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Reflexology and Parkinson's disease

Parkinson's disease (PD) is a neurodegenerative disease that is characterized by a progression of symptoms including bradykinesia, rigidity, difficulty speaking and swallowing, and rest tremor, which is the involuntary trembling of the body and one of the common symptoms of PD (Neurology.Org). To quote the Merck Manual of Medical information, "Parkinson's disease affects about one in every 250 people over 40 years old and about one in every 100 people over 65 years old." Most studies linking alternative therapies to Parkinson's disease are focused on pain management, palliative care and improvement of quality of life (Ferry). While the research shows that many people with PD choose to manage their symptoms with complementary or alternative medicine, there does not appear to be any readily available studies that specifically refer to using only Reflexology as an intervention.

My subject is an 81-year-old retired woman. She has been diagnosed with PD for two years although she states that, looking back, she had been experiencing symptoms of PD for at least two years prior to her diagnosis. Her gait is somewhat unsteady and shuffling, she suffers with rest tremor in her jaw, hands, and sometimes feet. The subject has difficulty eating, chewing, and swallowing. She has participated in case studies concerning PD, the latest of which was focused on aiding her ability to breathe and swallow. The subject speaks clearly, breathes without the aid of an oxygen tank, and does not carry a cane. She does not drive and she relies on her daughter or her husband to bring her to the location of the Reflexology sessions. She is currently taking vitamin supplements and Sinemet, which is carbidopa/levodopa, a drug long used in managing the progression of PD (Merck p. 345).

The study of Reflexology and Parkinson's disease will be presented from two perspectives. The subject's main concern is her lack of energy and back pain. She says she takes several naps daily and cannot sleep through the night. She lives with a constant level of back pain that interferes with her activities of daily living. The therapist's focus will be the effect of stimulating the reflexes for the subject's brain (including the pineal gland reflex), spine, and adrenal glands. The intention is to support the health of the nervous system, improve motor function, and invite the subject's body to enter a parasympathetic state.

The subject will document her experience by tracking her sleeping habits throughout the study, including when she falls asleep and when she awakens

each day. She will also be charting, on a scale of 1-10: her level of back pain, her ability to move freely and with control, and her levels of stress/anxiety. I have also asked her to maintain a record of her prescribed medications including the name, dosage, and frequency with which she takes them.

The subject revealed that she will be entering a pain study that will look at brain activity as relates to her back pain, and will be seeing a specialist regarding her difficulty controlling her hands and jaw. She reports arthritis in her thumbs and that sometimes her fingers cramp up so bad she has to use one hand to straighten the other out. She reported having obtained permission and a hearty blessing from her doctor to be a part of the Reflexology study.

We agreed to meet for an hour every Tuesday at 11am for six weeks for combined hand and foot sessions, with the goal of evaluating whether reflexology might decrease her back pain and increase her energy level.

I chose to include her hands because she mentioned having severe cramping in her digits. Perhaps increased circulation and direct contact to those areas would provide some relief for the subject in addition to the work on the reflexes previously noted.

Subject has had foot Reflexology sessions with me before so she knew what to expect and she knew that she liked it. I informed my subject that she would not be receiving hydrotherapy or massage as part of the sessions and explained that this and the lack of soothing music was to decrease the variables present during her sessions so that we might get a more accurate reading of the effects of Reflexology on her symptoms. She left with charts to document her first week with no intervention.

For each session, the subject was provided with a pillow beneath her head and a bolster beneath her knees. She was also given a flannel sheet and soft blanket with which to cover her body. The lighting was kept low and soothing. The protocol for the sessions was to spend 10 minutes on each hand and 20 minutes on each foot. Beginning with the left hand, I performed the following actions:

On the Palmar Surface of the Hand:

- Rub and clean out Meridians from forearm to fingertips
- Knuckle roll from elbow to fingertips
- Thumb-walk Zone 1 longitudinally from wrist to fingertip to access spinal reflexes.
- Make second pass beginning at wrist on palmar surface and pressing and rolling the brain reflexes in the thumb.
- Thumb-walk Zone 2 longitudinally from wrist to fingertip pausing at adrenal gland reflex, press and roll brain reflexes
- Thumb-walk Zones 3-5 longitudinally from wrist to fingertips, Press and Roll Brain Reflexes

- Trish Fingers, Press and Roll Brain Reflexes again, starting at Zone 5 and ending at the thumb.
- Cover all surfaces of thumb, Hook and Press Pineal Gland reflex and thumb-walk spinal reflexes once again.

On the Dorsal Surface of the Hand:

- Rub and clean out Meridians from forearm to fingertips
- Knuckle Roll from elbow to wrist
- Finger-walk the entire dorsal side of hand with both hands (eight fingers)
- Make one more pass of spinal reflexes
- Compression Pull to close.

I then repeated this protocol on the right hand. When this was complete, I performed the following actions on her right foot:

On the Plantar Surface of the Foot:

- Compression Pull
- Alternating Pulls
- Spread
- Double Thumb-walk longitudinally from heel to shoulder line, starting in Zone 1 and pausing at adrenal gland reflex.
- When at hallux, thumb walk cervical neck reflexes Press and Roll all surfaces to stimulate brain reflexes; Hook and Press the pineal gland reflex.
- Double thumb-walk longitudinally from heel to shoulder line in Zones 2-5. When reaching base of toes, single thumb-walk up to cover toe and press and roll brain reflexes.
- Upon completion of 5th phalange, my original plan was to "Trish" all toes. However, the subject's toes were not flexible enough for this to be easy or comfortable. Instead, I stretched the toes in all directions, then stimulated the brain reflexes again from the 5th toe and worked medially until I arrived again at the great toe. Once there, I again covered all surfaces of the hallux paying attention to the pineal gland reflexes once more.

At this point I transitioned from the plantar side of the foot to the medial and dorsal aspects.

Medial Aspect of Foot:

- Finger-walk spinal reflexes from cervical spine reflexes and walking proximally down.
- Spinal Twist, transitioning to the dorsal aspect of foot.

Dorsal Foot:

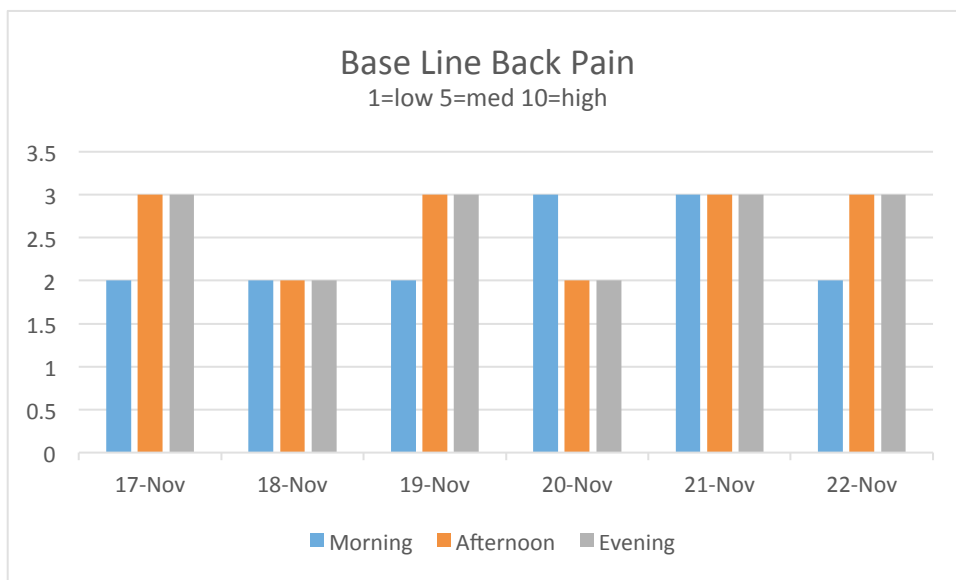
- Rub and clean out meridians.

- Repeat stimulation of spinal reflexes and spinal twist (medial aspect of foot).
- Stimulate head, neck and jaw reflexes on great toe.
- Stimulate brain reflexes on great toe then move laterally to the brain reflexes of Zones 2-5.
- Milk cervical lymph node reflexes starting laterally and moving medially.
- Finger walk (eight fingers at a time) entire dorsal side of foot.
- Metatarsal Push/Pull.
- Compression Pull.

I repeated the protocol on her left foot then made bilateral contact with both feet to finish. Subject was invited to share anything that came to mind about her experience.

It may be of note that the Vagus nerve is not targeted in this study. This is because the therapist was unaware of the connection between the Vagus nerve and its role in Parkinson's disease until after the protocol was established and executed. In the interest of reducing variables, I did not increase attention to the Vagus nerve during the six-week study. It was, however, stimulated in passing.

The subject's baseline readings regarding her back pain seemed to yield no significant pattern. On some days, she awoke with less pain and gathered more throughout the day. Others, she awoke with more back pain and it seems to decrease slightly throughout the day. Her lowest reading was a 2 and her highest was a 7. Please note the lack of data for October 14th. The subject did not enter in any values for the afternoon and evening of this date.



Session 1: Tuesday October 20, 2015

Before her first session, she reported that she had been in too much pain to clean her house and complained of her hands and feet cramping at night. She says she has to get out of bed and stretch her feet and calves to stop the foot cramps.

During the session, I noticed that her wrists were swollen and she said the arthritis in her left thumb was in a flare up. I also noted that digits two and four of the right hand felt congested and fibrous from tip to base on the palmar side. There was significant congestion in the reflexes in her feet in Zones 1 and 2 from the diaphragm line and extending to the waistline. The tips of all of her toes felt gritty with congestion and she noted sensation (pain) in the right lateral area of her hallux. I noted that her shoulder reflexes, bilaterally, were also congested. There was swelling at her ankles and along the medial sides of both feet along the spinal reflexes.

After the session, the congestion in the toes reduced and the sensitivity and some congestion in the affected Zones 1 and 2 also felt looser and she reported feeling more relaxed after the session. I felt no difference in congestion in the hands, but the subject said they felt looser and more relaxed. We both agreed they were warmer at the end of the session. I noted that her jaw tremor quieted when working the corresponding area of her left hallux only. She also noted that she did not feel sleepy after her session.

Session 2: Tuesday October 27, 2015

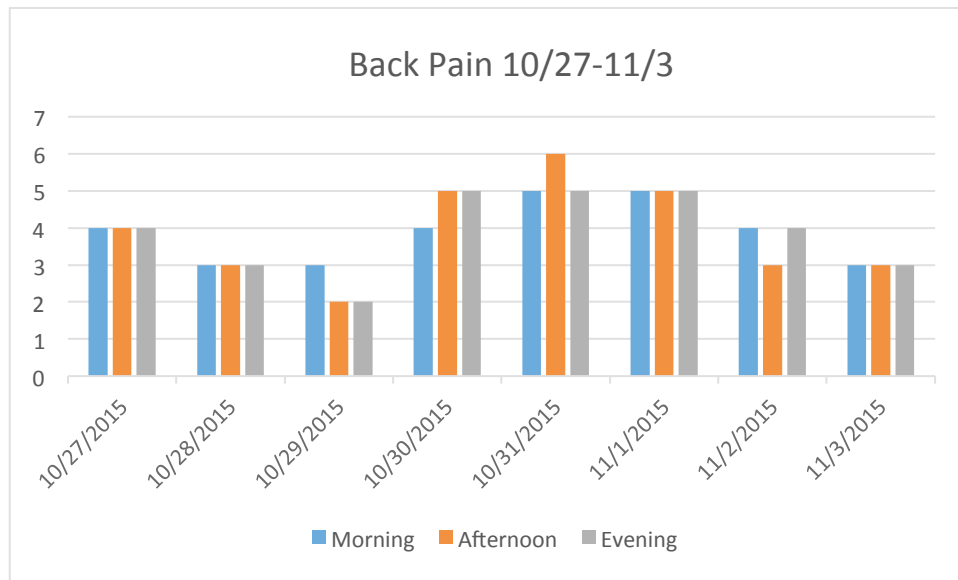
Before her second session, Subject returned her charts from the previous week, which again showed a lack of significant pattern. She did state that her back pain across her waist seemed higher that day and that she had taken a pain reliever that morning. Her arm was cramping that week and she was massaging it herself to alleviate the pain and stiffness.

During Session 2, I noted congestion in both thumbs in the pineal and pituitary gland reflex areas. There was additional congestion on the left hand between Zones 4 and 5 between the metacarpal heads on the palmar side. There was congestion on the right dorsal hand at the base of the right thumb. I felt no shift in congestion in these areas after the hand session was completed. On the subject's feet, I noted congestion in the tips of the toes bilaterally in Zones 1-3 also congestion on the right medial aspect of the client's foot that corresponds to the thoracic vertebral reflexes.

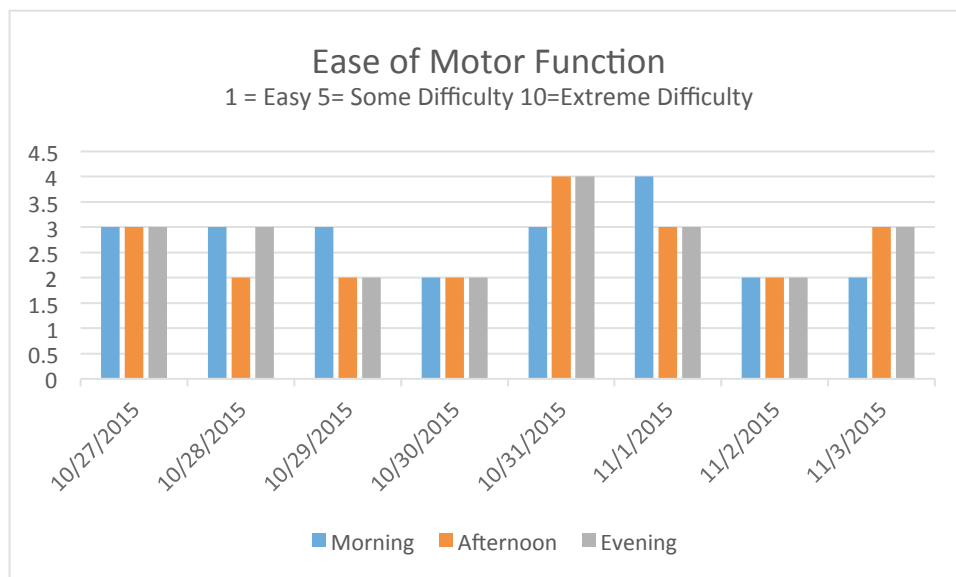
After the session, the congested areas resolved and there was less sensitivity reported in the adrenal and solar plexus reflexes in the subject's feet. She appeared to have been more relaxed after this session than her first. Subject seemed to have greater ease of movement when getting off of the table.

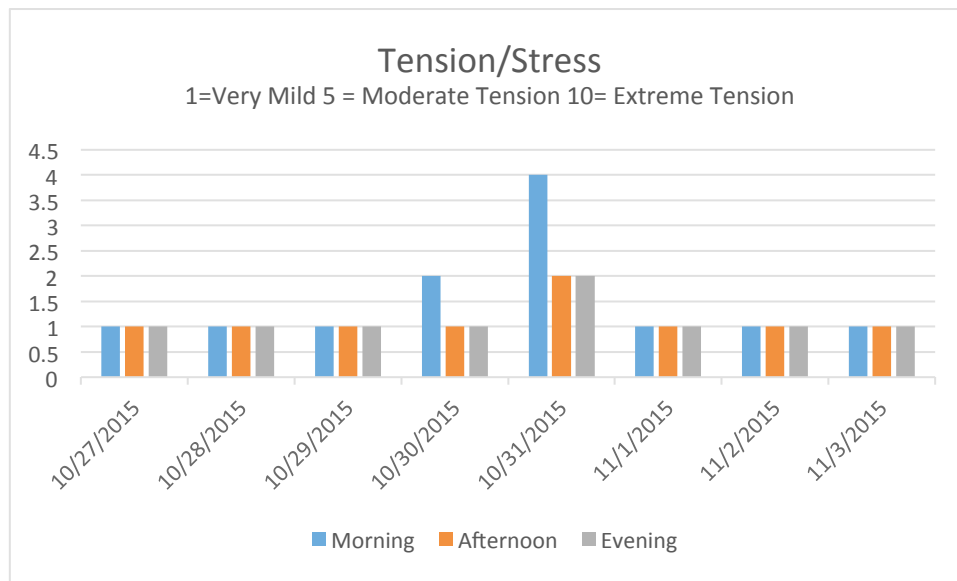
Session 3: Tuesday, November 3, 2015

Before the start of session 3, I checked in with the subject about how she thought the study was going so far. She said that she always felt better physically and emotionally after she left. On this particular day, she reported that she had been very tired all week and had been suffering from severe back pain since Saturday, October 31st. She said that to cope with the pain, she had been refraining from heavy lifting and bending over since then.



During the session, I noted congestion in the palmar surface near the base of both thumbs, the brain reflex in the right hand in Zone 3, and we both noted congestion and sensation in the solar plexus reflex of the right hand. There was also congestion noted in the jaw reflex area of the right palmar hand and all along the palmar surface of the 5th digit of the right hand. The subject's jaw tremors subsided when working the jaw reflexes of the hands as well as when working the jaw reflexes of the feet.





This week, the congested areas of the feet were slightly different: most of the congestion I had previously felt was along the brain reflexes and in the areas along the flexor hallucis longus. The increased sensation on the lateral edge of the right hallux distal to the metatarsal-phalangeal joint was expected and felt during the session. This week, however, there was only one area of congestion in the brain reflexes of Zone 3 of the right foot. There seemed to be more sensation related to the shoulder line and diaphragm muscle during this session. Her adrenal reflexes were also congested and sensitive bilaterally as well as one small area halfway between the diaphragm line and the waist line on the plantar aspects of both feet instead of the long line of sensation and congestion we had both previously noted. There was also increased sensation and congestion on the lumbar reflexes of the spine bilaterally. In addition, I noted an area of congestion on the plantar surface of the right foot located proximal to the pelvic line that may correspond to the small intestine.

The subject said that the sensitive areas of her hands were less so after working them. She noted that the area on her right big toe was no longer as sensitive. The sensitive areas on the medial aspect of the feet also resolved about 50% by the end of the session. We did not stop to work the points along the shoulder and diaphragm line, but I invited her to work those points by rolling her foot over a golf ball in a sock if she wanted to give them extra attention later.

Session 4: Tuesday November 10, 2016

During the pre-session check-in, the subject told me that she had only experienced one cramp in one finger all week and had had no cramps whatsoever in her feet. She reported feeling less tired this week and said she was able to be on her feet for longer periods of time before needing to rest. I noticed that her ankles were a bit swollen across the dorsal surface, but overall she said she felt fine.

During the session I felt congestion in the brain reflexes of both thumbs, Zone 1 bilaterally, and on the right palmar surface in the brain reflex of Zone 2 and in the ear reflex of Zone 4. She had an area of congestion in the brain reflex of the 5th digit of her left hand and also in the jaw reflex of the left hand. Her feet once again presented the area of sensation on the right hallux, both adrenal gland reflexes, both shoulder reflexes, and congestion proximal to the pelvic line in Zone 4 of both feet. In addition, there was some grainy textured congestion in the brain reflexes of Zone 3 in both feet and congestion in the distal phalanx of the left hallux only. The subject was in and out of a dreamlike state after completing the protocol on her left hand and began to doze and snore as I worked on her feet. She reported consistently low levels of pain and stress and great ease in motor function for the rest of the day.

Session 5: Tuesday November 17, 2015

During the check in and review of the subject's charts, I noticed a significant decline in the level of reported back pain, as well as indications that the subject was having marked improvements in her ease of motor function, even days after her Reflexology sessions. The 14th of November, four days after her last session, showed a rise in her pain, stress, and motor function numbers but decreased again in the next two days prior to receiving her fifth session. On this morning, she reported that her feet continued to be "less crampy than before," and when asked about her balance, she said that it had "gotten a little bit better." She did mention that there was no change in her appetite or digestion. I observed that she seemed tired but she was "feeling fine," except for some numbness in her right middle finger.

When receiving the session, I noticed that the subject seemed more aware of areas of sensitivity in her hands. She noted an area of increased sensation corresponding to the thoracic spinal reflexes in her left hand as well as sensation just distal to the pelvic line in Zone 2 on the palmar surface of the left hand. On the dorsal side of the left hand, she expressed discomfort in the webbing of her thumb and index finger. I noted congestion in both thumb-tips and in the brain reflexes of both middle fingers. She also felt tenderness in her right thumb where I had noted congestion.

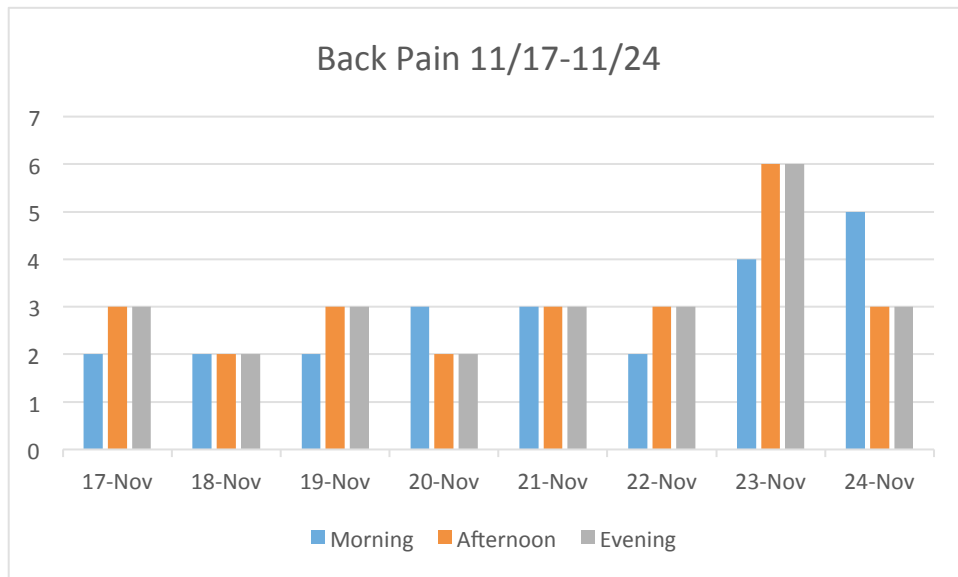
Likewise, the subject was better able to recognize and define areas of sensation in her feet, however she did not inform me of these areas until after I had completed the full session. She said that she was just "too out of it," to talk during her session. The brain reflexes in Zones 1 and 3 on her left foot were again gritty with congestion, the brain reflex in Zone 3 only in her right foot was also of note. Her adrenal glands again were both congested and sensitive, though she maintains that she does not let herself become stressed. She still exhibited signs of discomfort when I was working along the lateral aspect of her right hallux, as well as along the flexor hallicus longus tendon on her right plantar foot. The

medial aspects of her feet revealed sensitivity and congestion corresponding with the bladder reflex on her left foot. Her right foot revealed congestion in the lumbar area of the spine and an area just inferior to the lateral malleolus felt puffy and cool to the touch.

The subject seemed to be focused inward during this session and she appeared to take more time to come back to herself after the session was over. She reported feeling rested. Her cheeks, neck, and upper chest appeared rosy and her hands and feet felt warmer to the touch. She also said that her back didn't hurt after her session and that she was surprised by that, after having lain on her back for an hour without moving. The brain reflex points reduced in congestion by 80% and the subject said that they were no longer sensitive after receiving work there. The sensitivity along the flexor tendon was reduced as well. The left bladder reflex remained the same in both congestion and in sensitivity, as I did not attend to it, although the sensitive area in the medial aspect of the right foot decreased after working it by 100%.

Final Session: November 24, 2015

At the start of our final session, the subject and I discussed her symptoms of Parkinson's disease and how she felt the Reflexology was interacting with her day-to-day life. Her charts indicated fewer naps and more complete nights of sleep and her back pain consistently hovered around a 2 or 3 for five days following her Reflexology sessions. She said that her back was "killing" her when she came in for her final session.



During the session, the subject once again exhibited signs of shifting into the parasympathetic state. Her breathing deepened almost immediately and by the completion of her left hand, she was exhaling loudly. The brain reflexes in her

left pollex and in both ring fingers were congested. When working the jaw reflex on her thumb, I observed stillness in her face. Eventually the jaw tremor resumed as I moved on to other reflexes.

When moving on to the feet, I noticed that the involuntary tremors present in her hands resumed, stilled, and resumed again intermittently. I had expected to find sensitivity in the spinal reflexes, but the only areas that were noteworthy were the cervical spinal reflexes and a high concentration of congestion at the neck reflexes of both great toes. The subject later said that she felt tenderness along the joints in both toes. Her adrenals were once again sensitive bilaterally, along with congestion at the nose and mouth reflexes on the dorsal side of the feet. Her ankles appeared swollen and I noted an area of less density inferior to her medial malleolus on her right foot and an area of congestion between the heads of metatarsals one and two on the plantar aspect of the right foot.

After her session, I checked in with her regarding the congested areas I noticed and she reported similar findings. She said that the tenderness in her big toes was almost gone by the third pass and I agreed that I felt the congestion there had reduced by 80%. She reported feeling less sensitivity in her arches, which coincided with my observation that the congestion in her adrenal glands had also reduced. She also reported that her back pain was gone and that she felt much better. Her chart shows a level 3 of discomfort for the afternoon and evening. She seemed very alert and rested. She said that she felt like she'd had eight hours of sleep. We agreed to meet again the following Tuesday so that I could see her final charts for the week and to have a final interview about the sessions.

Results

When asked how she felt the Reflexology sessions were interacting with her daily life, the subject said that she had really enjoyed receiving the work. She reported experiencing a shift in the two areas of the study that were of the most concern to her. Overall, she reported a decrease in her level of back pain and told me that with less activity comes less pain. Although she still cannot be on her feet for very long, she shared that her endurance was better than when we started and she can perform more of her daily actions before having to rest. She cheerfully reported that she still wakes up almost every night, because she "just don't get sleepy." However, the frequency of her doing so has decreased as well. She said that she felt no change in her emotional state, she is chronically "never stressed." When asked about any other thoughts or impressions about the past seven weeks, she said that she felt that she was more mobile, her back was "not as bad" and she had fewer cramps in her hands and feet and almost no cramps at all since her fourth week in the study.

My observations concerning her progress were similar. I noted that the client seemed to have a steady increase in energy: her gait was quicker and more

precise. She exhibited more balance when stepping up and down or entering or exiting her vehicle. Her hands and feet themselves also physically felt different after six weeks of sessions. The most notable difference in her hands was observed in the fingers. They felt more supple and flexible and did not have a fibrous feel when compared to my initial experience of the tissue in the first session. Her feet also exhibited signs of change. The color in her toes was redder and less purple indicating more efficient blood flow and venous return. The tissue along the main flexor tendon had fewer areas of congestion present, her ankles had a greater range of motion, and her toes were more flexible. The metatarsal push/pull consistently offered more range of motion with each passing week. Her rest tremor during the sessions came and went, depending on the reflexes that were being worked. Direct contact with the hands decreased the frequency and agitation of the tremor. Contact with the jaw and mouth reflexes was usually met with a softening of the client's jaw and sometimes stillness altogether. The color of the client's face, hands, upper chest, and feet was consistently rosy after a session.

Because the client responded favorably to the study, I would recommend that the client continue to receive hand and foot Reflexology sessions on a weekly basis. It would be beneficial to include stimulating the Vagus nerve reflex in a more focused way to observe its effect on the body. My client reported no changes to her digestion throughout the sessions, but others who have PD and are struggling with abdominal, intestinal, or anxiety related symptoms may find some benefit from accessing this area with more intention.

Although it is certainly true that only one study on the effects of Reflexology on a person with Parkinson's disease cannot be used to extrapolate its efficacy, it would be worthwhile to create an actual double blind study in which a large enough population of people with the disease were offered either brain, spine, and Vagus nerve specific sessions or general sessions with no specificity to observe the overall changes in health and perceived quality of sleep, pain, motor function, and stress management. This might offer insight into how Reflexology can be used to improve the quality of life for those suffering with this disease.

Parkinson's disease is the second most common neurodegenerative disorder. According to the statistics located on the Parkinson's Disease Foundation's website (<http://www.pdf.org>), 60,000 Americans are diagnosed with PD every year and it was estimated that between 2005 and 2030, this number will be doubled (Svensson). Along with the physical and emotional toll that this takes on an individual and his or her support system, the monetary cost is staggering. The PDF states, "Medication costs for an individual person with PD average \$2,500 a year, and therapeutic surgery can cost up to \$100,000 dollars per patient." If it is true that Reflexology can be an effective, drug free, non-invasive way to support the health of these sufferers for whom surgery can be dangerous and

costly, it becomes not only recommended, but also absolutely necessary to do all that is possible to research the positive benefits of Reflexology and Parkinson's disease.

Resources

Berkow MD, R ed. (1997). Merck Manual of Medical Information: Home Edition. Pocket Books. New York, New York: Pocket Books. 1997. Pp 334-336.

Ferry, P; Johnson, M; Wallis P. (2002). Use of complementary therapies and non-prescribed medication in patients with Parkinson's disease. *Postgrad Med J* 2002;78:612–614. Downloaded from group.bmj.com on October 13, 2015 - Published by <http://pmj.bmj.com/>

Kunz, B., & Kuntz K. (2009). Complete Reflexology for Life. New York: DK Publishing.

<http://www.neurology.org>

Suchowersky, O.; Gronseth, G.; Perlmutter, J. et al. (2006) Practice Parameter: Neuroprotective strategies and alternative therapies for Parkinson disease (an evidence based review). *Neurology* 2006; 66; 976-982. Published Online before print April 2, 2006.

Svensson PhD, E; Horváth-Puhó PhD, E; Thomsen PhD, R. W.; Djurhuus DMSc, J.C.; Pedersen PhD, L.; Borghammer DMSc, P.; and Toff Sørensen DMSc, H. Vagotomy and subsequent risk of Parkinson's disease. *Annals of Neurology*. Published online June 2015.