The effects of pain relief in shoulders and lumbar vertebrae using gentle manual spinal mobilisation on Multiple Sclerosis symptoms: A series of case study

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Abstract

Introduction: Multiple Sclerosis is a debilitating neurological condition affecting around 100,000 people in the United Kingdom. Medical intervention currently available has limited benefits to changing the course of symptoms development. This case series is presented on account of its authenticity and, to the best of our knowledge, is the first reported cases of Multiple Sclerosis treated using a physiotherapy technique of vertebral mobilisation.

Case presentation: In the present report, we describe 23 cases of MS sufferers who presented with different neurological symptoms. 13 of them were diagnosed with Relapsing Remitting MS (RRMS), 6 were Secondary Progressive MS (SPMS) and 4 were Primary Progressive MS (PPMS). There were 16 women and 7 men. Patients' age varied. A very gentle spinal mobilisation physiotherapy technique was employed to eliminate pain and tension in patients' shoulders and lumbar spine. Each patient received 8 treatment sessions on a weekly basis over eight-week period.

Conclusions: MS symptoms seem to correspond well to the location and severity of pain identified in MS sufferers' shoulders and lumbar spine. Given a short single weekly session (eight weeks), a wide range of symptom reduction occurred promptly in MS patients. According to outcome measures used in the paper, 20 out of 23 cases showed improvements in three or more of their MS symptoms, i.e. 13 out of 13 RRMS, 5 out of 6 SPMS, and 2 out of 4 PPMS. Among 21 patients' written feedback, 5 found little benefit from the eight treatment sessions. In three cases, there were some discrepancies between the predetermined outcome measures and patients own feedback. The present report suggests that there may be strong relationship between MS symptoms, and pain and tension in MS patients shoulders and back. Developing effective physiotherapy treatment method can relieve suffering and improve quality of life for MS patients worldwide. Further studies i.e. control group, long-term follow-up, and larger number of cases, are required to draw more definitive conclusions.

INTRODUCTION

Multiple Sclerosis (MS) is usually a progressive disorder of the nervous system, and is the major cause of neurological disability in young and middle-aged adults [1]. MS is described as an inflammatory demyelinating condition within the brain or spinal cord causing various neurological symptoms, such as tingling, numbness, reduced mobility and visual impairment.

The condition of MS is common in affluent Western industrialised countries, i.e. USA, Canada, Australia, UK and Denmark. There are about 2.5 million MS sufferers around the world, and the incidence is increasing. In the United Kingdom, MS affects around 100,000 people. Scotland has one of the highest incidences of MS in the world, affecting 10,500 people.

Drug therapy is aimed at improving acute relapses in MS. Steroids seem to shorten recovery time from an acute MS relapse, whereas other agents appear to have little effect on improving the recovery from an acute relapse [2].

During physiotherapy practice in Edinburgh, the author observed interesting phenomena while working with MS patients. That is, most of the MS symptoms gradually improved when pain in patients' shoulders or lumbar spine was relieved using a gentle manual spinal mobilisation technique over a course of treatments. For example, visual impairments, loss of balance, fatigue, pins/needles or numbness in the upper limbs improved gradually when the pain in shoulders became less over the treatment period. Similarly, altered sensation, stiffness, weakness, foot dragging, pain and spasms in lower limbs showed slow improvements as the pain in lumbar vertebrae reduced.

Here we report a case series of twenty three patients diagnosed with Multiple Sclerosis, presenting with various neurological symptoms, which were treated with a gentle manual spinal mobilisation physiotherapy method.

CASE PRESENTATION

Treatment Intervention

Patients received gentle manual spinal mobilisation treatment over C5 - C7 and L1 - L5, for thirty five minutes once per week for eight weeks. 18 cases (1 to 18) were treated by a single practitioner, whereas the remaining 5 cases of wheelchair users (19 to 23) were treated by two practitioners at the same time. At the end of the first consultation, ‘General Management Guidelines’ (Appendix 1) were discussed between the patient and the practitioner, and the patient was encouraged to do a daily home exercise programme.

Presentation Description

Table 1. shows the number of improved cases according to ten outcome measures in three different groups of MS patients, i.e. 13 Relapse-Remitting MS (RRMS), 6 Secondary-Progressive MS (SPMS) and 4 Primary-Progressive MS (PPMS).

Affected cases: Outcome measures could only be taken post-treatment for a number of cases due to patient limitations. For example, the Timed Up & Go test was applicable to 17 cases while the remaining 6 cases were not applicable as the patients were either using wheelchairs for their mobility, or the test record was missing. Therefore, only 17 cases were included in the ‘Affected cases’ for the Timed Up & Go test.

Excluding the ‘Timed Up & Go’, ‘Muscle Strength’ and ‘Visual Field’ tests, all outcome measures were recorded according to patients’ self-report.

[1] MS Impact Scale: Lower scores indicate better function, and higher scores indicate poorer function.

[2] Muscle Strength test: Oxford Scale was used to measure Muscle Strength; 1, 1+, 2, 2+, 3, 3+, 4, 4+, 5 (Normal).

Palpatory Pain Assessment (VAS[3] 0-10) in shoulders and lumbar spine was used as a general reference to the treatment intervention and it was recorded both before and after the treatment intervention for each patient.

Table 1. Number of improved cases according to individual outcomes

Outcome Measures		Number of Improved cases (Affected cases)*			
		Total	RRMS	SPMS	PPMS
[1]MS Impact Scale (maximum 145)		**17 (22)**	12 (13)	4 (5)	1 (4)
Timed Up & Go - 3 Metres (seconds)		**12 (17)**	9 (11)	0 (3)	3 (3)
Energy Level		**14 (20)**	10 (12)	3 (4)	1 (4)
Muscle Strength[2]	Hand Grip	**12 (13)**	7 (8)	4 (4)	1 (1)
	Knee Lifting in Sitting	**15 (20)**	10 (12)	4 (4)	1 (4)
Number of Falls in 1 week		**7 (8)**	5 (5)	1 (1)	1 (2)
Visual Field Deficit (degrees)		**9 (10)**	6 (7)	1 (1)	2 (2)
Sleep Pattern		**9 (10)**	6 (7)	2 (2)	1 (1)
Gait Pattern		**14 (17)**	9 (11)	3 (3)	2 (3)
Altered Sensations	Hands	**9 (15)**	8 (9)	1 (3)	0 (3)
	Legs	**5 (8)**	3 (4)	0 (2)	2 (2)
	Feet	**9 (14)**	7 (9)	0 (2)	2 (3)
Bladder Function		**7 (16)**	5 (9)	1 (4)	1 (3)

( )* is the total number of cases affected by individual symptom described in each outcome measure.

Case 1: A 30-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 2006, numb sensation in finger tips, shooting pain from neck. Experienced complete numbness on left hand side, and temporary visual loss.
Diagnosis	In 2007 by MRI
Treatment History	Interferon beta injection weekly in 2007

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		52		**38**	
Timed Up & Go - 3 Metres (seconds)		14.5		**10.5**	
Energy Level		Normal		Normal	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 5	R.: 4+	L: 5	**R: 5**
No. of Falls in 1 week		1		**0**	
Visual Field Deficit (degrees)		L: 60	R: 20	**L: 0**	**R: 0**
Sleep Pattern		Good		Good	
Gait Pattern		Left foot dragging, mildly		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulders	L: 5	R: 4	L: 0	R: 1
	Lumbar Spine	L: 3	R: 0	L: 0	R: 0

Case 1 Patient's Perspective

I knew something was seriously up in October 2006. I woke up and could not really feel the entire left side of my body. I walked strangely and it was almost impossible to put on the gloves I needed for my laboratory work. I needed my Mother's help putting on my bra. I thought this would pass really soon. I went to see my GP and was diagnosed with cervical ataxia (or something very similar). I slowly began to regain some feeling with lots of pins and needles after taking the steroids I was prescribed. I went away to Canada before Christmas and could not really feel my left hand and had crazy itches all over my body. I would scratch areas till I ended up bleeding but there was nothing there. My gait was awful and people often thought I had been drinking when I was completely sober. The summer of 2007, I ended up completely losing my balance and the numbness returned to the left side of my body. I also ended up not being able to get my vision in focus and eventually losing almost all of my vision for a while. I was put on IV with steroids for 3 days but everything was still a blur. I went to my Doctor in

Canada and described the previous diagnosis. She sent me to a neurologist at the University of British Columbia. I promptly had an MRI scan and was diagnosed as having Multiple Sclerosis in September 2007. They were keen to get me on treatment straight away. I decided to do weekly injections with Avonex – Interferon Beta. It was really hard to get used to injecting myself.

My symptoms have reduced a lot recently. I think I'm learning to eat well. My hands were still numb and I could not feel my feet. I still had problems with my balance. My eyes were much better. I was interested to see if I could further improve so I decided to take part in this case study.

My first treatment was not really what I expected. I lay on the massage table fully clothed while Chongsu Lee decided which areas needed to be worked on. I could barely feel his touch but was so relaxed. I probably ended up falling asleep the first time. But I remember feeling tingling in my toes and the tips of my fingers. Once the session was complete I felt great, but when asked how I felt after, I ended up crying while saying it was great and I really enjoyed it. Apparently tears are part of the cleansing process for some people. I looked forward to my appointment every week. Some sessions made me feel so tired afterwards; I would just sleep.

I think the stretching was great for me as it does get easier every time and it is nice to take time in the morning for me. I can now feel my feet completely and my hands, although not 100%, are much improved.

I have not felt this good in quite a while and am now considering driving again. I feel my balance is much better and just feel more grounded and in control. I believe this treatment has helped me. I continue to do the stretching and drink warmed water. I think this treatment would be great for anybody. I feel a lot more grounded since the sessions and have much better balance.

Case 2: A 59-year-old Caucasian Woman, Primary Progressive MS (PPMS)

MS Symptoms History

How it Started?	In 1998, paraesthesia in upper limbs with falls
Diagnosis	In 2001 by Lumbar Puncture, and confirmed by MRI in 2005
Treatment History	LDN, modafiniel, clonazepam, B12 injection, homeopathy, acupuncture, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale		108		**84**	
Timed Up & Go - 3 Metres (seconds)		15		**10**	
Energy Level		Very tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 4+	R: 3+	**L: 5**	**R: 4+**
	Knee Lifting in Sitting	L: 5	R.: 2+	L: 5	**R: 4+**
No. of Falls in 1 week		6		**0**	
Visual Field Deficit (degrees)		L: 0	R: 20	**L: 0**	**R: 5**
Sleep Pattern		Broken sleep, badly		**Improved**	
Gait Pattern		Right foot dragging, severely		**Improved**	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	Yes		**Improved**	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 0	L: 4	R: 4
	Lumbar Spine	L: 0	R: 4	L: 2	R: 2

Case 2 Patient's Perspective

DIAGNOSIS AND SYMPTOMS

I had been unofficially diagnosed by a GP after being concerned by certain symptoms. I had pins and needles and a creeping numbness in my arms and legs which then spread to my torso; it felt as if I was wearing a steel corset which tightened and tightened. I later found out this is known as the MS hug. I was stumbling and falling and had extreme fatigue. The GP said she shouldn't really say but the physical tests she gave me and responses to her questions plus the fact that my father had MS strongly indicated Multiple Sclerosis. There followed a year and a half of tests and a year and a half of being told by consultants and medical experts that I was variously neurotic, my symptoms were psychosomatic and even at one point though I hadn't been drinking for over a year – an alcoholic!! Finally in February 2001 I was officially diagnosed. The now-retired neurologist told me there are 2 questions - how did I get it? and how do I cure it? The answer to both would be …we don't know; go and live your life. A lot has improved in 12 years!

Once I was diagnosed I realised I'd been having symptoms that pointed to MS for years. I work freelance and at the end of a contract I would collapse with exhaustion which I put down to laziness or aging. I remember suddenly not being able to run…. I was running to catch a bus and my legs simply wouldn't do what they normally did. It was as if I was running through glue and they were sticking to the pavement. I used to walk everywhere and loved hill-walking. I found it harder and harder as my legs were shaky, uncoordinated and I would suddenly stumble and fall for no reason.

I had always been a light sleeper but my sleep patterns got worse and worse and I would awaken several times a night, sometimes 9 to 10 times a night. Most of those times I would go to use the bathroom and the result would be a mere trickle though the need felt greater. I later discovered that is known as the urine urge. This urge took me by surprise as normally I could 'hold on'. For example, until after a meeting was finished, or I got home, but this 'need to go' was immediate and as it turned out urgent. It felt as if I suddenly had no control of my bladder - resulting in several awkward incidents.

My body temperature would go up and down, overheating one minute then then freezing the next, although it would take me a while to feel cold. Again at first, I thought this was the onset of the menopause, but this had been on going as if my thermostat was broken.

As my condition progressed which it did fairly slowly at first, thankfully, it was confirmed that I probably had Primary Progressive Multiple Sclerosis. Year on year my mobility and my balance deteriorated progressively. I went from needing a collapsible stick in my handbag for use when I got tired, to using a stick permanently, and to crutches and a mobility scooter. My fatigue has increased, my right hand is now weak and closing up, and my writing is illegible.

In 2006 I had a severe case of optic-neuritis and went totally blind in my right eye and my left eye was deteriorating. I was rushed into the Southern General where they treated me with steroids which thankfully cleared it up and brought my sight back. This was brought on by a urine infection, which I was continually having due to not being able to empty my bladder properly, but it has stopped since taking medication for it.

Because of my poor balance and mobility, I have had many falls, several of which were fairly serious. Once I broke my wrist and once smashed my face resulting in stitches under my eye, a cracked cheekbone and a mass of bruises so that I looked like a Taggart victim.

TREATMENT

As I have PPMS I have not been eligible for the disease-modifying drugs such as Beta Interferon. The drugs I use are to do with different symptoms. I use modafinil for fatigue, clonazepam for spasms which I get mostly at night, and solefanin succinate because the urologist diagnosed a hyper-active bladder when I went to see if I needed to get a catheter fitted. When I first used modafinil 10 years ago it had an such an immediate impact that I was buzzing for 2 days on one pill and couldn't sleep. So I stopped taking it for a few years. Now it has a much less noticeable effect.

I also use LDN which helps with fatigue and urine urge, as well as injections of B12.

Over the years I have had different forms of massage and this last year have been going to Chinese 5 elements acupuncture which has helped with energy and mood.

Before I began the treatment with Chongsu I had stiffened up and I found it difficult to do any exercise and of course cannot walk any distance. Aerobic exercise is not possible. I was aware that my posture was very poor due to using mobility aids and my movements slow. Previously I had always been very supple and active.

The actual treatment is very relaxing and at the same time intense. He had me lying face down on the bed for 35 mins while Chongsu and sometimes an assistant work in great concentration on a particular area of the back like the lumbar region or the shoulders. The first day Chongsu applied pressure to various parts of my back on either side of my spine and asked me to compare the level of pain either side. My right side is affected and it was significantly sorer. After just one week of treatment the pain level had reduced more than 50%. The treatment is about (as I understand it) eliminating stress caused by tension, physical effects of MS, and increasing blood flow to the brain which has been interrupted by blockages and contortions. Whatever it is, the change is substantial.

After the very first treatment I was aware of feeling brighter and stronger. Chongsu gave me a stretching exercise to do every night and morning; sit on the floor legs outstretched and do a forward bend five times a minute. When I first did it my hamstrings were so tight I could hardly bend forward at all. My right leg, which is my weak side, couldn’t straighten. It was sore and my hands would only reach my knees. Now my hands will touch my feet and even the soles with my legs straight. I am also able to do the other exercise Chongsu gave me; lying on my front and grabbing behind at my ankles, which was completely impossible at first. I had to contort to get hold of my weak ankle then I could only hold onto it for a few seconds. But now I can reach it and hold my ankles the full time.

After each treatment I immediately felt more energy. Then a few hours later, I would get very tired and often up to 2 days after treatment I would get a wave of absolute tiredness. It was less of an effort to walk after; I felt lighter, my pace was quicker and my walking improved. Chongsu said this was a reaction to the intensity of the treatment and I could expect vomiting and diarrhoea as the toxins leave my body. I haven’t experienced this but on 2 or 3 occasions the day after treatment I felt very nauseous.

Chongsu also recommended drinking warm water and taking a hot water bottle to bed putting it under my neck and base of spine to decrease stress and increase comfort. This has helped my sleeping and in fact since treatment I have slept deeper and better than since I can remember.

The treatment is also about self-help and will not work without commitment to improving diet: to cut out red meat, fat and dairy. I haven’t always managed this completely but have certainly cut down on red meat. I never ate/drank a lot of dairy but am now even more careful and can notice marked benefits.

I have now had the treatment over 9 weeks. My movement is more fluid, my posture has improved. I am so much straighter and have twice as much energy. I feel clearer, brighter, have a more positive outlook and can achieve much more. 2 weeks ago I went to the airport to pick up my sister. She was surprised as I seemed to spring out of the car (compared to how I used to move) and said I looked so good. She didn’t know about the treatment.

My sleeping is 100 times better. I only wake once, sometimes twice a night and my quality of sleep has improved. I no longer experience the same degrees of extremes in temperature. I am fitter, more energised, my walking is better and I can raise my leg more. I am steadier so my balance is better. I have a more positive outlook. I feel much better in myself!

Disability is expensive. It is not something we choose and we will try anything to make our lives better and prevent our condition from deteriorating. I know for a fact by my continued physical improvement and well-being that this treatment is working. But therapies like this are treated with suspicion and even derision by the mainstream medical profession yet I can be liberally plied with any amount of costly aggressive drugs with all sorts of side-effects. But without support I cannot continue to afford this treatment which is having significant and remarkable benefits.

Case 3: A 58-year-old Caucasian Man, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 2001, right side facial paralysis and ear deafness, falls
Diagnosis	In 2006 by Lumbar puncture
Treatment History	CCSVI operation in 2011, hyperbaric oxygen since 2006

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		60		**46**	
Timed Up & Go - 3 Metres (seconds)		9		**7**	
Energy Level		Tired		Unchanged	
Muscle Strength[2]	Hand Grip	L: 5	R: 4+	L: 5	R: 4+
	Knee Lifting in Sitting	L: 4+	R.: 5	**L: 5**	R: 4+
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 20	R: 30	**L: 0**	**R: 0**
Sleep Pattern		Good		Good	
Gait Pattern		Right foot dragging, mildly		**Improved**	
Altered Sensations	Hands	-		-	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 5	R: 5	L: 3	R: 5
	Lumbar Spine	L: 3	R: 0	L: 3	R: 2

Case 3 Patient's Perspective

1. My initial symptoms were in 2001 at the age of 47. I had a very itchy irritating scalp for a couple of weeks with nothing showing to cause it. I went numb down the right side of my face and it looked as though I had Bell's Palsy as the corner of my mouth drooped. I went deaf in my right ear and started getting very dizzy and kept falling over every time I turned and stooped. I had brain scans and the Neurologist mentioned holes in the brain, demyelinating plaques, signal foci within white matter, and encephalopathy, but I was not diagnosed at that point. In 2005 I had double vision for 9 months, bladder and bowel problems and sensations of pins and needles.

2. Diagnosed with MS in 2006 after lumber puncture.

3. I turned down drug treatments and started Hyperbaric Oxygen treatment in 2006 (with lots of benefits to my health) and lots of dietary supplements. On 15th December 2010 I had the CCSVI procedure done and have had huge success.

4. Before starting treatment at the clinic I felt weak on my right side. I was having difficulty getting to sleep because of an aching hip and twitchy leg. I also had a little difficulty picking up small objects in right hand and had bad coordination in right hand. My right leg felt weak and I often tripped when my foot did not clear the ground. I also felt a little tired.

5. After the first treatment I thought that it was an expensive day out and thought that for the money I should have been pulled about a lot more! Imagine my surprise when I went to sleep straight away that night and slept all night!!

6. After all the treatments I can say that it was worth it for me as my walking is better (although foot still drags). My fatigue is less, my coordination of right hand is better than it was and I have had no trouble sleeping.

7. I am convinced that the alignment of the body to get the blood flow corrected is very important to our overall well-being.

8. I think that the cost could be prohibitive to many of us on low incomes and would like to see it on the NHS. I would recommend that others try it.

Case 4: A 38-year-old Caucasian Woman, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1986, at age 11, experienced double vision, falling, increased tiredness, numb sensation
Diagnosis	In 2003 by MRI and Lumbar puncture
Treatment History	Mitoxantrone in 2006, DBS (Deep Brain Stimulator) in 2007, Botox in neck in 2011, CCSVI operation in 2011

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		86		**72**	
Timed Up & Go - 3 Metres (seconds)		16		17,5	
Energy Level		Slightly tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 5	R.: 5	L: 5	R: 5
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Good	
Gait Pattern		Wobbly, severely		**Improved**	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Incontinence		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 4	R: 4	L: 6	R: 4
	Lumbar Spine	L: 0	R: 0	L: 0	R: 0

Case 4 Patient's Perspective

1. Initial Symptoms Experience

Back Muscle Pain
Falling
Severe Fatigue
Mood swings – severe and not normal
Optical Disturbances
Vertigo
Tremors

2. Year of Diagnosis

1992

3. Brief Treatment History

Initial Steroid Treatment - IV after diagnosis
Then occasional oral & IV steroids
Avanex for 2-3 years
Cocktail of tablets (while in the USA) mainly for the tremors
Deep brain Stimulator inserted (for tremors)
Course of Mitroxetrane
CCSVI procedure
Weekly Hyperbaric Chamber & Physio
Chiropractor
Chongsu’s Physio Treatment
Vitamin D3 and Omega 3 Daily
Vesicare (bladder)

4. The Problems Before Starting Treatment with Chongsu Lee

Loss of hand functions ie eating, drinking and writing
Limited and unstable walking
Optical disturbances
Tremors

5. Experiences During Treatment

Willing to partake in any non-invasive treatment to better my condition and/or to lessen the symptoms.
Feel more fluid in my joints
Able to walk slightly better
More confident in walking
Less reliant on DBS - gradually reduced over the length of treatment
Hoped for more results with sustained effect

6. How the Problem is Now

Still experiencing tremors
Slight improvement overall

7. Overall Perception of the Approach

Felt relaxed during treatment
Non-invasive
Duration of treatment, 8 weeks trial, seems inadequate to repair 20 years of symptoms of MS
Longer treatment could be beneficial

8. Other

Accessibility to the clinic, distance from home, (ie only one in Edinburgh/Scotland), not really suitable for severely disabled patients.
Long term treatments and the travel required would prove to be financially taxing.

Case 5: A 40-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1993, experienced spasms and altered sensation in legs and hands, poor gait, fatigue and bladder issues.
Diagnosis	In 2000 by MRI
Treatment History	Baclofen, Rebif injection for 2 years, Copaxone, steroid injection in 2003/ 2005, acupuncture, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		51		**38**	
Timed Up & Go - 3 Metres (seconds)		10.5		**9**	
Energy Level		Very tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 4	R.: 5	**L: 5**	R: 5
No. of Falls in 1 week		3		**1**	
Visual Field Deficit (degrees)		L: 0	R: 10	L: 0	R: 10
Sleep Pattern		Wake-up, often		**Improved**	
Gait Pattern		Both feet dragging, moderately		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	Yes		**Improved**	
	Feet	Yes		**Improved**	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 8	R: 7	L: 5	R: 1
	Lumbar Spine	L: 7	R: 7	L: 3	R: 1

Case 5 Patient's Perspective

I was diagnosed with Relapsing/Remitting MS in 2000, when I was 27 years old, after experiencing several years of tingling, numbness, stiffness, cramps and spasms in legs and arms, fatigue, pain and bladder issues, whereby I woke up 2-3 times during the night to go to the toilet.

The medical treatment I received was Baclofen tablets, to help with the spasms and associated pain, and Rebif injections. After using the latter for 2 years, blood tests discovered that my white blood count was dangerously low and I was switched to daily Copaxone (glatiramer acetate) injections 6 months later, which help to reduce the frequency of relapses. Independently I found that acupuncture could help with the muscle stiffness, but only temporarily.

When I embarked on the Chongsu’s treatment, I was cautiously hopeful that my symptoms would improve. After the first 2 weeks, I felt tired, but was also impressed at how my gait was changing for the better, i.e. I was no longer "dragging" my tired legs, but walking much better. The third week showed a return to my previous walking style, which was slightly demoralising. However, I continued doing the recommended exercises at home along with the hands-on treatment.

Now, after a total of 8 weeks, I feel that the treatment was worthwhile. Friends and family have noticed that my walking posture is more relaxed. I am sleeping with little or no interruption and the frequency of spasms has reduced.

My gait deteriorates as the day progresses, but I still continue with the exercises in the hope that I can help myself to maintain the overall improvements I have experienced.

Case 6: A 53-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 2005, numbness in both hands and feet, reduced mobility
Diagnosis	In 2006 by MRI and Lumbar puncture
Treatment History	Intravenous steroid, Baclofen, hyperbaric oxygen, yoga class, physiotherapy, weekly neck massage

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		108		**68**	
Timed Up & Go - 3 Metres (seconds)		Not available		Not available	
Energy Level		Very tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 4	R: 4	**L: 4+**	**R: 4+**
	Knee Lifting in Sitting	L: 3+	R: 4+	**L: 4**	R: 4+
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Wake-up frequently		**Improved**	
Gait Pattern		Slow, left foot drop		Unchanged	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	Yes		Unchanged	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 4	L: 6	R: 6
	Lumbar Spine	L: 4	R: 4	L: 3	R: 1

Case 6 Patient's Perspective

Initial symptom experienced: I initially started experiencing numbness in my hands and then my feet in September 2005. The more activity I did the more numb I got. So if I walked my legs got numb starting with the soles of my feet. If I typed my fingers got numb. The longer I did either task the more the numbness spread up my legs. By December I was experiencing extreme fatigue and I stopped working for eight months.

Year of diagnosis: I did not receive a diagnosis until 2007.

Brief treatment history: In July of 2006, before I was diagnosed with MS, I took a three-day course of IV steroids. I had been getting steadily worse, with extreme fatigue, balance problems, and painful trigeminal neuralgia. The steroids helped with the fatigue and the trigeminal neuralgia disappeared.

After that I stabilised and experienced several relapses. I tried oral steroids during one relapse but could not tolerate them. I tried baclofen for muscle spasms and found that once the spasms reduced, I could stop taking the baclofen. The spasms did not come back. I am not currently taking any medication for MS. I have done yoga, physiotherapy exercise classes and have gone to the gym to help with MS.

How the problem was before starting treatment: My major symptoms were, fatigue, bladder problems, balance problems, weakness especially on my left hand side, memory problems, joint pain/throbbing, and generally feeling unwell. I found it very hard to sleep through the night and during the day I never felt fully awake or alert. I walked with a stick, and after walking only a very short distance my left leg became very weak and I had to stop. I was getting up every night to go to the toilet, sometimes 3 or 4 times a night.

Experience over the course of treatment: When I had my first treatment all I could feel was that Chongsu had placed his hands on my back and neck. I could not feel any of the movement. Then after a few weeks I was able to feel that he was moving his hand on my neck. I still cannot feel the movement of his hand on my lower back. After my very first treatment I came home and had a two hour nap, and when I went to bed at my regular time, I slept through the night. During the first week I slept for up to 14 hours a night. I was happy to sleep this much. I felt much more rested than I had in years and I felt much more awake and alert when I was awake. Since that first treatment my bladder problems have all but disappeared. My walking has stayed much the same. My feet always feel numb after I get home from treatment and it feels like my left leg is weaker. However the numbness in my hands has almost completely disappeared and I am hopeful that with further treatment my legs will also improve.

How the problem is now: I feel better and more hopeful than I have in years. I have more energy and I am better able to rest when I want to. I no longer have to get up in night. My walking is still bad due to balance problems and weakness in my legs.

Overall perception about the approach: When I first heard about the treatment I was keen to try it. It is based on the idea that MS is caused by problems with veins being compressed or blocked. This idea has led to others developing surgical treatments for MS. I was too afraid to try experimental surgery but thought there might be truth in the idea of blocked veins causing MS. I also was not keen to try the disease modifying drugs based on the auto-immune theory of MS due to the possible side-effects and the strong nature of the drugs. I have been amazed by the benefits of the treatment so far. I cannot see a down-side to this treatment. It is non-invasive and has no side-effects. I am going to continue with the treatment beyond the study and I am hopeful that I will continue to see additional benefits. In addition to the hands on treatment Chongsu provided me with two simple stretching exercises to do every day. I have done these and have seen a great benefit from them in terms of strength and flexibility. I hope to keep these up every day and have recommended them to my friends with MS and to my daughters.

Case 7: A 29-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	Since 2nd child birth in 2007, had bladder issue, reduced balance, falls, unable to walk uphill, increased leg muscle tone, poor eye sight
Diagnosis	In 2010 by MRI
Treatment History	Beta interferon, weekly infusions of Tysabri

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		113		**57**	
Timed Up & Go - 3 Metres (seconds)		10		**8**	
Energy Level		Very tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 4+	R.: 3	L: 4+	**R: 4+**
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Wake-up, 2~3 a night		**Improved**	
Gait Pattern		Wobbly towards Right, moderately		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	Yes		**Improved**	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 8	R: 5	L: 3	R: 4
	Lumbar Spine	L: 8	R: 8	L: 1	R: 1

Case 7 Patient's Perspective

Initial symptoms began in May 2007. In August 2010 I was diagnosed with MS. My symptoms included: incontinence, problems with my vision, sore legs and fatigue. My hands and feet were numb, with a burning pain in my feet. As time passed, these became worse and unmanageable. I was initially prescribed beta interferon drugs such as Rebif and Copaxone. As my relapses kept on happening, I was sent for an MRI scan which highlighted more brain lesions and it was revealed that I had a highly active sort of relapsing remitting MS. I was then prescribed 4 weekly infusions of Tysabri, a drug which prevents relapses by blocking white blood cells from entering the brain. Tysabri has helped considerably. I have had 13 infusions and never experienced a relapse within this time. I was still left with sore legs, leg spasms, struggling to walk any distance and fatigue.

Before starting treatment I was optimistic but under no illusion that it would be miraculous in making me feel better. And then after the first treatment, combined with the exercises I was given by Chongsu, a balanced diet and reducing my caffeine and nicotine intake, I felt so much better! As treatment progressed, I felt stronger, less fatigued and certainly felt a lot less worried about undertaking daily tasks and going out. Fatigue was no problem and my leg spasms ceased. I no longer have numbness in my hands or feet. My vision has not improved for driving but am able to read smaller text than before the treatment began.

I definitely feel that I have benefited from the treatment. I honestly think that it was a combination of the physiotherapy and the motivation I felt regarding healthy living and gentle exercise.

Chongsu was inspirational and so easy to relate to. I definitely feel that I have benefited from the 8 weeks' treatment.

Case 8: A 61-year-old Caucasian Man, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1977, leg numbness, pins, needles, numbness in hands, loss of balance, increased fatigue, difficulty doing manual work, sore legs, falls
Diagnosis	In 1977 by MRI and Lumbar puncture
Treatment History	ACTH injection in 1977, LDN, Brufen PRN, hyperbaric oxygen

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		86		**65**	
Timed Up & Go - 3 Metres (seconds)		14		**11.5**	
Energy Level		Very tired		Unchanged	
Muscle Strength[2]	Hand Grip	L: 4+	R: 5	**L: 5**	R: 5
	Knee Lifting in Sitting	L: 5	R.: 4	L: 5	R: 4
No. of Falls in 1 week		6 – 7 daily		**2 – 3 daily**	
Visual Field Deficit (degrees)		L: 20	R: 20	**L: 0**	**R: 0**
Sleep Pattern		Good		Good	
Gait Pattern		Slow, wobbly, Right foot dragging severely		Unchanged	
Altered Sensations	Hands	-		-	
	Legs	Yes		Unchanged	
	Feet	Yes		Unchanged	
Bladder Function		Incontinence		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 6	L: 5	R: 7
	Lumbar Spine	L: 0	R: 9	L: 9	R: 5

Case 8 Patient's Perspective

1. Initial Symptoms. It started with pins and needles in my arms and progressed from this to difficulty with feeling and articulating fingers. I had problems with walking, at first awkward gait, 'clicking' of hips. I felt numbness below waist, lack of feeling in feet, and an 'electric' feeling when touched on legs. I had no visual problems initially.

2. Diagnosed in 1977

3. Diagnosis in Edinburgh. I had a lumbar puncture as no scans were available at that time. I was prescribed ACTH which had usual side effects. No other treatments were offered. The drug seemed to have no positive effect. I attended Dundee for Hyperbaric Oxygen (HBO) Treatment in '82 and

received no other medical treatment. I tried the HBO treatment again in Edinburgh sometime this century.

4. Before starting treatment with Chongsu, my symptoms had been getting steadily worse over the past couple of years. My walking and balance had deteriorated such that I was regularly falling and unable to walk for more than a few tens of yards on a good day. My fatigue levels were high and I had difficulty standing up after a fall.

5. I was delighted to be able to take part in the treatment and fully understood the theory behind it. I certainly noticed reaction to each treatment, usually as tiredness for a couple of days afterward. My symptoms however, do not seem to have shown any improvement.

6. My walking and balance are still pretty poor, maybe even slightly worse than at the start of treatment. I attribute this not to the treatment, but to the probability that my condition was naturally worsening.

7. The treatment method has motivated me to further explore other avenues for self-healing. I feel that the approach that Chongsu uses is a valuable one as there is no doubt that MS is greatly affected by stress and his treatment regime goes a long way to alleviate that in an individual, which, in theory should kickstart the body's own self-healing mechanism.

Each person is different and our individual response to treatment is influenced by many factors, including faith in the practitioner and treatment method, desire or need at a conscious AND subconscious level to get better, acceptance or non-acceptance by the subject of their situation and many more.

Maybe, for me, the need to improve my symptoms was outweighed within myself by other factors.

Case 9: A 43-year-old Caucasian Man, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 2001, left eye blindness
Diagnosis	In 2005 by MRI
Treatment History	3 courses of steroid, Baclofen for spasms, Gabapentin

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		94		**44**	
Timed Up & Go - 3 Metres (seconds)		9.5		9.5	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 5	R.: 4+	L: 5	R: 4+
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Good	
Gait Pattern		Slow, wobbly, right foot dragging moderately		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Urgency		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 7	R: 9	L: 4	R: 4
	Lumbar Spine	L: 0	R: 8	L: 0	R: 0

Case 10: A 32-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1994, pins, needles and tingly sensations in hands & feet, loss of balance, walking to one side, eye-sight impairment, left foot dragging, bowel & bladder issue, legs cramp
Diagnosis	In 2004 by MRI and Lumbar puncture
Treatment History	Steroids, Gabapentin, Cocodamol, Lyrinel, Fluoxetine, Temazepam, massage, hyperbaric oxygen, reflexology, Reiki

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		107		**98**	
Timed Up & Go - 3 Metres (seconds)		18		**14**	
Energy Level		Very Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 4+	R: 3+	L: 4+	**R: 5**
	Knee Lifting in Sitting	L: 1+	R.: 2+	**L: 4+**	**R: 5**
No. of Falls in 1 week		4 - 5		**0**	
Visual Field Deficit (degrees)		L: 5	R: 0	L: 0	R: 0
Sleep Pattern		Wake-up, 2 ~ 3 a night		**Improved**	
Gait Pattern		Slow & wobbly severely, left foot dragging		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 10	R: 7	L: 5	R: 3
	Lumbar Spine	L: 1	R: 2	L: 0	R: 0

Case 10 Patient's Perspective

1. I first experienced symptoms at the end of 1996 with numbness in my lower limbs.
2. A diagnosis of multiple sclerosis was made on 9th November 2004.
3. I have tried hyperbaric oxygen therapy, hypnotherapy, ear candling, meditation, reiki, homeopathy, clinic visits, diet, and others.
4. My problems before treatment were high levels of fatigue, low mood.

5. Over the course of the treatment I have found that I have become more aware and find it easier to manage my symptoms. Walking, standing, and coordination has improved and continues to improve.
6. My problems remain and the right side is improving quicker than the left.
7. I enjoy and continue to practice all that was taught and I feel this has helped me improve my management of symptoms.
8. I would recommend this approach to others in my position.

Case 11: A 38-year-old Caucasian Woman, Primary Progressive MS (PPMS)

MS Symptoms History

How it Started?	In 2010, fatigue, malaise with walking, couldn't read close up
Diagnosis	In 2011 by MRI and Lumbar puncture
Treatment History	Baclofe, Amitryptyline, Co-codamol PRN, Amias, acupuncture, Reiki

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		67		71	
Timed Up & Go - 3 Metres (seconds)		13.5		**10.5**	
Energy Level		Tired		Unchanged	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 5	R: 4+	L: 5	R: 4+
No. of Falls in 1 week		1		1	
Visual Field Deficit (degrees)		L: 10	R: 0	L: 0	R: 0
Sleep Pattern		Good		Good	
Gait Pattern		Right foot dragging, slow, wobbly moderately		**Improved**	
Altered Sensations	Hands	-		-	
	Legs	Yes		**Improved**	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 7	R: 6	L: 3	R: 7
	Lumbar Spine	L: 3	R: 0	L: 0	R: 0

Case 11 Patient's Perspective

Before being diagnosed with MS, the problems that I was having were fatigue after walking for 15 - 20 minutes and also decreased balance. I was diagnosed with MS in December 2011. Due to being diagnosed with primary progressive MS there is no medication that can help. All I take is Baclofen and that is for the muscle spasms. What I have found that does help me is Reiki and acupuncture.

Before starting the treatment with Chongsu, I felt fatigued nearly all the time. My walking was very "robotic", I stumble & fall daily, and my balance is all over the place.

I was really looking forward to starting my treatment and probably set my expectations too high. I was hoping that the treatment would have allowed me to become more active for a longer period of time. Whilst receiving the treatment I found it extremely relaxing and enjoyable. On a couple of occasions I did feel some improvement in my gait.

As I say, I have been diagnosed with progressive MS and as such I have started to use crutches on a regular basis. I can manage from my house to the car but any further than that I take the crutches.

I found the whole experience very professional and although I didn't achieve the desired result I would not discourage anyone else from trying it.

Case 12: A 49-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1995, total blindness for a few days, pins, needles, reduced mobility
Diagnosis	In 1995 by MRI and Lumbar puncture
Treatment History	Interferon injection in 2001, Gabapentine, Pregabalin, hyperbaric oxygen

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		98.5		**60**	
Timed Up & Go - 3 Metres (seconds)		17.5		**9**	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 2+	R: 5	**L: 5**	R: 5
	Knee Lifting in Sitting	L: 4	R.: 4	L: 3+	**R: 5**
No. of Falls in 1 week		5 - 7		**2**	
Visual Field Deficit (degrees)		L: 25	R: 20	**L: 0**	**R: 0**
Sleep Pattern		Good		Good	
Gait Pattern		Wobbly		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	Yes		**Improved**	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 6	L: 3	R: 4
	Lumbar Spine	L: 0	R: 4	L: 1	R: 1

Case 12 Patient's Perspective

I am 49 years old and a mother of two children, aged 13 and 8. My husband works full-time as a builder. Before MS I had a very successful career as a Commercial Manager for a large national organisation.

On Saturday 14th January 1995 I thought I was suffering from eye strain and arranged to have my eyes tested. The optician immediately sent me to the local hospital, where I was admitted. They carried out various tests and scans but would not commit to what the problem might be.

On Monday 16th January, the duty doctor, Professor A, was doing his ward rounds with student doctors. I can still hear him say "Have a look in this young lady's eyes. It's indicative of someone with Multiple Sclerosis." I thought he had mixed me up with another patient. It turns out he was spot on!

I had never had a sick note for work before but my career ended then!

Shortly afterwards I completely lost my eyesight and have subsequently had many relapses of varying severity. I have been in a wheelchair and confined to the house on a number of occasions. I feel my MS has very slowly deteriorated and does impact on day-to-day living. I was lucky to be one of the first patients of the Fife MS Nurse. Through her and Dr B's rehab team in Fife, I have tried various treatments over the years, from hydrotherapy to beta interferon (Rebif). I have been attending the MS Therapy Centre in Dundee for over two years. I feel Hyperbaric Oxygen Therapy helps.

In recent times I am aware that my MS has been a greater intrusion on my life. A reduction in my walking ability and a significant tremor (also noticed by others) was becoming problematic in my day-to-day living. I was falling daily. I had difficulty writing and using a keyboard. I was continually tired and ALWAYS having to make excuses for my MS! I had nothing to lose, and everything to gain, by taking part in the study.

At my initial meeting with Chongsu Lee I was accompanied by my husband in order to collect as much information as possible. Much of what we were told seemed like common sense.

I travelled to Edinburgh by bus each week. It took me a whole day but was well worth the effort. I remember going down the steep stairs of Hudson House for treatment that first week. I tried really hard and did not fall! During the initial assessment I recall that my walking was very unsteady.

The treatment is very gentle and I often fell asleep during the sessions. One of my measures was how well I could climb the outside stairs after my session. The task became so much easier every week. By the end of the study it felt so good to walk up the stairs.

I was given a number of helpful stretching exercises, which were initially difficult and I continue to do them.

For the first few weeks of treatment I suffered terrible headaches but now feel it was some sort of release for my body. I felt miserable during that time, but had to keep going, and try something.

My first celebration was when I was able to go for a walk with my 8 year old daughter. We walked a total of one and a half miles, without a fall, with a couple of stops. This was a huge confidence boost. I was no longer afraid.

My hands had always been freezing cold, tremoring and very awkward. They quickly became warmer, more controlled, and I felt they were useful tools again. They continue to be warm. My only disappointment is that I never managed to get normal feet. They are still very cold and clumsy.

Following week 3 I met some friends for a coffee and one commented on how I was shaking less. I did not see her again until week 7. She exclaimed "Look at you". Now that alone makes it all worthwhile. MSers get so fed up with the patronizing “poor you!”

My symptoms, particularly walking difficulties, tremor and balance improved greatly over the course of treatment. My final assessment was like night and day compared to my first. I was walking straight and proud. Thank you so much. I would be very interested in seeing both before and after videos.

I continue to follow the advice re exercises, water consumption, diet etc. which I am sure is beneficial. I continue to attend Hyperbaric Oxygen therapy. I fall MUCH less (probably around twice per week). I sleep very well. My attitude is much more positive.

It is wonderful that this drug-free approach can have so many positive effects on my MS. I will be returning to the clinic on a private basis. I am sure the treatment helps to reduce my symptoms.

Case 13: A 55-year-old Caucasian Man, Primary Progressive MS (PPMS)

MS Symptoms History

How it Started?	In 1992, right foot drop, difficulty using right hand
Diagnosis	In 1992 by Lumbar puncture, in 2012 by MRI
Treatment History	Steroids, Gabapentin, physiotherapy, hyperbaric oxygen, acupuncture

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		46		57	
Timed Up & Go - 3 Metres (seconds)		10		8.5	
Energy Level		Tired		Unchanged	
Muscle Strength[2]	Hand Grip	L: 5	R: 4+	L: 5	R: 4+
	Knee Lifting in Sitting	L: 5	R: 4	L: 5	R: 4
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Good, sleeping more	
Gait Pattern		Right leg limping, severely		Unchanged	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 0	R: 0	L: 2	R: 0
	Lumbar Spine	L: 0	R: 5	L: 0	R: 4

Case 13 Patient's Perspective

I was diagnosed with MS in August 1992. My initial symptom was drop foot. My previous treatments have been 2 courses of steroids, about 18 and 15 years ago, acupuncture for 6 months and oxygen therapy which I have been doing for the last 6 years. I now have fatigue, pain (mostly in my arm and shoulder), poor balance, mobility problems and weakness especially in my right side. Before starting the treatment I had no positive or negative expectations and took part in the trial to help establish whether this form of treatment would be beneficial to all MS sufferers. My MS symptoms have not changed over the course of the treatment, with the possible exception of feeling very tired for 2 days after the treatment. I am not qualified to judge the validity of the approach taken in this trial except to note that there is no control group.

Case 14: A 79-year-old Caucasian Man, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1964, left leg weakness with walking difficulty
Diagnosis	In 1997 by Lumbar puncture
Treatment History	Physiotherapy, hyperbaric oxygen

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		81		**72**	
Timed Up & Go - 3 Metres (seconds)		21.5		**18**	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 4+	R: 5	**L: 5**	R: 5
	Knee Lifting in Sitting	L: 4+	R.: 5	L: 4+	R: 5
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Wake-up, 5 a night		**Improved**	
Gait Pattern		Wobbly to left, moderately		**Improved**	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	Yes		**Improved**	
	Feet	Yes		**Improved**	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 7	R: 4	L: 4	R: 2
	Lumbar Spine	L: 3	R: 0	L: 6	R: 2

Case 14 Patient's Perspective

1. Initial symptoms

My legs felt weak and I was unable to walk as fast or as far as previously. My legs felt as though they were out of control particularly going downhill or down stairs. I was unable to walk for lengthy periods before my legs were unable to support me. After a rest I could resume walking.

2. Year of diagnosis

Approx 1997

3. Brief treatment history

After diagnosis, I was monitored annually but no medication was given as it is the slow progression form of MS. I attended physio classes at Cameron Bridge hospital in Fife (this hospital is where MS patients in Fife attend for assessment and to see MS specialists). I also now attend weekly exercise classes at Cowdenbeath Centre specially provided for MS sufferers. In 2010 I was discharged from seeing the specialist as the condition was considered stable.

4. Problem before starting treatment

My legs always felt heavy and I was only able to walk short distances slowly using a stick or walker.

5. Experience during treatment

After the first few sessions, the day after treatment I felt tired and lethargic but felt some relief from minor problems such as shoulder pain. I found the exercises difficult to do for the length of time suggested but did them throughout the day for shorter periods of time. I was not able to do the recommended 10 minute walk per day due to weather conditions and my wife not available sometimes to come with me.

6. How the problem is now

There is some improvement in legs as they feel better and not so heavy. Walking is a bit easier but not much more control. There is also improvement in bladder control especially at night when I only get up once now rather than 2 or 3 times.

7. Overall perception about the approach

Pleasant, friendly approach. Sessions were about the right length of time and not too strenuous or demanding.

8. What next

I would like to try another block of treatment when I return from holiday in 2 weeks' time

Case 15: A 53-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1995, numbness in both legs with severe walking difficulty
Diagnosis	In 1995 by MRI
Treatment History	Beclomethasone, Trazodone, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		54		**41**	
Timed Up & Go - 3 Metres (seconds)		8.5		9	
Energy Level		Tired		**Improved**	
Muscle Strength2	Hand Grip	L: 5	R: 4+	L: 5	**R: 5**
	Knee Lifting in Sitting	L: 5	R.: 4+	L: 5	**R: 5**
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Light sleeper		Unchanged	
Gait Pattern		Normal		Normal	
Altered Sensations	Hands	-		-	
	Legs	-		-	
	Feet	Yes		**Improved**	
Bladder Function		Nocturia		Unchanged	
Palpatory Pain Assessment (VAS3 0-10)	Shoulder	L: 9	R: 9	L: 7	R: 8
	Lumbar Spine	L: 7	R: 8	L: 5	R: 4

Case 15 Patient's Perspective

1. Initial symptoms experience

In March 1995, I lost sensitivity everywhere below my waist and walked like a drunk. It took 3 months before the feeling returned, but a small amount of residual loss remained.

2. Year of diagnosis

September 1995

3. Brief treatment history

It started as benign MS, with a couple of relapses a year in different places often. In 1999, the diagnosis changed to relapsing remitting. There was a gradual increase of symptoms that remained - feel, balance, frozen blocks of feet at night.

4. How problem was before starting treatment

Clumpy feet, balance issues, nocturnal urgency, constipation, more conscious of problems

I experienced problems on rainy surfaces, ice, slush, snow, cobbles and uneven surfaces as well as problems when moving head quickly and heights. When I was a student, others had to run to keep up. Now on flat surfaces, I'm just little slower than most. I stopped skiing (was never good, but could do it), cycling, but now can go on a tandem. When swimming I can feel the blocks in my feet.

I also have osteopenia since 2008 when diagnosed after breaking my right wrist. Then in 2009 I broke my left wrist. Several cracked/broken ribs occurred since then. Before 2008, I hadn't broken any bones since I was 17.

5. Experience over the course of treatment

After the 3rd session, my feet felt much lighter front and back. I felt really good since I was less clumpy walking and lighter. I had more normal walking and was more upright. The back of the foot lightness did not last as long as the front.

After the 5th & 8th sessions I experienced a twitchy leg. One other benefit I have been aware of is that I feel more lively overall. I have been feeling more awake generally. I am pleased with treatment and keen to see what else may be improved.

6. How the problem is now

I am very pleased with my improved level of feet and posture. I feel I walk better, and am more upright. My shoulders feel more relaxed with the pressure points we started with definitely improved during the 8 weeks. I am less conscious of my issues.

7. Overall perception about the approach

I like the overall approach. It was very relaxing apart from the session on cervical spine and top of neck. It wasn't sore, just not relaxing.

Case 16: A 53-year-old Caucasian Woman, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1983 with fatigue and brain fog
Diagnosis	In 2003 by MRI and Lumbar puncture
Treatment History	Beta interferon,Baclofen, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		88		**39**	
Timed Up & Go - 3 Metres (seconds)		12		12.5	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 3+	R: 4	**L: 4+**	**R: 5**
	Knee Lifting in Sitting	L: 2+	R: 4+	**L: 3**	R: 4+
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Frequently wake-up		**Improved**	
Gait Pattern		Left foot dragging, slow		**Improved**	
Altered Sensations	Hands	-		-	
	Legs	Yes		Unchanged	
	Feet	Yes		Unchanged	
Bladder Function		Incontinence		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 4	R: 2	L: 5	R: 2
	Lumbar Spine	L: 8	R: 6	L: 3	R: 3

Case 16 Patient's Perspective

Initial symptoms started in 1983 with fatigue and brain fog. I went to see GP in 1984 with sore legs - was told to lose weight and take more exercise.

Intermittent symptoms 1984 - 1998. Pains in legs, wide variations in energy levels, sensitivity to bright light, poor balance.

1998 – 2002. Increased lethargy, loss of bowel and bladder control, pins and needles in face, ataxia, foot drop left leg, vertigo, nausea.

Serious relapses occurred in 2000 and 2002.

Diagnosis 20th March 2003 - followed by further serious relapse March 2003 - May 2004.

Treatment - 44 mcg Rebif Beta interferon from April 2004. 10 mcg Baclofen from November 2010

The beta interferon did not make any improvement in my condition but was prescribed to reduce number, frequency and severity of relapses.

The baclofen worked at reducing muscle spasms - allowing a full night's sleep. I now adjust dosage dependent upon my energy.

January 2013 at start of the treatment, my walking has improved greatly over the past eight weeks, energy levels are good, mood is also good.

March 2013 the treatment complete. Noticeable improvement in left leg. Return of numbness and heat/cold in lower legs. Short spell of deafness during treatment which cleared in week three.

I enjoyed the treatments. Looked forward to each session. The treatments were relaxing and sometimes after the treatment I would be energised and other times very quiet and subdued. I listened to my body and reacted appropriately.

Case 17: A 50-year-old Caucasian Woman, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1981, increased fatigue, pins, needles in hands and legs
Diagnosis	In 1981 by MRI and Lumbar puncture
Treatment History	Vitamin supplement, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		76		**44**	
Timed Up & Go - 3 Metres (seconds)		15.5		19	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 3	R: 4	**L: 4**	**R: 4+**
	Knee Lifting in Sitting	L: 4	R: 3	L: 4	**R: 4+**
No. of Falls in 1 week		2 - 3		**0**	
Visual Field Deficit (degrees)		L: 10	R: 5	L: 0	R: 0
Sleep Pattern		Good		**Improved**	
Gait Pattern		Slow, knees inwardly		**Improved**	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	Yes		Unchanged	
	Feet	Yes		Unchanged	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 4	R: 6	L: 3	R: 4
	Lumbar Spine	L: 6	R: 6	L: 3	R: 3

Case 17 Patient's Perspective

The first treatment with Chongsu Lee was fantastic. I felt better than I had for years. I managed to walk round the supermarket when I usually have to use my wheelchair and then managed to climb the stairs in my home when usually have to use a stair lift. My pain had lessened, things were looking up! Or so I thought. The next morning the pain was back and my legs were heavy and painful again. By the third week of treatment I didn't think that I was doing as well, things were OK on the day of treatments but went downhill quickly after treatment. Now after the whole treatment is finished, I feel worse than before. My pain is all over my body and it's really getting me down, my balance is awful I'm staggering and falling all the time. I was diagnosed in 1980 and apart from steroids in the 1980's I have had no drugs to treat MS. Rather I have gone for exercise and physio. I feel I was better off before treatment. Have started back with exercise hoping to improve my symptoms. I know of other MS patients who have done well and feel disappointed that this treatment was not for me, which is a shame.

Case 18: A 59-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1970, off balance to left hand side, lack of control in left hand, left face drop
Diagnosis	In 1970 by MRI and Lumbar puncture
Treatment History	Oxybutynin, hyperbaric oxygen

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		77		**56**	
Timed Up & Go - 3 Metres (seconds)		13		**11**	
Energy Level		Very tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 4	R: 4	**L: 4+**	**R: 4+**
No. of Falls in 1 week		0		0	
Visual Field Deficit (degrees)		L: 10	R: 10	L: 0	R: 0
Sleep Pattern		Wake-up, 3 per night		Unchanged	
Gait Pattern		Slow, wobbly mildly		**Improved**	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Normal		Normal	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 4	L: 8	R: 6
	Lumbar Spine	L: 0	R: 0	L: 0	R: 0

Case 18 Patient's Perspective

1. Initial symptoms

Loss of balance
Poor eye to hand coordination
Missing my mouth when eating
Walking was affected, namely with my left leg swinging out.

2. Year of diagnosis

1970

3. Brief treatment history

1970 - 2 x lumbar punctures; MRI Scan; spinal massage
Physio

HBO dives

4. How the problem was before starting treatment

My walking was laboured
My balance was very poor
I suffered dreadful fatigue
My bladder control was very poor
Sleep patterns were erratic
And I suffered from low mood

5. Experience over the course of treatment

In the main, I initially saw a huge improvement in my walking, my fatigue levels improved and my balance was much better - I no longer needed to “furniture walk”. My sleep patterns are now more normal. My bladder control is still a bit erratic and I’ve had a few bowel problems since starting the treatment.

I feel since the treatment started I have gained a bit of my independence back. I’m less fatigued probably due to my sleeping patterns improving which in turn is giving me a better “persona”. I’m not down as much but I am a bit disappointed with my bowel and bladder functions at the moment - but still believe this to be a positive symptom on the road to cleaning me out and hope to feel the benefit of this very shortly.

Still finding hand to eye coordination has a way to go and because of the pins and needles I suffer in my hands, some tasks still prove problematic e.g. fastening buttons and doing zips up.

BUT overall I believe the treatment approach is working on the levels mentioned above and I am confident that I will continue to see a steady improvement with each treatment I receive.

6. How the problem is now

As said previously, I see a steady improvement week on week - and it is so uplifting when people comment, confirming that they are noticing the changes that I am feeling.

7. Overall perception about the approach

The approach is new and refreshing and seems to work.

Case 19: A 47-year-old Caucasian Woman, Relapsing Remitting MS (RRMS)

MS Symptoms History

How it Started?	In 1995, visual disturbance, balance issue
Diagnosis	In 2008 by MRI
Treatment History	Tramadol, Amitryptyline, hyperbaric oxygen

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		115		121	
Timed Up & Go - 3 Metres (seconds)		Not applicable, wheelchair bound		Not applicable, wheelchair bound	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 5	R: 4+	L: 5	**R: 5**
	Knee Lifting in Sitting	L: 3+	R: 2+	L: 3+	R: 2+
No. of Falls in 1 week		Not applicable		-	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Difficult to fall asleep		**Improved, deeper sleep**	
Gait Pattern		Not applicable		Not applicable	
Altered Sensations	Hands	-		-	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Incontinence		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 10	R: 10	L: 10	R: 5
	Lumbar Spine	L: 3	R: 5	L: 2	R: 2

Case 19 Patient's Perspective

My MS was 'officially' diagnosed in 2008 although on reflection I have suffered a variety of illnesses which could have been attributed to MS (such as a 'viral infection of the optic nerve').

Emotionality is recognised as being part of the condition. In my experience of the therapy, the bi-directional connectivity between muscle and central nervous tissue was affected.

At the outset of the treatment we set mobility goals and targets. As my case is one of being wheelchairbound, these goals were ambitious but I still believe they can be achieved.

From the first session I felt apprehensive that any good change would happen to my mobility and strength. People around me, and I, have noticed an improvement in how much stronger my standing is. I also feel I am able to undertake small tasks in standing. My arm levitation is noticeably higher.

Whether or not this is purely and directly attributable to the treatment is difficult to say as I am clearly committed to improving my quality of life. However I did develop a profound spell of emotionality of a different quality than usual after a few visits.

I could go as far as to say that the treatment has been positive by giving me the feeling of the lifting of a brainfog. During my treatment I have felt my sleep deeper and better hence I am more relaxed and calm. I look forward very much to continuing work with this treatment.

Case 20: A 60-year-old Caucasian Woman, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1973, double vision
Diagnosis	In 1973 by Lumbar puncture
Treatment History	Pregabalin, hyperbaric oxygen, physiotherapy, massage

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		103		Not received	
Timed Up & Go - 3 Metres (seconds)		Not applicable, wheelchair bound		Not applicable, wheelchair bound	
Energy Level		Variable		Unchanged	
Muscle Strength[2]	Hand Grip	L: 4+	R: 4	**L: 5**	**R: 4+**
	Knee Lifting in Sitting	L: 2	R: 4	L: 2	R: 4
No. of Falls in 1 week		Not applicable		Not applicable	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Unchanged	
Gait Pattern		Not applicable		Not applicable	
Altered Sensations	Hands	-		-	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Self catheterisation		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 7	R: 7	L: 5	R: 5
	Lumbar Spine	L: 5	R: 5	L: 5	R: 4

Case 21: A 35-year-old Asian Man, Primary Progressive MS (PPMS)

MS Symptoms History

How it Started?	In 2000, right leg patchy numbness
Diagnosis	In 2006 by MRI and Lumbar puncture
Treatment History	Mitoxantrone, homeopathy, massage, acupuncture

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		113		114	
Timed Up & Go - 3 Metres (seconds)		Not applicable, wheelchair bound		Not applicable, wheelchair bound	
Energy Level		Tired		Unchanged	
Muscle Strength[2]	Hand Grip	L: 5	R: 5	L: 5	R: 5
	Knee Lifting in Sitting	L: 2+	R: 2+	L: 2+	R: 2+
No. of Falls in 1 week		Not applicable		Not applicable	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Unchanged	
Gait Pattern		Not applicable		Not applicable	
Altered Sensations	Hands	Yes		Unchanged	
	Legs	-		-	
	Feet	Yes		Unchanged	
Bladder Function		Urgency		Unchanged	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 5	L: 7	R: 4
	Lumbar Spine	L: 2+	R: 2+	L: 5	R: 4

Case 21 Patient's Perspective

I was looking forward to this study and saw the reasoning behind the theory. I found the style of massage/physio very interesting and was impressed by the amount of energy, dedication and concentration being shown by the person giving the treatment. A few times after treatment my legs felt slightly lighter (about 5 or 10%). It's not much, but I felt this a couple of times. However, overall I didn't feel any change. I believe I got most benefit from touching the toes exercise and dietary advice that Chongsu gave. After touching toes, I found I had a renewed, but short lived feeling of sensation in tips of toes and fingers. I also found cutting out fried food as advised helps. I found that the exercises and dietary change contributed to less spasms and stiffness in legs when I adhered to the diet and exercises.

Case 22: A 50-year-old Caucasian Man, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1995, optic neuritis in right eye, right foot drop, right arm weakness
Diagnosis	In 2006 by MRI
Treatment History	Baclofen, Solifenacin, hyperbaric oxygen, acupuncture

Symptoms Change after Intervention

[1]MS Impact Scale (maximum 145)		115		**74**	
Timed Up & Go - 3 Metres (seconds)		Not applicable		Not applicable	
Energy Level		Normal		Unchanged	
Muscle Strength[2]	Hand Grip	L: 3+	R: 2+	**L: 4+**	**R: 3**
	Knee Lifting in Sitting	L: 2	R: 1	**L: 3+**	**R: 1+**
No. of Falls in 1 week		Not applicable		Not applicable	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		Unchanged	
Gait Pattern		Not applicable		Not applicable	
Altered Sensations	Hands	Yes		**Improved**	
	Legs	-		-	
	Feet	-		-	
Bladder Function		Urgency		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 4	R: 4	L: 3	R: 4
	Lumbar Spine	L: 5	R: 5	L: 2	R: 2

Case 22 Patient's Perspective

1. Initial symptoms experience

Leg weakness, foot drop in right leg, weakness in right arm and hand. Optical neuritis in right eye. No mobility and difficulty in transferring. Loss of feeling in left hand.

2. Year of diagnosis

August 2006

3. Brief treatment history

Hyperbaric Oxygen for fatigue, numerous physio appointments.

4.How the problem was before starting treatment

Difficulty in transferring, wheelchair bound, had to get assistance at all times transferring, eg into car, from wheelchair to and from bed. Loss of feeling in left hand.

5.Experiences from treatment

Improved feeling in strength in right hand.
Improved feeling of well-being.
Improved facial colour.
Able to transfer without assistance at certain times.
Improved strength in legs.
Altogether better quality of life.

6. How the problem is now

Hoping to continue with sessions and improve symptoms.

7. Overall perception of the approach

Not sure what is happening but a definite difference to my condition on the very positive side.

Case 23: A 48-year-old Caucasian Woman, Secondary Progressive MS (SPMS)

MS Symptoms History

How it Started?	In 1996, right side numbness, optic neuritis
Diagnosis	In 1998 by MRI and Lumbar puncture
Treatment History	Gabapentin, LDL, Bendroflumethiazide, Vesicare, Tizanidine, Oxytetracycline, Sertraline, hyperbaric oxygen, yoga, pilates, Tai-chi, massage

Symptoms Change after Intervention

[redacted]		[redacted]		[redacted]	
[1]MS Impact Scale (maximum 145)		96		100	
Timed Up & Go - 3 Metres (seconds)		Not applicable		Not applicable	
Energy Level		Tired		**Improved**	
Muscle Strength[2]	Hand Grip	L: 4+	R: 4+	**L: 5**	**R: 5**
	Knee Lifting in Sitting	L: 4+	R: 3+	L: 4+	**R: 4+**
No. of Falls in 1 week		5 - 7		**0**	
Visual Field Deficit (degrees)		L: 0	R: 0	L: 0	R: 0
Sleep Pattern		Good		**Improved**	
Gait Pattern		Wobbly severely		Unchanged	
Altered Sensations	Hands	-		-	
	Legs	-		Yes	
	Feet	-		Yes	
Bladder Function		Urgency		**Improved**	
Palpatory Pain Assessment (VAS[3] 0-10)	Shoulder	L: 6	R: 0	L: 5	R: 6
	Lumbar Spine	L: 4	R: 0	L: 2	R: 3

Case 23 Patient's Perspective

2. Year of diagnosis was 1998

3. Briefly my treatment history has consisted of ... well it's difficult to be brief when 15 years have covered a LOT. Steroids, DMDs Betaferon, Tysabri , Botox for bladder, Solifenacin, FES, Leg brace, Baclofen,Tizanadine, Gabapentin, HBO, Physio, Pilates, yoga etc ...

4. Before treatment main problems were with mobility and balance.

5. Felt more tired than normal and just a little bit more able to lift my weaker foot off the ground i.e. felt just a little stronger in feet and legs. But it is MS and variable symptoms are part for the course. During treatment didn't notice much difference. Very minor improvement in strength so it was a bit

disappointing. Couldn't understand how such a gentle treatment could make you sorer and more tired the next day. Best thing for me was encouraging me to do more gentle exercises morning and night.

6. Problem is much the same now. But I will try to keep morning/night exercises up.

7. I don't know that it worked for me but I tried it.

DISCUSSION

According to the outcome measures used in the paper, 20 out of 23 cases reported improvements in three or more of their MS symptoms after the eight treatment sessions on a weekly basis. In three cases [case 8, 17, 23], patients showed little symptom improvements. In accordance with 21 patients written feedback, 5 of them [case 8, 13, 17, 21, 23] felt little benefit from the treatments. In three cases [case 8, 17, 23], there were some discrepancies between the predetermined outcome measures and patients' own perspectives. The discrepancies may be explained by inaccurate outcome measures, patients high expectation followed by under-achieved symptom improvements, differences between clinical outcome measures and patients subjective 'feeling' measures, etc.

Because symptoms of relapsing-remitting MS can fluctuate in nature over a period of time, the improvements of 13 RRMS cases in the paper may be viewed as natural recovery or coincidence, rather than as a result of the treatment. It is, however, worth noting that 5 SPMS cases out of 6 and 2 PPMS out of 4 showed improvements in their symptoms during the treatment period. Normally, symptoms of secondary progressive MS or primary progressive MS can be regarded as difficult to improve.

Variable individual patient response to treatment may have been contributed to by individual compliance with the management guidelines including the home exercise programme. Anecdotal evidence showed that some patients were very enthusiastic about the whole programme, whereas others were less willing to follow the guidelines set out in the beginning. It goes without saying that various individual circumstances, including life style, diet and stress level, may have led to different treatment responses. Smoking or long hours driving, for example, seemed to considerably counteract much of the possible benefits of the treatment.

As pointed out by a patient in a patient perspective [case 4], a short single weekly session for eight weeks may have not been enough to demonstrate the effects of the treatment, especially in patients with a long history of MS. 13 cases had more than 10 years of MS, and 20 cases were diagnosed more than 5 years ago. Anecdotal evidence clearly indicates that significant improvements have been experienced by many MS patients with further treatments, the number of treatment sessions averaging between twenty and thirty.

In the past, MS was considered a 'painless disease', and pain was not thought of as an MS symptom. However, physicians have come to realise that pain is part of a spectrum of symptoms of MS, and in some patients, pain is a key symptom [3]. More than 50% of MS patients experience pain [4]. MS-related pain includes unpleasant sensation in the limbs, joint pain, and other musculoskeletal or mechanical pain [5]. MS-related pain is managed by physiotherapy, acupuncture or various drugs, i.e. Amytriptyline, Gabapentin, Baclofen, Tizanidine, etc. [6].

Although pain is recognised as an important part of MS, there was little report on the actual relationship between MS symptoms and pain. Understanding the effects of stress, whether physical or psychological, on the human body is the key to synthesising the relationship between anatomical pain in shoulders and back, and MS symptoms.

Individuals develop tight shoulders or back pain at the time of physical stress, e.g. working in sitting all day long or long distance driving. Similarly, psychological stress, e.g. relationship strain, anger, pressure at work, etc. can cause a great deal of tension in one's shoulders or back. In fact, the close association between stress and human body is well understood in our everyday lives. In the short term, tightness or pain in shoulders or back can produce many physical symptoms, i.e. pins & needles, numbness in limbs, stiff joints, tiredness, etc. Should the tightness or pain in shoulders or back continue over a long period of time, chronic neurological symptoms may result, as seen in MS. The whole cascade of the physiological impact of stress on MS symptoms is well beyond the scope of this paper. There is a growing body of evidence that stressful life events trigger MS relapse and remitting, and exacerbate MS symptoms [7 - 11].

One may aruge that, independent of MS conditions, a large proportion of the entire population would benefit from this treatment, because shoulders and back are so frequently a source of chronic tension in all human beings. In fact, the importance of tension-free shoulders and back can not be stressed enough for the health and well-being of any individuals. Given the 23 cases presented in this paper and patients own stories, it can also be argued that MS conditions may have much stronger association with musculoskeletal pain and tension in shoulders and back than we have ever considered.

The authors are fully aware that palpatory pain assessment over shoulders and lumbar spine is a subjective outcome measure, and therefore the pain recorded in the present paper may not have reflected an accurate pain level in each individual. Lumbar spine pain assessment, especially, was limited to outer layers of lumbar vertebrae, and deeper level of lumbar spine pain could not be palpated. It is understood that the pain in MS patients’ shoulders and lumbar spine may be subtle and often guarded at the time of assessment, and MS patients would not be aware of the pain. In many cases, the pain was gradually revealed over the course of treatment.

CONCLUSIONS

Multiple Sclerosis is a cruel disease since the sufferers, mostly diagnosed between the age of 20 and 40, experience gradual deterioration of their symptoms. Some MS patients may have to use a wheelchair or become bed bound. Simple daily activities, e.g. walking a dog or going out for lunch, can be challenging tasks, which able people take for granted. Not only MS patients but also his/her family or friends may be affected by the pain experienced over a long period.

During the authors' clinical experience, many MS symptoms corresponded to the pain identified in shoulders or lumbar vertebrae. The location and severity of pain either in shoulders or lumbar vertebrae gave rise to the presentation of most MS symptoms. Many MS patients reported significant symptoms improvement when the pain in shoulders or lumbar vertebrae was reduced through physiotherapy treatment.

The twenty three cases reported in the present paper may provide different perspectives in the treatment of MS conditions. It could be of great value to further investigate the relationship between the pain in shoulders and lumbar spine, and MS conditions. The importance of future clinical research can have profound implications.

Many MS patients whom the authors helped in the clinic express gratitude, and amazement over their symptom improvements. Many of them may have lived with little hope for a long time, since the time of diagnosis of their condition. It is a very rewarding and humbling experience to observe MS patients starting to walk better, some of them without walking aids, or reporting reduction of pins & needle sensations in their limbs, of being able to sleep without waking up, etc.

The authors would like to express sincere gratitude to all the patients who participated in this case study, and helped us present this paper. May we wish you good health and happy life.

Consent

Written informed consent was obtained from the patients for publication of this case report.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

Chongsu Lee provided a course of eight treatment sessions to each participant, and prepared the manuscript. Ben Berthold recorded outcome measures after final assessment and worked on manuscript with Chongsu Lee. All authors read and approved the final manuscript.

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Appendices

1. General MS Management Guidelines

Home Exercise Programme

Stretching Exercises To Release Back and Legs Tension
10 Minutes in the Morning, 10 Minutes Before Going to Bed
Fully Stretch and Hold for1 Min in Each Position
While Fully Stretching, Relax the Body
As You Breathe Out, the Body Becomes Further Relaxed

Hey! Man’s Walking

10 Minutes Daily

Hot Water Bottle

20 Minutes Before Going to Bed Under Neck and Low Back
It Gives Body Sense of Comfort

Healthy Diet

Vegetables, Fruits and Fish are Recommended
No Smoking

Sress Release

Release Stress from Body, No Need to Keep Stress in the body
Be Receptive
Let Go of ‘Stubbornness’

Others

If possible during the course of treatment, make a note on any changes to your symptoms, any thought or feelings

2. Patient Perspective feedback form

(1) Initial symptoms experience
(2) Year of diagnosis
(3) Brief treatment history
(4) How the problem was before starting treatment
(5) Experience details over the course of treatment, i.e. thoughts/ feelings about treatment, symptoms improvements, disappointment, etc.
(6) How the problem is now
(7) Overall perception about the approach
(8) Others as required