

# The Burnham Review

## Parkinson's Disease and Complementary Medicine

Reports From the Cutting Edge of Manual Therapy and CAM

[www.TheBurnhamReview.com](http://www.TheBurnhamReview.com)

Issue 7-09

[info@TheBurnhamReview.com](mailto:info@TheBurnhamReview.com)

**Kimberly Burnham, PhD Editor**

7-07 Macular Degeneration and Retina

7-8 Manual Therapy Evidence

**7-9 Parkinson's Disease**

7-10 Trigeminal Neuralgia

7-11 Knee Pain and Loss of Range

7-12 Peripheral Neuropathy, Diabetic

### Parkinson's Disease and Manual Therapy

Parkinson's disease (PD) is the second most common neurodegenerative disorder after Alzheimer's disease. It affects 1.5 million Americans or approximately 1% of the population over 50. "There is a worldwide increase in disease prevalence due to the increasing age of human populations."<sup>1</sup> (Ebadi, 2001).

Medical doctors don't often refer people with Parkinson's disease to manual therapists or for complementary medical treatment, yet there is evidence from the medical literature that hands-on therapies can be a cost effective way to efficiently manage the symptoms of Parkinson's.

A report in Red Herring Magazine on the cost of central nervous system disorders noted, "diseases and disorders of the central nervous system afflict annually one in five people in the United States and hundreds of millions worldwide. In the United States alone, these

maladies cost 600 billion dollars a year."<sup>2</sup> (Red Herring, 2001).

In the last 10 years, results from client care, indicate that manual therapy is beneficial in reducing Parkinson's symptoms. The premise is that hands-

on approaches to healing assists people with Parkinson's disease in several areas by: 1) Normalizing the biomechanics [joint function] throughout the pelvis, spine and musculoskeletal system. 2) Improving the ability of muscles to lengthen, strengthen and respond appropriately to nervous system signals. 3) Improving cranial drainage and the processing of toxins in the body. 4) Improving tissue integrity, particularly membrane integrity in the vascular, nervous and visceral systems. 5) Improving the body's protective and reparative abilities. 6) Normalizing over all health including neurologic pathophysiology and chronic inflammation.

Perhaps Integrative Medicine is the treatment to which without knowing it, Dr. Michael Aminoff

refers in the following quote. Director of the Parkinson's Disease Clinic and Research Center at the University of California, Aminoff said, "It's my personal belief that over the next 10 years, there will be a completely new way of treating Parkinson's. At the moment, we're just treating Parkinson's symptoms, like we'd give aspirin for a headache. I suspect that in the next 10 years, we'll be able to stimulate the brain to replace its deficient or lost parts."<sup>3</sup> (Spirit Magazine, 2002)

### Parkinson's Disease Options from the Field of Manual Therapy and CAM

Looking for ways to improve his flexibility, a 35-year-old man found himself researching the Complementary and Alternative Medicine (CAM) options for Parkinson's disease.

A 68-year-old woman, looks for a way to control her tremors and had never reacted well to medications. A 76 year old runner found the

**The Burnham Review  
Kimberly Burnham, PhD Editor**

[www.TheBurnhamReview.com](http://www.TheBurnhamReview.com)  
[Info@TheBurnhamReview.com](mailto:Info@TheBurnhamReview.com)

For clients, practitioners and all people interested  
in feeling and functioning better with  
manual therapy and CAM

**24 e-newsletters per year \$100**

Parkinson's disease (PD) medication worked for his tremors but the restless leg syndrome was getting worse. Another man's daughter, a massage therapist is always talking to him about nutrition.

Each person is looking for a drug-free, surgery-free way to manage their Parkinson's disease and other symptoms. Each wants to live life to its fullest.

A variety of CAM practitioners are looking at the symptoms of Parkinson's disease and have done studies on the benefits of physical therapy, occupational therapy, chiropractic, osteopathic manual therapy, Integrative Manual Therapy, Qigong, Alexander Technique and music therapy.

Last year, an osteopathic pilot study focused on the affect of Neuromuscular Therapy (NMT). They found NMT, a form of massage therapy can improve motor symptoms in PD. <sup>1</sup> (Svircev, 2005).

In a 2002 Journal of the American Osteopathic Association article, Rivera-Martinez found people with Parkinson's disease had a significantly higher frequency of bilateral occipitoatlantal and occipitomastoid [back of head and neck] compression. <sup>2</sup> (Rivera-Martinez, 2002).

The occipitoatlantal joint is the space between the base of the head and the first vertebrae at the top of the neck. This is the area which covers and protects the midbrain with the substantia nigra (most affected in PD) and the basal ganglia (responsible for the coordinating and fine tuning movements).

Three years earlier, Wells found "in the treated [osteopathic manual therapy and cranial therapy] group of patients with PD, statistically significant increases were observed

in stride length, cadence, and the maximum velocities of upper and lower extremities after treatment." <sup>3</sup> (Wells, 1999)

Chiropractic care has also shown benefit. In one study, chiropractors discussed a "60-year-old man diagnosed with Parkinson's disease at age 53 after a twitch developed in his left fifth finger. He later developed rigidity in his left leg, body tremor, slurring of speech, and memory loss, among other findings." The study concluded, upper cervical chiropractic care had a successful outcome for a patient with PD. <sup>4</sup> (Elster, 2000).

**People with Parkinson's Disease have benefitted from Osteopathic Manual Therapy, CranioSacral Therapy, Chiropractic care, Physical Therapy, Occupational Therapy, Integrative Manual Therapy, Qigong, Acupuncture, Acupressure, Alexander Technique, Music Therapy and...more CAM**

Physical therapy and occupational therapy studies show positive results, especially improvements in function. Formisano, et al. noted results showing "an improvement in the functional performance of patients and suggest the usefulness of physical therapy associated with drug therapy in a comprehensive treatment for PD." <sup>5</sup> (Formisano, 1992)

A Cochrane study reported on two trials with a small positive effect from occupational therapy" <sup>6</sup> (Deane, 2002)

In an investigation of the affect of regular Qigong exercise on

Parkinson's symptoms, researchers noted "Qigong is an exercise therapy based on the principles of Traditional Chinese Medicine. The exercises combine the practice of motion and rest, both guided by mental imagery. The movements or postures are thought to promote an "energy flow" along meridians, that are not related to anatomic structures." They reported a beneficial affect of Qigong for gait imbalances and joint problems. The Qigong exercises used in their study "can be classified as active physiotherapy using low-energy exercises with sustained movements of limbs, trunk, face and tongue as well as breathing coordination and can be adapted to special needs." <sup>7</sup> (Schmitz-Hübsch, 2006)

A study on the effects of Integrative Manual Therapy (IMT) on Parkinson's disease symptoms found substantial functional improvements with 60 hours of treatment. A 62 year old man diagnosed four years earlier with PD made improvements in virtually all assessed categories. Notable gains include a 48.6% improvement in total United Parkinson's Disease Rating Scores. His neurologist noted an improvement from 70% to 80% of normal function. The Up & Go Test and 10 Meter Walk showed improvements in walking speed and stride length. <sup>8</sup> (Burnham, 2006).

Lung capacity readings (a spirometer measurement) improved from 2800 cc to 3300 cc. The 62 year old man went from having an average respiratory capacity for a 70 year old man to that of a 50 year old man. Back and hip pain also improved. <sup>8</sup> (Burnham, 2006).

All of these changes are significant given the medical systems expected 3.1% annual increase in symptoms. <sup>9</sup>

(Alves, 2005)

In a systematic review researchers found four clinical trials of Alexander technique (AT), a process of psychophysical re-education, which met their inclusion/exclusion criteria. The studies results are promising and imply that AT is effective in reducing the disability of patients suffering from PD and in improving pain behavior and disability in patients with back pain.<sup>10</sup> (Ernst, 2003).

One of the randomized controlled clinical trials looked at 93 people with PD and compared Alexander technique to massage therapy and no additional intervention. Both the Alexander Technique group and the massage therapy group improved compared with the control group. "The Alexander Technique group was also comparatively less depressed post-intervention on the Beck Depression Inventory, and at six-month follow-up had improved on the Attitudes to Self Scale."<sup>11</sup> (Stallibrass, 2002).

**"The use of Complementary Therapy is high among Asian PD patients. Patients with more severe motor dysfunction at onset are more likely to use CAM." Tan, LC, PN Lau, et al. (2006). "Use of complementary therapies in patients with Parkinson's disease in Singapore." *Mov Disord* 21(1): 86-9.**

### **Parkinson's Disease and Reflex Point Based Therapies**

Reflexes are part of the nervous system response to our environment. We respond, often without getting higher brain centers involved.

These reflex systems don't always

function properly in people with Parkinson's disease. Reflex point based therapies can help balance the system.

Reflex point based therapies include acupuncture, acupressure, shiatsu, Integrative Manual Therapy, reflexology, Process Acupressure, Trager and Osteopathic Therapy.

Reflex actions in the body include the tendon reflex and stretch reflex, which influence muscle tension. There are also tonic vibration reflexes, which are stimulated by vibration.

Reflexes which come from cranial nerves include, the pupillary reflex, accommodation reflex, blink reflex, and gag reflex.

The cranial nerves originate in the brainstem. This is near the areas often most affected by PD, the substantia nigra and basal ganglia,

One study found the blink rate, for example, is significantly increased in people with spasmodic torticollis [one sided neck spasm] and dystonia [neck spasm] and it is decreased in people with PD.<sup>1</sup> (Deuschl, 1998). Other studies have found the blink rate is increased in both Parkinson's and dystonia. One thing is certain, there is an imbalance in the reflex activity in people with neurodegenerative disorders.

There are a number of Complementary and Alternative Medicine (CAM) approaches, such as acupuncture and reflexology, which use reflex points to improve overall health.

There are acupuncture points used to focus on brain function as well as improve function and the reflexes in the muscles, tendon and joints.

One study using specific electro-scalp acupuncture at Dingnie Qianxiexian (MS 6), Epangxian III (MS 4), Dingpangxian I (MS 8),

Dingpangxian II (MS 9) and Zhenxia Pangxian (MS 14). Researchers found, "electro-scalp acupuncture can decrease the loss of dopamine transporter activities and improve the activities of dopamine transporter in the striatum of the patient of PD."<sup>2</sup> (Jiang, 2006).

### **Skin Nerve Sympathetic Delay in Parkinson's**

"This data suggests that the reflex pathway of skin nerve sympathetic activity (SSA) reflex is disturbed in patients with PD and that the increased reflex latency is caused by a central/preganglionic delay." Ishida, G., K. Nakashima, et al. (1990). "Skin nerve sympathetic activity reflex latency in Parkinson's disease." *Acta Neurol Scand* 81(2): 121-4.

Another study looked at Trager therapy, a gentle rocking motion, for PD. "Results from the present study strongly suggest that it is possible to modify the level of evoked stretch responses (ESR) by using Trager therapy. This stretch reflex inhibition may induce a reduction of the muscle rigidity seen in these patients."<sup>3</sup> (Duval, 2002).

According to The Chartered Society of Physiotherapy: in England, reflex therapy is beneficial for arthritic conditions (osteoarthritis, osteoporosis, rheumatoid arthritis and spondylitis), immune deficiency disorders (chronic fatigue syndrome), mental health (depression and SAD), migraine and headaches, muscle and joint disorders, neurological conditions (cerebral palsy, PD and stroke), children, sports injuries and stress-related conditions.<sup>4</sup> (www.csp.org.uk).

Two studies from China also

indicate that reflex therapy is beneficial for PD.<sup>5</sup> (from [www.reflexologyresearch.net](http://www.reflexologyresearch.net). (Wu, 1993) and (Zhou, 1998).

From the Archives of Family Medicine comes an article on the benefits of Osteopathic Manual Therapy including the use of Chapman's Reflexes, which are specific reflex points located on the front and back of the body that when stimulated induce lymphatic drainage of various lymphatic vessel beds.

These point are thought to enhance the function of the immune system.<sup>6</sup> (Lesho, 1999).

Synchronizers or spinal level reflex points from the field of Integrative Manual Therapy can also improve function in people with Parkinson's disease. There are synchronizers that are thought to influence the substantia nigra, dopamine production, the basal ganglia, as well as muscles, tendon reflexes, joint function and balance.<sup>7</sup> (Giammatteo, 1997) and <sup>8</sup> (Wheeler, 2004).

### **The Effect of IMT on the Symptoms of Parkinson's Disease**

PhD research by Kimberly Burnham, Aug 2006. For a 15 page summary or completed 500+ page copy of the research please email [info@TheBurnhamReview.com](mailto:info@TheBurnhamReview.com)

Sixty hours of treatment with Integrative Manual Therapy (IMT) will considerably decrease signs and symptoms in people with Parkinson's disease (PD), including a decrease in tremors, an alleviation of pain, a speeding up of gait and improvements in respiration, facial expression, speech and mood.

**OBJECTIVE:** To show that IMT will improve the symptoms and function in people with PD. The purpose of this study is to contribute to the understanding of the effects of

manual therapy on neurological conditions. This dissertation specifically examines the effect of IMT in PD.

Single-Subject Research Design Case Study. The neurologist's evaluations were a month apart while the physical therapy assessments took place on the day before and the day after the two week treatment protocol. The participant also completed 6 questionnaires.

In this case study 60 hours of IMT took place over a two week period (five hours each day on 12 days). Nutritional and self-care recommendations were made after the post testing.

The 62 year old man diagnosed four years ago with PD made improvements in virtually all assessed categories. Notable gains include a 48.6% improvement in total UPDRS scores. Schwab and England scores changed from 70% to 80% of normal function. The Up & Go Test and 10 Meter Walk showed improvements in walking speed and stride length. Lung capacity readings (a spirometer measurement) improved from 2800 cc to 3300 cc. The PDQ-39 questionnaire showed a 67% improvement in symptoms. The Medical Symptoms Questionnaire (MSQ) score improved 51.3%. The McGill Pain Questionnaire showed a 73.3% decrease in pain, primarily back and hip pain.

The results show important changes in function, pain, and general well-being. This is significant given the expected 3.1% annual increase in the UPDRS motor scores and a 3.2% decline in Hoehn and Yahr staging levels. This case study did not have a blinded control but results were compared to predictors of outcome in the medical literature. Even without a control,

these findings are substantial enough to suggest further research into how IMT can be incorporated into treatment plans.

This is the first evidence-based study on the effects of Integrative Manual Therapy in Parkinson's disease. The improvements should serve as a stimulus to therapists to use IMT as a way to improve the client's quality of life. IMT is not a common component of rehabilitation programs, but is one that deserves more attention.

### **Music Therapy in Immune Function**

"The effects of music therapy on natural killer (NK) cell count and activity (NKCA) were studied in 19 persons. **Alzheimer's disease, cerebrovessel disease and Parkinson's disease....**The results indicate that music therapy can significantly increase NK cell count and activity." *Hasegawa, Y., N. Kubota, et al. (2001). "[Music therapy induced alternations in natural killer cell count and function]." Nippon Ronen Igakkai Zasshi 38(2): 201-4.*

### **Social Support**

Cheng, Liu, et al. in Parkinsonism Related Disorders investigated the association between social support and depression in Parkinson's disease (PD) in 121 PD patients.

They found, "social support plays an important role in depression in PD".<sup>9</sup> (Cheng, Liu, et al. (2007).

**For more information and references see**  
**[www.TheBurnhamReview.com](http://www.TheBurnhamReview.com)**  
**24 e-Newsletters per year \$100**

## Parkinson's Disease and Complementary Medicine References

### Parkinson's Disease and Manual Therapy

1. Ebadi, M., P. Govitrapong, et al. (2001). "Ubiquinone (coenzyme q10) and mitochondria in oxidative stress of parkinson's disease." *Biol Signals Recept* 10(3-4): 224-53.
2. Red Herring Magazine No 105, October 2001, pg. 56
3. Southwest Airlines Spirit Magazine, March 2002 pg 62-63

### Parkinson's Disease Options from the Field of Manual Therapy and CAM

1. Svircev, A., L. H. Craig, et al. (2005). "A pilot study examining the effects of neuromuscular therapy on patients with Parkinson's disease." *J Am Osteopath Assoc* 105(1): 26. from [www.jaoa.org/cgi/content/full/105/1/26](http://www.jaoa.org/cgi/content/full/105/1/26)
2. Rivera-Martinez, S., M. R. Wells, et al. (2002). "A retrospective study of cranial strain patterns in patients with idiopathic Parkinson's disease." *J Am Osteopath Assoc* 102(8): 417-22. from [www.jaoa.org/cgi/content/abstract/102/8/417](http://www.jaoa.org/cgi/content/abstract/102/8/417)
3. Wells, M. R., S. Giantinoto, et al. (1999). "Standard osteopathic manipulative treatment acutely improves gait performance in patients with Parkinson's disease." *J Am Osteopath Assoc* 99(2): 92-8. from [www.jaoa.org/cgi/content/abstract/99/2/92](http://www.jaoa.org/cgi/content/abstract/99/2/92)
4. Elster, E. L. (2000). "Upper cervical chiropractic management of a patient with Parkinson's disease: a case report." *J Manip Physiol Ther* 23(8): 573-7. from [www.erinelster.com/Articles/parkinsons\\_article%20\\_10\\_00.html](http://www.erinelster.com/Articles/parkinsons_article%20_10_00.html)
5. Formisano, R., L. Pratesi, et al. (1992). "Rehabilitation and Parkinson's disease." *Scand J Rehabil Med* 24(3): 157-60. from [www.ncpad.org/refs/journals/index.php?id=17756&letter=&PHPSESSID=6e13270f514edc465441bc446779d016](http://www.ncpad.org/refs/journals/index.php?id=17756&letter=&PHPSESSID=6e13270f514edc465441bc446779d016)
6. Deane, K. H., C. Ellis-Hill, et al. (2002). "Systematic review of paramedical therapies for PD." *Mov Disord* 17(5): 984-91. from [www3.interscience.wiley.com/cgi-bin/abstract/93513264/ABSTRACT?CRETRY=1&SRETRY=0](http://www3.interscience.wiley.com/cgi-bin/abstract/93513264/ABSTRACT?CRETRY=1&SRETRY=0)
7. Schmitz-Hübsch, T., D. Pyfer, et al. (2006). "Qigong exercise for the symptoms of PD: a randomized, controlled pilot study." *Mov Dis* 21(4):543. from [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)
8. Burnham, K. (2006). The effect of Integrative Manual Therapy on the symptoms of Parkinson's disease, PhD Dissertation in Integrative Medicine (August 2006) Westbrook University. Abstract from [www.mytherapypractice.com/](http://www.mytherapypractice.com/)
9. Alves, G., T. Wentzel-Larsen, et al. (2005). "Progression of motor impairment and disability in Parkinson disease: a population-based study." *Neurology* 65(9): 1436-41. from [www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=16275832&dopt=Abstract](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=16275832&dopt=Abstract)
10. Ernst, E. and P. H. Canter (2003). "The Alexander technique: a systematic review of controlled clinical trials." *Forsch Komplementarmed Klass Naturheilkd* 10(6): 325-9. from [www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list\\_uids=14707481](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=14707481)
11. Stallibrass, C., P. Sissons, et al. (2002). "Randomized controlled trial of the Alexander technique for idiopathic PD." *Clin Rehabil* 16(7): 695-708. from [www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids)

### Parkinson's Disease and Reflex Point Based Therapies

1. Deuschl, G. and C. Goddemeier (1998). "Spontaneous and reflex activity of facial muscles in dystonia, Parkinson's disease, and in normal subjects." *J Neurol Neurosurg Psychiatry* 64(3): 320-4.
2. Jiang, X. M., Y. Huang, et al. (2006). "[Effect of electro-scalp acupuncture on cerebral dopamine transporter in the striatum area of the patient of Parkinson's disease by means of single photon emission computer tomography]." *Zhongguo Zhen Jiu* 26(6): 427-30.
3. Duval, C., D. Lafontaine, et al. (2002). "The effect of Trager therapy on the level of evoked stretch responses in patients with Parkinson's disease and rigidity." *J Manipulative Physiol Ther* 25(7): 455-64.
4. Jones, C. and C. Herbert (2007). Reflex Therapy, The Chartered Society of Physiotherapy: <http://www.csp.org.uk/director/physiotherapyexplained/complementaryhealth/reflextherapy.cfm>.
5. Parkinsonism Treated by Foot Reflex Zone Massage. 1993 China Reflexology Symposium Report, Beijing, China Reflexology Association, page 10. Wu, D. and The Treatment of Parkinsonism with Foot Reflexotherapy Combined with Limb Movement. 1998 China Reflexology Symposium Report, Beijing: China Reflexology Association, pages 20-23. Zhou, X. and Zhou, G. [www.reflexologyresearch.net](http://www.reflexologyresearch.net)
6. Lesho, E. P. (1999). "An overview of osteopathic medicine." *Arch Fam Med* 8(6): 477-84.
7. Giammatteo, T. and S. Weiselfish-Giammatteo (1997). Integrative manual therapy for the autonomic nervous system and related disorders: utilizing advanced strain and counterstrain technique. Berkeley, Calif., North

Atlantic Books.

8. Wheeler, L. (2004). "Advanced Strain Counterstrain." *Massage Therapy Journal* 43 Winter(4): from [www.amtamassage.org/journal/winter05\\_journal/mtjWinter05.html](http://www.amtamassage.org/journal/winter05_journal/mtjWinter05.html).

9. Cheng, Y., C. Liu, et al. (2007). "Social support plays a role in depression in Parkinson's disease: A cross-section study in a Chinese cohort." *Parkinsonism Relat Disord*.