



The Peugeot led recovery

She was a sexy little number. Diabolo red; just what the physiotherapist ordered! I'd driven a Peugeot 206 2 years earlier but it had failed the indicator test. More exactly, I'd failed to manage her left hand stalk indicator. Anyway it was silver: old farts colour. At 63 years of age, old fart I'm not.

A cerebrovascular accident (CVA) 4 years ago had me driving nothing more sexy than a wheelchair, backwards.

I knew as much about neurophysiology as any other science teacher, ie. not much. I knew that damaged neurons don't regrow. I was about to learn about new brain pathways.

In the months following my long rehab three ideas emerged. The first, that remnants of control systems remained: If I could walk in water; I would walk on land. The second, that I had time to learn: it takes a long time for motor control systems to establish. The third, that my motor memory was intact: on a keyboard my left hand wanted to stretch an octave.

The path to the diabolo dealer began in two places.

The first was my physiotherapist's rooms. She'd said that to get left thumb movement (the most complex) she'd need to start with my left foot and work her way to my left shoulder, adjusting the orientation of the muscles as she went. I began to walk reasonably well – even with occasional muscle drop out. I discovered that walking is a complex affair involving motor coordination, positional feedback loops and balance.

The second was the pool/gym. Arm and leg exercises (strength recovery) gave way to vestigial swimming. Progress (albeit limited)! Then the big break: a young friend I used to 'swim' with (read 'talk about the meaning of life in the spa') challenged me to swim a lap with flippers and kickboard. He promised to revive me if I drowned, but since he was gay, I suspected his motives. I couldn't resist his goading and I arrived at the deep end breathless, exhausted and red faced. Soon I added breathing to kicking and 'swam' a kilometre. After a few years I managed to add 'thrashing both arms about' to breathing and kicking. I swam sort-of-properly even if it was only 50 m.

My physiotherapist had set me up to walk even if it was with a limp and to swim but it was up to me to practise. Slowly, mobility improved even if stairs were like the Matterhorn. But always looking for the easy option, I'd

learned to do without my left hand. Not a good idea.

Unexpectedly, some nonmotor problems resolved themselves: falling into a black pit without warning, bursting into tears in response to trigger words and inappropriate laughter. These problems had most likely been linked to compromise of tissue in my right frontal brain regions.

I knew that development of the pathways from my cortical motor regions to my spinal column cells was completed in the first year after birth, and that later development was probably associated with beginning to learn to walk.

Apparently, I had the advantage being older. The effects of my stroke were likely to be less profound and more temporary in my mature brain relative to a growing brain. However it was not all rosy. Greater functional recovery was more likely if the stroke had occurred in infancy. A younger brain recovers better because of its neuronal plasticity.

All of this led me to 'targeted exercise'. Ro Packer, a Royal Talbot physiotherapist, was researching the idea that repeated exercise of specific muscles gradually establishes new motor neuron patterns. Her postgraduate research linked carefully targeted exercise to functional recovery and changes to brain pathway maps. In short, she put numbers to an idea that some stroke recovery professionals have had for some years.

This notion made sense. It had been suggested that recovery can be assisted by the mass action of the remaining intact regions of brain tissue. Other research described how some functions lost after brain insult are taken over by other brain regions. A theory I like is that the cells around my damaged brain region became more sensitive to fainter traces of neurotransmitters, where 'leakage' on one side of the lesion activated new pathways on the other side, where the neurons are more likely to 'ark up'.

In short, left hand exercise was good. So, right side stroke? Prescribe a Peugeot – bright red preferred!

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