the material into manageable chunks and allows the reader to read sections as it becomes relevant to their clinical practise. It is also recognising that not all people with PD have the same symptoms. To get a holistic treatment approach you would really need to read the whole book, as all chapters raise important issues. The author does however refer to some material more than once, so if the book is dipped in and out of, pertinent information is less likely to be missed.

In summary, the author is attempting to address all the physical components of PD, which is no mean challenge, but one which she has actually achieved quite well. This book will be a useful reference for anyone involved in the management or treatment of people with PD.

COURSES/CONFERENCES

Lower Limb Rehabilitation in Patients with a Neurological Deficit

ACPIN Scotland Study Day

21st November 2009

Raigmore Hospital Inverness.

Course leader: **Helen Lindfield** Bobath tutor

Review by **Dorothy Bowman** ACPIN Regional Representative

The study day was fully subscribed and attended by members and non members from across Scotland.

The day consisted of a series of theory sessions followed by practical sessions. The first session covered the theory of locomotion giving an overview of the requirements for locomotion with a focus on the need for progression, stability and adaptability during stance and swing. A more detailed review of the neurophysiological control systems, including central pattern generators, descending control and peripheral feedback was presented in a very accessible way with reference to the clinical setting.

A further theory session covered muscle physiology and the role and structure of different muscle types and common problems associated with neurological dysfunction were highlighted. In terms of treatment the importance of 'training' muscles to 'type' in their functional role in locomotion was emphasised.

A further theory session focussed on the function of the foot and a framework for assessment was presented. The role of somatosensory input with an interesting overview of the role of

the cutaneous receptors in balance was also discussed.

Practical sessions included facilitating a backward step, activation of the foot for support and propulsion, sit to stand and stand to sit and single leg stance.

The study day provided a considerable amount of information which was presented in an accessible and clinically relevant way. The theory was supported with references and an extensive reading list was provided. ACPIN Scotland would like to thank Helen for such an informative and enjoyable day.

Stroke Forum 2009

Review by **Polly Dhar** Senior Physiotherapist, Community Stroke Team

The 2009 UK stroke forum was both largest and the first time it had been held in Scotland. This allowed for some of the advances happening in Scotland, such as STARS and Exercise after Stroke to be highly promoted.

The Forum was held at Glasgow SECC and due to its size there was a wide variety of talks and workshops. The organisation and catering was excellent. However some of the rooms were slightly small which meant that people were

sitting on the floor and on a few occasions were actually told that they could not get into the room as it was full. For example a colleague turned up early for a talk on visual problems post stroke and was told it was full as the room only held 30 people. The effectiveness and the reputation of the Stroke forum is becoming its own enemy as, I feel the organisers did not realise the number of people who would attend AHP talks.

The conference was excellent with its variety of talks, from the initial onset of the stroke through to long-term management. It was good to have the whole MDT represented from paramedics through to care homes, and how developments are occurring in all areas to improve the outcome of stroke sufferers in the UK. However I was still surprised at the variation within the UK.

The exhibitions in the main hall were informative. They showed how technology is becoming an integrated part of rehab. Physiotherapists need to consider such adjuncts alongside research to help determine the most effective and efficient devices.

The workshops and presentation involving patient experiences were very insightful showing that as professionals we are not as effective at communication as we may feel we are. The individual approach is so important to the patient. This does not mean changing the whole service to meet their needs, but adapting what is available within the service. The point I specifically

remember is that they all said "You have not had a stroke therefore you do not know how it feels".

As a community based stroke physiotherapist working with both acute and chronic stroke I was very impressed with the push for increasing community access for stroke patients. I was very interested in the team that had social workers directly linked into the team and how effective this was and also the research looking at UL rehab which focused on hand function rather than gaining shoulder stability first. The forum also addressed the limitation of Botulinum Toxin in the upper limb, reducing tone and pain but not improving function even with therapy input.

The talks on stroke education and pathways with interaction and e-learning gave a lot of discussion on core and advance competencies. Due to this talk within our department everyone is now expected to complete all level of STARS and we expect all students coming into the department to have completed STARS 1.

The forum was very inspiring and sparked more questions than it did answers but also initiated a lot of discussion both with other professionals at the conference and within our department. It has also changed some approaches to my treatment.

I am keen to attend this year's conference to see how some of the ideas mentioned or initiated at the 2009 conference have developed.

LETTERS

Raine, Meadows and Lynch-Ellerington response to Margaret Mayston's book review for *Synapse* (this edition page 48)

The editors of *Bobath Concept Theory and Clinical Practice in Neurological Rehabilitation* would like to thank Dr Margaret Mayston for her review of this publication and ACPIN for allowing us to respond to some of her criticisms. Dr Mayston may be right that it will not quell our critics but we make no apologies that we demonstrate a more hands on approach to aspects of patient treatment.

The British Bobath Tutors Association is a group of professionals who specialize in providing education in the Bobath Concept. This educational package is for therapists at the forefront of delivering rehabilitation in the UK in a wide range of clinical settings. Physiotherapy is primarily a handling profession and the development of handling skills is an essential part of our courses. As neurotherapists we do not have to keep apologizing for using our handling skills especially with patients who have sensorimotor deficits. If therapeutically one needs to stabilize the patient's hip in a standing activity in order to promote improved alignment and muscular activation necessary for function, then it should be considered one's professional responsibility to do so. We therefore take very seriously the criticism regarding therapist's hand positioning in the photographs, and refute absolutely the suggestion that the therapists handling was invasive of the person's dignity. We would

draw Dr Mayston's attention to the *CSP Rules of Professional Conduct* (2002) and remind her that as Chartered Physiotherapists we are all aware of the rules related to informed consent and touching patients and consider regard for patient dignity an integral part of professional practice.

Our publication includes many references to the importance of 'hands off' during treatment and self practice, including when and how the patient can practice alone.

We believe that chapter one clearly introduces the current theory supporting the developments of the Bobath Concept as it is practiced today and that this initial publication goes a long way to demonstrate how the Bobath Concept has evolved in line with current evidence. This was highlighted by Professor Raymond Tallis in his foreword to our book.

The Editors

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REGIONAL REPORTS

East Anglia

Nicola Hills

2009 was yet another successful year for East Anglia ACPIN, seeing large membership numbers, a strong committee and having good attendances at our four well received courses.

Our 2010 course programme has taken shape and to date we have already run a successful *balance and postural control* study day, tutored by Helen Lindfield BBTa at Ipswich Hospital in February.

Our provisional 2010 programme is as follows:

- **24th April** *Neuropilates study day* at Norwich Community Hospital.
- **28th April** *Neuro Rehab Adjuncts Study Afternoon* with AGM venue TBC.
- **June** *Unexplained Neurological Symptoms*, evening lecture at Ipswich Hospital.
- **September** Evening lecture by Prof Val Pomeroy at UEA.
- **November** *Visual Perception Hierarchy study day*, Tutored by Nikki Adams at Ipswich Hospital.

All in all a very packed programme, which the committee are very excited about and we hope that the courses will continue to be as well attended as in 2009. If you would like any information about any of the courses mentioned above please contact me. Up to date information can also be found on the website www.acpin.net, this is now updated regularly.

As ever we are looking for ideas for future courses and value ideas from the membership, so please contact me if you have any exciting ideas. Hope to see you at our courses this year.

Kent

Janice Champion



Kent ACPIN achieved its highest number of members in 2009 since it started as a regional group, so

our plan for 2010 is to work to improve on this. The committee has been strongly supported and our regular planning meetings held in a range of Kent public houses has resulted in a great team led by Cathy Kelly-Jones, our chairperson.

Our study day on the *The Brain Gym* held in November at the Kent and Canterbury Hospital was well attended and proved to be a very interesting and stimulating event. Gillian Hindshaw was the course tutor, a physiotherapist herself; she gave many clinical examples to support the theoretical component of the course. She interspersed the theory with practical sessions that gave us the opportunity to feel the effects of the 'exercises' for ourselves. Our grateful thanks go to Allergan who kindly sponsored our lunch.

A Christmas evening lecture was held in December at the William Harvey Hospital. Ben Chitambira, a clinical specialist physiotherapist talked on the subject of *Optokinetics*. This event was well attended and everyone enjoyed mulled wine, mince pies and a time for socialising with each other.

The APPI *Modified Pilates in Neurology* study day was held at the William Harvey Hospital in March 2010. This excellent day was linked with our AGM and well attended.

We are now planning the autumn/winter events and any ideas from members for future courses are always welcome.

London

Andrea Stennett



I am pleased to report that 2009 was a great year for our region. We have seen an

increase in both our membership and course attendance not only from ACPIN members but also from members across other professions. Therefore we continue to keep the cost to you at the very minimum despite inflation.

Organising courses is not an easy task but our committee membership remains strong (14 members!). London is a big region and involves a lot of co-ordination so 'the more the merrier'.

Hopefully you would have already re-renewed your membership for 2010. If not, you can do so by logging on to the national ACPIN website.

Stroke remains high on the Agenda for Healthcare for London. You can find the newly produced *Stroke Rehabilitation Guide* on the Healthcare for London's website (www.healthcareforlondon.nhs.uk/stroke).

In 2010 we will continue to host a mixture of evening lectures and study mornings. We will have our annual general meeting and evening lecture on 18th February 2010. Our usual *Wine and Cheese* event will be on the 23rd of September 2010. To bring the year to a close we will host a study day instead of our usual study morning on the 6th November 2010 with Anne Shumway-Cook. Please continue to look for any changes to course details on the national ACPIN website (www.acpin.net), *Frontline* or on iCSP.

Thank you for your continued support and have a great year. If you wish to contact me directly you can do so at andstennett@yahoo.com

Merseyside

Laura Phillips

Firstly I would like to introduce myself as the new regional representative for Merseyside ACPIN following in the footsteps of Jo Jones who remains a committee member.

Since our last update we have had quite a few changes to the committee. We were all sad to lose Pat Davies as a much valued chairperson. Pat is currently enjoying an extremely active retirement and remains very much a part of any social events. Jo Hawarth has returned as treasurer and we are delighted to welcome Jacqui Isaac and Helen Skipworth as new recruits. Unfortunately Lucy West, Katie Game and Hayley Goulding have all had to step down and we thank them for their contributions.

Currently all our committee members are based in trusts in Liverpool so we would like to make an appeal to our colleagues in the Wirral and North Wales. If any of you would like to join the Merseyside committee we would love to have your input. Please contact us through our e-mail (merseysideacpin@yahoo.co.uk).

Merseyside ACPIN enjoyed a successful lecture programme in 2009 including an *upper limb* course with Clare Fraser and a *movement science* study day with Shelagh Tittle. All courses were well attended and feedback was positive.

Hopefully our 2010 programme will be as successful. Some courses and dates are to be confirmed so please check *frontline* and your emails or post for further information.

Remaining programme for 2010

- **12th May** *Post Polio evening* lecture (further details tbc).
 - **12th June**, Study day with Clare Fraser (topic and further details tbc).
- Our membership currently stands at 40 and we would like to thank all the members for their continued support.

North Trent

Anna Wilkinson

We have had a quiet start to the year, having to change some lecture dates. The programme will soon be re-organised so watch out for new dates. We are planning an *FES lecture, vestibular rehabilitation* half-day, a *technology and rehabilitation* evening for the first half of the year. We are also on continual lookout for new committee members – anyone who can offer some time would be helpful.

Northern

Catherine Birkett



Hello to all our members! We are looking forward to an exciting year ahead at Northern ACPIN, and are pleased to welcome Kate Buckton from Penrith to the committee. Kate replaces Penny Maddock who stepped down after years of valued contribution, and hopefully she will help us improve communication between the eastern and western areas of our region and enable us to better meet the needs of our members in the west – so no pressure Kate! Unification of east and west, surely it's been achieved before!

In response to feedback from the membership we intend to provide opportunities throughout the year for us to exchange ideas and working practices in varied formats and in different locations throughout the region. In February we held the long awaited, and much talked about, two day *vestibular rehabilitation* course at South Tyneside District Hospital. It was extremely well received, so thank you to all involved in its organisation.

Details of our full programme for the rest of 2010 can be found on the Northern region page at www.acpin.net and is as follows:

- **June** *Goal Attainment Scale Journal Club and discussion.*
- **September** *Outcome Measure Exchange (Part 2).*
- **October – December** *Bobath Introductory* three week-end courses.

If you have any ideas or suggestions for Northern ACPIN, would like to offer a venue, or would like to join the committee, please contact use on northernacpin@hotmail.co.uk

Northern Ireland

Joanne McCumiskey



Hello to all our members from your committee! Firstly, a big thank you for your continuing support of our active monthly workshop programme. After a disappointing start, the numbers rallied and we had a successful lecture series on treadmill training, seating and pressure care and dizziness.

Plans for spring/summer 2010 include a *gym ball workshop* and our day and a half course on 23rd–24th April 2010! The course will be held in the new Downe Hospital and is entitled *Neurological Rehabilitation: the role of manual therapy in the management of peripheral joint problems*. For further details, please see the NI regional section of the ACPIN website.

On behalf of the committee and the whole of NI ACPIN, I would like to take this opportunity to thank Laura McKean (retiring Secretary) and Justin Sloan (retiring Treasurer) for all their hard work. They have both recently become parents and are opting off the committee, for the easy job of staying at home with babies! Thank you to you both. This means our committee is in need of an injection of new talent! If anyone is interested in joining us, please contact me for further information.

We look forward to seeing you all at our spring events – thanks again!

Oxford

Claire Guy

From our committee to all Oxford members, a warm welcome to our report for the spring edition, emerging from our cold winter. Our evening lectures remain the mainstay for Oxford ACPIN with regular attendance over 20 and although the venue tends to be Oxford, lectures at Stoke Mandeville and Wycombe attract a good attendance, often seeing new faces.

Professor Wade once again provided a thought provoking talk around outcome measures last year and we also had interesting discussions on the *Mental Capacity Act* and its role in rehabilitation. Stana Bojanic, presented a clinical perspective of *Spinal Cord Anatomy* in March and plans for the rest of 2010 are well underway.

We hope to repeat the research forum evening, Jane Moser will talk on the *shoulder from the musculoskeletal perspective and application to neuro conditions* and Giles Yates, clinical psychologist will present a talk around the *psychological impact in gait rehabilitation* in December. Three courses are planned; *neuro-pilates* in May, *Ataxia* with Lyn Fletcher (Autumn) and a combined course with Richard Sealy looking at *gait and neurophysiology*. Please look out for details on fliers, *Frontline*, and the Oxford section in the national ACPIN website or call any of the committee.

Again thank you to all our members for your support, Oxford ACPIN is for you; please feel able to suggest topics and thank you for entering into healthy debate. We have welcomed some new members as Sophie and Fiona are dual tasking with new babies and ACPIN, and doing a great job.

Scotland

Dorothy Bowman

ACPIN Scotland has had a good year, with membership staying stable. Four successful courses were organised which have all been well attended with good feedback. We try and vary topics and venues but we always welcome ideas for courses and offers of venues. We are aware of budget cuts and the restraints on course funding but we do try and keep the prices on courses down and offer good value for money!

All posts on the committee are filled for this year but please get in contact if you have an interest in any post or would like to assist in the running of the committee.

Remaining programme for 2010

- **23rd–25th June** *Kinetic control: motor control retraining in people with neurological impairment – Part A* Woodend Hospital Aberdeen
Tutor: Sarah Mottram
www.kineticcontrol.com
ACPIN Members £290; non members £340. For more info contact dorothybowman@nhs.net
- *Visual/cognitive deficits* Therese Jackson, Consultant OT. Date and venue tbc.
- MS study day tbc.
- Bobath study day tbc.

South Trent

Cilla Williams



South Trent ACPIN ended 2009 on a high with an *Ataxia* course by Lynne Fletcher. This oversubscribed course was much enjoyed by those lucky enough to get a place. We expect our *Upper Limb* course by Clare Fraser in March to be just as popular.

Other events for 2010 include a *Spasticity* lecture by Claire Donnellan in March, and a *myofascial release* course by Peter Mitchell in September. Please contact me for further details of these events.

We would like to say a huge thank you to Becky Sammut who has stepped down as regional representative as she is due to give birth in March. We wish her well in her new role as a mum! As we have mentioned in our emails to members, and at our events, we are very keen to recruit new committee members. We have several roles available on the committee, and no previous experience is required. We hold our meetings over dinner in various locations across the region, so please join us if you can to help ensure we are meeting the needs of all our members. The stronger our committee, the more events we can run!

We welcome feedback from our members so please email me (priscilla.williams@nhs.net) if you have ideas for particular courses/lectures you would like us to include in our programme. Thank you to all our members for your continued support, we look forward to seeing you at our future events.

South West

Helen Madden

South West ACPIN has had some changes in committee membership this year. Bridget Pearce has resigned as chair and Kate Moss has also resigned as regional representative. Thanks to Bridget and Kate for all their contributions to the committee and South West ACPIN. Welcome also to our new committee members – Angie Logan and Helen Madden (the new regional representative). As ever we would welcome new committee members, especially if you are based in the South Wales or Devon/Cornwall area. Please get in touch if you wish to find out further information.

Courses held so far this year have included a day on *dynamic movement orthoses*; a *balance* study day which included assessment and treatment of visual, vestibular and proprioceptive influences; and an evening lecture on *motivational interviewing*. Courses continue to be well attended by our members so thank you for coming. Further courses planned for this year are a study day on *gait analysis and rehabilitation* combined with our AGM in April; an evening lecture on the *treatment of unexplained symptoms*; a *community stroke* day; a *shoulder* study day; and a summer social combined with more neuroanatomy – back by popular demand!

Further information about courses will be placed on the ACPIN website www.acpin.net; interactive CSP and via e-mail to our members.

Please get in touch with us if you wish to find out more information about being on the committee or ideas/suggestions for future courses
Helen.Madden@banes-pct.nhs.uk

Surrey and Borders

Kate Moffatt



Hello to all new and existing members! Our 2010 programme started in February with our AGM and lecture from Anthea Dendy, feeding back her MSc Project on *MS*. It provided us with good insight into local research taking place. In April, Dr Sara Demain returned to lecture on *Discharge from Stroke Physiotherapy*. This proved very informative with informal discussion and networking stimulated throughout the evening.

We apologise if our list of lectures was rather sparse at the end of 2009. A few lectures were cancelled at the last minute due to unforeseen circumstances and were very difficult to fill at such short notice. We shall endeavour to provide an exciting programme for the rest of this year!

Remaining programme for 2010

- **1st June** 7:30pm *Seating in the Developing World: challenges and solutions to neurological problems* David Constantine at Frimley Park Hospital.
- **2nd October** – Study Day *Rough Guide to Neuro-oncology for Physiotherapists*, an eclectic mix of lecturers at Royal Surrey County Hospital.
- **16th November** 7:30pm *Safe Exercise in Neuro Conditions*, Dr Helen Dawes at Royal Surrey County Hospital.

If you wish a particular topic to be used as an ACPIN lecture, please email me. We welcome your ideas!

Please remind colleagues to re-register their membership details online, even if they pay direct debit. This is to ensure they continue receiving correspondence from ACPIN.

Finally, we would really like to encourage further volunteers to join us on our committee. I promise it is not a heavy burden to bear! There are in fact many advantages from being on the committee and if anyone is interested in finding out more, please do not hesitate to contact me on ksmoff@hotmail.com

Sussex

Gemma Alder



A big thank you to all the speakers and everyone involved in supporting the running of Sussex

ACPIN in 2009. With an increase in committee members, we have planned a busy and exciting programme for 2010.

Following a successful start with our AGM and a lecture in March with Neuro Rehab Consultant Margaret Rice Oxley, on the *Long term Medial Management of MS*, the rest of the year looks like this:

- **29th April** An evening lecture on *The physiotherapy management in long term conditions*.
- **21st-22nd May** *Improving upper extremity motor recovery following stroke: a volitional approach to stroke treatment using saebo's functional dynamic orthoses*, a two day course.
- **12th June** A study day on *Parkinsons Disease*.
- **September** (date to be confirmed) A study day on *Understanding and treating pusher syndrome* followed by two more evening lectures to be confirmed

In order to keep up to date with this years programme, venues and speakers we will be providing updated information on the ACPIN website and iCSP.

As always your thoughts and ideas are important to us. Please feel free to contact myself, or any of the committee members to share your ideas
Gemma.Alder@wash.nhs.uk

Wessex

Mary Vincent



2010 looks like being another active year for Wessex ACPIN. We started the year with a very popular *thermoplastic splinting* course and this was followed by our AGM and an interesting talk from physiotherapist and commissioner Nicola Howard. The committee remains very stable with just a couple of additions. By the time this is printed we will have lost our chair person Louise Johnson to maternity leave. However, this is only temporary as she will stay on as co-chair with Anna Gould stepping in to help and we are very grateful to both of them for the hard work they put into this role. Stepping back into a familiar role is Mary Vincent who has kindly agreed to help with the regional rep role as many of you will have noticed from some of your emails.

As you will hopefully have seen we are now advertising all courses on the Wessex page of the ACPIN website. This will hopefully prove a successful means of informing members of forthcoming courses/events. We have also provided links to the Wessex ACPIN bursary guidance and application forms and would encourage members to apply for funding ahead of the May and October deadlines.

A further new initiative this year is the Wessex Spasticity Forum. This developed from the success of last years spasticity conference and is a joint venture between ACPIN and colleagues from the British Society of Rehabilitation Medicine. The plan is to hold bi-annual meetings for all members of the MDT with guest speakers and the opportunity to discuss and share examples of good practice. More information should be coming your way once we have finalised plans for our first meeting.

As always if you have any queries or suggestions please let us know. If you also have a bit of spare time then why not join us on the committee, new members are always welcome.

Report written by Hayden Kirk (previous regional representative).

West Midlands

Katherine Harrison

So far 2010 has proved successful for West Midlands ACPIN. The rearranged evening lecture on the *Management of the MND patient* took place on the 3rd of February. Professor Morrison a consultant neurologist, gave a very interesting talk that was well attended. Hopefully by the time this goes to print we will have held an evening lecture on *Intrathecal Baclofen* though at present the final details of this lecture are still being organised!

In 2010 we also plan to host an *advanced neuroplasticity* study day with Coventry university lecturer Jackie Shanley. Proposed dates for this are May or June. A study day on *reach and grasp re-training and motor re-learning* is also on our agenda. For more information on upcoming events please look at the West Midlands section of the ACPIN website. We welcome any suggestions of topics or venues for events you would like West Midlands ACPIN to organise.

Last year the West Midlands committee saw some changes. Unfortunately our minutes secretary Ceri Jones has left us for pastures new, we wish her all the best. We thank Trudy Pelton for taking over her role and Salu Fellows for volunteering to be out new treasurer

The West Midlands has seen some exciting research developments with Trudy Pelton taking on the role of chief investigator for the stroke research Grasp and Reach After Brain Injury Trial. She is investigating the specific problem of hand and arm co-ordination after parietal and cerebella stroke and the effects of specific targeted interventions for these two patient groups. Physiotherapists from University Hospital Birmingham, Heart of England Foundation Trust and South Birmingham primary care trust will be helping to recruit patients for this study.

We hope that 2010 will provide West Midlands ACPIN members with varied and informative events and we look forward to your continued support.

Yorkshire

Jill Fisher

Many thanks to Chris Robins for very ably filling the vacant Chair role for Yorkshire ACPIN.

Just before Christmas it looked as though the new year was going to have a busy programme but with various problems in firming up dates the early part of the year was quieter than anticipated. All the events have been well supported.

Remaining programme for 2010

- **End of May (or start of June)** evening lecture, June Grainger on *Paediatric Syndromes and Transition to main stream services*.
- **5th June** *Ataxia day course* – tutor Lyn Fletcher to be held at St Lukes Bradford, a repeat of last years course as the demand for places very much exceeded the number of places available.
- **19th June** *Gym Ball* course with Janice Champion.
- **November** *Neuro respiratory* day course, tutors Jane Anderson, Lisa Emmett and colleagues.
- **September** *Pilates* day course. Tutor Jo Gilmore – the day course will be repeated on two days as we anticipate a high demand for places.

Future plans include a day course with tutor Paul Johnson on the *treatment of the head and neck*.

On a personal note, as I will be leaving the committee, thanks to all the committee members over the last few years. It has been a pleasure to get to know such a lovely and enthusiastic group of people.

WRITING FOR SYNAPSE

Synapse is the official peer-reviewed journal of the Association of Chartered Physiotherapists in Neurology (ACPIN). *Synapse* aims to provide a forum for publications that are interesting, informative and encourage debate in neurological physiotherapy and associated areas.

Synapse is pleased to accept submitted manuscripts from all grades and experience of staff including students. We particularly wish to encourage 'novice' writers considering publication for the first time and ACPIN provides support and guidance as required. All submissions will be acknowledged within two working weeks of receipt.

Examples of articles for submission:

Case Reports

Synapse is pleased to accept case reports that provide information on interesting or unusual patients which may encourage other practitioners to reflect on their own practice and clinical reasoning. It is recognised that case studies are usually written up retrospectively. The maximum length is 3,000 words and the following structure is suggested:

Title – this should be concise and reflect the key content of the case report.

Introduction – this sets the scene giving background to the topic, and why you consider this case to be important, for example what is new or different about it? A brief overview of the literature or the incorporation of a few references is useful so people can situate the case study against what already is known.

The patient – give a concise description of the patient and condition that shows the key physiotherapeutic, biomedical and psychosocial features. Give the patient a name, but not their own name. Photographs of the patient will need to be accompanied by explicit permission for them to be used. Only relevant information to the patients' problem should be included.

Intervention/method – Describe what you did, how the patient progressed and the outcome. Aims, treatment, outcomes, clinical reasoning and the patient's level of satisfaction should be addressed. Indications of time scales need to be considered.

Implications for practice – Discuss the knowledge gained, linking back to the aims/purpose, and to published research findings. Consider insights for treatment of similar patients, and potential for application to other conditions.

Summary – List the main lessons to be drawn from this example. Limitations should be clearly stated, and suggestions made for clinical practice.

References – the Harvard style of referencing should be followed (please see *Preparation of editorial material* below).

Original research papers

These should not exceed 4,000 words and papers should include the following headings:

Abstract – (maximum of 300 words)

Introduction

Method – to include design, participants, materials and procedure

Results

Discussion

Conclusion – including implications for practice

References

Abstracts of thesis and dissertations

Abstracts from research (undergraduate and postgraduate) projects, presentations or posters will be welcomed. They should be up to 500 words, and broadly follow the conventional format: introduction, purpose, method, result, discussion, conclusion.

Audit report

A report which contains examination of the method, results, analysis, conclusions of audit relating to neurology and physiotherapy, using any method or design. This could include a Service Development Quality Assurance report of changes in service delivery aimed at improving quality. These should be up to 2,000 words.

Sharing good practice

This *Synapse* feature aims to spread the word amongst ACPIN members about innovative practice or service developments. The original format for this piece started as a question and answer session, covering the salient points of the topic, along with a contact name of the author for readers to pursue if they wish. Questions were loosely framed around the following aspects (this would be for an audit)

- What was the driving force to initiate it?
- How did you go about it?
- What measurements did you use?
- What resources did you need?
- What did you learn about the process?
- How has it changed your service?

However recent editions have moved away from this format, and provide a fuller picture of their topic eg *Introducing a management pack for stroke patients in nursing homes* (Dearlove H Autumn 2007), *An in-service development education programme working across three different hospitals* (Fisher J Spring 2006), *A therapy led bed service at a community hospital* (Ramaswamy B Autumn 2008) and *Establishing an early supported discharge team for stroke* (Dunkerley A Spring 2008).

Product news

A short appraisal of up to 500 words, used to bring new or redesigned equipment to the notice of readers. This may include a description of a mechanical or technical device used in assessment, treatment

management or education to include specifications and summary evaluation. Please note, ACPIN and *Synapse* take no responsibility for these products, it is not an endorsement of the product.

Reviews

Course, book or journal reviews relevant to neurophysiotherapy are always welcome. Word count should be around 500. This section should reflect the wealth of events and lectures held by the ACPIN Regions every year.

OTHER REGULAR FEATURES

Focus on...

This is a *flexible space* in *Synapse* that features a range of topics and serves to offer different perspectives on subjects. Examples have been a stroke survivor's own account, an insight into physiotherapy behind the Paralympics and the topics of research, evidence and clinical measurement.

Five minutes with...

This is the newest feature for *Synapse*, where an ACPIN member takes 'five minutes' to interview well-known professionals about their views and influences on topics of interest to neurophysiotherapists. We are always keen to receive suggestions of individuals who would be suitable to feature.

PREPARATION OF EDITORIAL MATERIAL

Copies 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.

The first page should include:

- The title of the article
- The name of the author(s)
- A complete name and address for correspondence
- Professional and academic qualifications for all authors and their current positions

For original research papers, a brief note about each author that indicates their contribution and a summary of any funds supporting their work.

All articles should be well organised and written in simple, clear, correct English.

The positions of tables and charts or photographs should be appropriately titled and numbered consecutively in the text.

All photographs or line drawings should be at least 1,400 x 2,000 pixels at 72dpi.

All abbreviations must be explained.

References should be listed alphabetically, in the Harvard style. (see www.shef.ac.uk/library/libdocs/hsl-dvcl.pdf) eg:

Pearson MJT *et al* (2009) *Validity and inter-rater reliability of the Lindop Parkinson's Disease Mobility Assessment: a preliminary study* *Physiotherapy* 95 pp126–133.

If the article mentions an **outcome measure**, appropriate information about it should be included, describing measuring properties and where it may be obtained.

Permissions and ethical certification; 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.

SUBMISSION OF ARTICLES

An electronic and hard copy of each article should be sent with a covering letter from the principal author stating the type of article being submitted, releasing copy-right, confirming that appropriate permissions have been obtained, or stating what reprinting permissions are needed. For further information please contact the *Synapse* coordinator: louisedunthorne@tiscali.co.uk

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Printers

Henry Ling Limited

The Dorset Press

Dorchester

Address for correspondence

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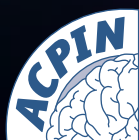
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JOURNAL AND NEWSLETTER OF THE
ASSOCIATION OF CHARTERED PHYSIOTHERAPISTS IN NEUROLOGY
www.acpin.net

Spring 2010

ISSN 1369-958X