An insight into the neurological patient for the craniosacral physiotherapist

The experience of having a stroke or indeed any other neurological episode, is not something I have yet experienced. However, I do work with such patients on a day to day basis, and have considered what the effects might be like. This seems a useful starting point for considering how and if the craniosacral physiotherapist might be attracted to working with the neurologically impaired person.

Let us assume we have suffered hemiplegia: one side of our body has ceased to respond to volitional command, the body as a whole is unable to function normally, unable to orientate to, or interact with the environment. Even the non-paretic side of the body is unable to coordinate movement up against gravity.

The ensuing time period is likely to be experienced as traumatic. Trauma is not the event, it is our response to the event. Let us assume that as the person experiencing the stroke we find it overwhelming. The event, the CVA (cerebrovascular accident), is not the 'stroke' that presents for treatment. This is an important distinction. What presents for treatment is the trauma, the response to overwhelming events, the ongoing struggle to function after the stroke. I believe that it is the trauma that is going to 'write' the pattern of recovery. More than that the trauma is going to lock the recovery patterns in place.

The 'central postural control mechanism' (the brain), or the 'postural control mechanism', (the neuromusculoskeletal system), is considered by many neurotherapists to be the key to understanding treatment following brain injury, and

the model is one of reciprocal innervation, selectivity and modulation. But this is the story so far. It might now be more realistic to see the postural control mechanism as a door that we have already passed through, at least to some extent, and the next 'door' or 'key' is the 'shock and trauma' model of Peter Levine.

Not only does the neurotherapist need a model and a knowledge of normal movement (as the potential to be everything that the individual genome has to offer, against the backdrop of a successful ontogenesis thus far), but she also needs a knowledge of the conditions necessary for the release of shock held in the central nervous system and in the body tissues. The ideal conditions are supportive: a practicioner able to put the client's process before her own need to achieve. "If he comes to believe that the efficacy of his specialised experience or that the rigours of his scientific theory and technique can supplant or transcend the application of his ordinary experience of people, then the whole endeavour is threatened." from The Psychotherapy of Everyday Life" p41

Supportive conditions will include time and space for things to happen. Becker's three stage process would fit in well here: the therapist tunes in, something happens, something else happens.

In the language of Becker the biokinetic (extrinsic) forces are centred and held by the biodynamic (intrinsic) forces. Thus compensatory strategies and spasticity are explained in terms of the inertial fulcrum. With treatment the inertial potency is released and a higher level of order naturally presents itself. The therapist is witness to the process, rather than 'doing' something. It is enough if both the therapist and the client are learning from this higher level of order. The higher level of order arises from the innate intelligence of the human system, out of the greater 'whole' of the therapeutic alliance between patient and therapist.

What about the plasticity of the neuromuscular system? Surely any explanation of ow neurophysiotherapy works would have to include the concept of stress nysiology and neuromuscular plasticity? The background to this lies in the idea that l postural activity contains two different controls: one is the stimulus control which overns the here and now response, the other is the plastic or future control which is elivered in code as the 'physiological stress' within the stimulus, and which rescribes for the sort of neuromuscular system that is required in the future. New atterns of movement contain stress to the extent that they are demanding, while miliar patterns involve little stress.

he speed with which the neuromuscular system adapts to demands for changes in ructure of synapses and muscle depends upon the efficacy of axoplasmic flow, hich in turn depends upon health, vitality, nutrition and resources, as well as on the arity and integrity of the signal. The attention paid to creating resources, to egotiating distance and space, to creating and respecting autonomy, augers well for a raniosacral approach, especially where it can be combined with a knowledge of ormal movement.

he amount of unprocessed shock and trauma held in the stroke patient's systems will vert resources away from the rebuilding of more normal patterns of movement.

o move this general discussion into more concrete territory let us consider our initial ost stroke perception of falling. I would suggest that having suffered a stroke we ould be likely to fall, probably to our non paretic side. The reason for this is that the aretic side would fail to activate adequately, and control of movement into the

ıe plegic side.

uch a traumatic experience as falling to the non-paretic side would condition the atient to avoid moving into that space. We can call this then a 'no-go area' for the atient.

riven by personal needs and goals the patient has to find ways of compensating for .e impairment, the deficit, and not only for the deficit but also for the 'no-go areas'. ı addition to these powerful and mounting pressures to effortful activity the patient is aturally concerned to try to get his plegic side to function. This will bring additional fort from the non-paretic side to try to activate the plegic side.

he consequences of this overarching motivation and effortful strategy are associated actions and spasticity in the plegic side. Such associated reactions and spasticity far om being intrinsically 'pathological' are in fact the plastic recovery of the impaired ervous system. Such responses can only be described as 'pathological' from a ırticular therapeutic viewpoint. From such a viewpoint the adaptations are nsidered to be to the detriment of the patient's recovery in the long term. However, is implies a lack of understanding of the extent to which the body will go in order to y and function, mistaking the abnormal for the pathological.

would like to say a little by way of explanation for the terms spasticity and sociated reactions. These terms were originally defined around the turn of the ntury, the former as an abnormal state in that it was unchanging, and the latter as actions associated with a stimulus whose origin was in another limb. More recently

eactions have come to be regarded as simply any reaction that goes beyond normal nhibitory control that can be associated with the development of spasticity.

Dr K Bobath described spasticity as "an abnormal postural mechanism, hylogenetically primitive and ontogentically pathological".

think that one of the most illuminating theoretical ideas to inform clinical practice is ne 'C' curve familiar in principal motility. It is useful in understanding the first rinciples of reciprocal innervation which is so fundamental to neurophysiotherapy. imply stated this says that at spinal level lateral movement into space will be upported through contraction or convexity on the contralateral side. If I move my ody to the right assuming I don't move my feet or base, my left side will become ctive to 'hold' me, configuring a 'C', convex to my left.

A useful next step is to think in terms of the space on the right configuring the activity n the left, rather than thinking that brain configures the appropriate motor response. t may be helpful to regard the motor output as a fairly small part of the overall erceptual experience. This is something to try out for yourself, if it works for you use , if not discard it. Ideally one is able to traverse in either direction, but when working vith the stroke-patient going to the non paretic side is, I would suggest the primary bjective, just because it configures such an active response in the paretic side. This rinciple of reciprocal innervation can be used in all directions, forwards and ackwards, and diagonally.

llowing a stroke most patients attempt to compensate for the perceived lack of ability on the plegic side with increased activity in the non-paretic side. While this rategy is inevitable if the patient is to function, it does increase the disturbance of ciprocal activity. The art in treatment is to take the compensation to the minimum ssible, and maintain it there for as much of the activity as possible. For one thing, is is the strategy of least effort, least abnormality.

this is combined with configuring responses by using space contralaterally and ially the patient will be experiencing his best chance. All that is needed is perience, and that means making as many mistakes as possible. To avoid the istakes altogether is to miss the point. It is an error correction system, a negative edback system, as the patient's response deviates from the desired quality so the nfiguring must change in response.

useful concept in this connection is 'exposure', a term used in mountain climbing to fer to how severe the climb 'looks' from the rock, in contrast to how difficult it is to tually do technically. If when you look down there is just fresh air the exposure vel is said to be high. For the patient exposure can be experienced as overwhelming challenging depending upon how traumatised or resourced he is.

nother useful insight is recognising the extent to which the perceptual bias of the tient has become internalised. For example, the fear of falling to the non-paretic le may lead to the internal vertical being reset a few degrees in the opposite rection. If such a bias has been internalised then applying force to bring the patient to a straight alignment will be perceived by him as being pushed further away from

his usefully leads into the whole issue of using volitional pathways in recovering ovement after stroke. The best advice is don't - they invariably are associated with ore effort and the consequent destruction of automatic balance mechanisms in rect proportion to the amount of volition used. Better to think of volition as 'floating' the ocean of balance. If there is no balance don't even begin to think about using lition. Walking is often regarded as a volitional activity, limping as the automatic sponse to pain or injury, in fact it is the other way round: walking is automatic, mping is volitional.

final idea that I would like to explore with you is the possibility of 'leaving the oke'. One can see treatment in terms of 'taking out' the stroke element in the stural strategy, rather than the conventional idea that something has to be put in. deed, the patient might be regarded as being in a 'facilitated' state in the negative nse, i.e. positive feedback loop which reinforces the pathology. This being the erapist's mind set the treatment comes to be seen as a release or letting go of the ntracted state of compensation. The compensation is not just for something issing' in the postural mechanism but rather is the holding of shock and trauma bsequent to the stroke, particularly as experienced against gravity.

harles Dean 12th April 1999