

# Plymouth Physical Therapy Specialists

## 9 Convenient Locations

Hours: 6:00 am–7:00 pm M–F • Sat am

### Plymouth Canton Center

9368 Lilley Road • Plymouth, MI 48170  
T (734) 416-3900 • F (734) 416-3903

### Canton West Center (Now Open!)

49650 Cherry Hill Rd, Ste 230 • Canton, MI 48187  
T: (734) 495-3725 • F: (734) 495-3734

### Commerce Center

8896 Commerce Rd. Suite 1  
Commerce Township, MI 48382  
T: (248) 363-2115 • F: (248) 363-2308

### Livonia Center

37250 Five Mile Road • Livonia, MI 48154  
T (734) 462-3240 • F (734) 462-3831

### Livonia East Center

29528 Six Mile Road, Livonia, MI 48152  
T: (734) 422-0802 • F: (734) 422-0873

### Northville Center

133 W. Main St., #120, Northville, MI 48167  
T: (248) 347-1168 • F: (248) 347-1252

### Novi Center

39885 Grand River, #300 • Novi, MI 48375  
T (248) 615-0282 • F (248) 615-0415

### Wixom Walled Lake Center

29822 Wixom Road • Wixom, MI 48393  
T (248) 926-5826 • F (248) 926-5830

### White Lake Waterford Center

9145 Highland Road • White Lake, MI 48386  
T (248) 698-1277 • F (248) 698-2089



# Plymouth Physical Therapy Specialists News



December 2009

## Fall Back and Spring Forward

Falls are one of the leading mechanisms of injury among older adults. In fact, one in three adults age 65 and older will experience a fall each year.<sup>(1,2)</sup> Falls account for the majority of fractures for this population and contribute to more serious injury including spinal cord injury, brain injury, and death. Falls are typically a result of multiple risk factors and environmental situations, many of which can be corrected or avoided. It has been estimated that the cost of fall injuries by the year 2020 will be \$32.4 billion.<sup>(3)</sup> Fall risk assessment, balance training, and community awareness for those found to be at risk for falls is imperative for those of us who work with this population.

### RISK FACTORS FOR FALLS ARE QUITE DIVERSE.

*External and environmental factors may include:*

- poor lighting
- scattered rugs
- slippery surfaces
- mental changes
- circulatory problems
- postural hypotension.

*Strength factors contributing*

*to balance are:*

- knee and ankle strength
- postural stability
- dynamic stability

A loss of power and speed in the lower extremities increases an individual's risk for falling. Changes in gait are also an important risk factor. Decreased step length, cadence, arm swing, and trunk rotation are a few of the gait deviations seen in at risk individuals. A loss of balance is a relative inability to re-establish equilibrium when challenged.

Identifying high risk patients is an important obligation for health care providers. The first step is to ask the patient if they have fallen or had any episodes of loss of balance. From there the health care provider can investigate and determine a root cause for the balance disturbance. Physical

therapists are trained to assess strength, balance, and gait. A thorough examination will shed some light on those factors that can be treated and hopefully reversed. At Plymouth Physical Therapy Specialists we use a balance system by **Biodex** as part of our assessment. This

enables the therapist to assess neuromuscular control by quantifying static and dynamic stability. The patient stands on a platform that has the ability to be stable and unstable. Information about the patient's ability to hold their balance on the



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

## Fall Back and Spring Forward

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platform is recorded. This can be used as a screening tool and a baseline from which to compare future interventions.

Re-training an individual's balance requires a multi-system approach. A general lower extremity and core strengthening program is progressed and includes both supervised and home exercises. Neuromuscular re-education is a layered challenge to the central nervous system and its interaction with stabilizing muscles. Tasks are progressed from simple to complex and involve multiple surfaces and environmental conditions. The **Biodex Balance System** can be used for treatment as well by manipulating the platform and the tasks performed while balancing on the platform.



With the population in the United States getting older the need for intervention to prevent and reduce falls should be a priority. Older adults should be aware of their fall risk and what problems can occur as a result of a fall. If you have any patients who are at risk don't wait to send them to Plymouth Physical Therapy Specialists for a fall risk screening and conditioning program.

### References

1. Tinetti ME, Speechley M, Ginter SF. Risk factors for falls among elderly persons living in the community. *New England Journal of Medicine* 1988;319(26):1701-7.
2. Sattin RW. Falls among older persons: A public health perspective. *Annual Review of Public Health* 1992;13:489-508.
3. Englander F, Hodson TJ, Terregrossa RA. Economic dimensions of slip and fall injuries. *Journal of Forensic Science* 1996;41(5):733-46.

## Runner's Corner

**On the 1st Wednesday of every month at Plymouth PT Specialists - Plymouth Canton Center, the 2nd Wednesday of every month at Running Fit - Novi Center and on the last Wednesday of every month on New Balance - Farmington Hills Center.** You can receive a comprehensive biomechanical evaluation to determine if you may benefit from an orthotic device. Many orthopedic problems can be the result of biomechanical problems: plantar fasciitis/ heel spurs, neuroma, bunions, patellofemoral syndrome, low back pain, ACL tear and more.

In addition to an evaluation and an appropriate orthotic device, we can instruct you in the proper exercises for you as well. Orthotic devices are useful and necessary to address the biomechanical aspect of the problem. They, however, are not the answer for the whole problem. Having a good understanding of how the biomechanical problems affect joint function and soft tissue function around the joint is critical.



## Lymphatic System and Lymphedema

The lymphatic system consists of a complex capillary network which collects the lymph in various organs and tissues; lymph is filtered at nodes to replace the fluid back into the blood circulation and protect the body. **Lymph nodes function:**

1. To protect the body from harmful materials such as cancer cells and pathogens
2. To aid immunity by producing antigen-stimulated antibodies to attack foreign bodies
3. To thicken lymph to return more water to the blood circulation.

Lymphedema is the swelling of a body part, most often the extremities. It may also occur in the face, trunk, abdomen, and genital area. It is the result of an accumulation of a protein-rich fluid in the superficial tissues and can have significant pathological, clinical, and psychological consequences for the patient if left untreated. Diuretics may temporarily help; however, because the swelling is protein-rich, diuretics simply void the water portion and leave the protein in the tissue. Protein is hydrophilic and pulls more water out of the blood system and continues the swelling progression. Once present, this chronic and progressive condition will not disappear and cannot be cured only managed.

Lymphedema is classified as either primary or secondary. Primary lymphedema is caused by a congenital malformation of the lymphatic system. Secondary lymphedema is more common and often the result of surgery, radiation therapy for cancer, surgical procedures in combination with lymph node removal, trauma, infections, prolonged obesity, and severe venous insufficiencies. Primary mostly presents in the lower extremities and secondary is more prominent in the upper extremity.

Early stages of Lymphedema may be temporarily reduced by simple elevation of the limb. However, without proper treatment, the protein-rich swelling causes a progressive hardening of affected tissues with fibrosis and patients often have complications such as fungal infections needing antibiotic treatments. Later stages require treatment called complete decongestive therapy (CDT).

### CDT consists of 4 steps including:

1. manual lymphatic drainage (MLD)
2. compression therapy
3. exercises and patient education
4. skin care.

Compression uses short stretch bandages to decompress the limb to a stable stage. These bandages are worn all day and night. After plateau is reached in the limb circumference size, the patient is then measured for a compression garment they wear on a daily basis, all day. Treatment length depends on the severity of the disease process and patient compliance. Average length of treatment is 3-6 weeks with 3-5 sessions a week.

It is important to note that not everyone who undergoes surgery, radiation, etc. will develop lymphedema. However, those patients run a much higher risk of developing lymphedema. For this reason, these patients need to be educated on proper self-care, activities to avoid, compression, elevation, and lymphedema in general. **For questions and/or treatment, please contact Deanna Welch, MPT, CLT at 734-462-3710.**

