



## OVERUSE HAND AND WRIST INJURIES IN CYCLISTS

by David Westerdahl, M.D.

South Florida has a wonderful mix of recreational athletes of all ages who enjoy staying active. A very popular form of exercise is cycling due to our warm, sunny weather year round. Also, it offers a low impact form of exercise that causes less stress on aging joints. Whether you enjoy road racing, triathlons, mountain biking, or simply beach cruising, cycling provides an opportunity to get out and socialize while enjoying Florida's natural scenery.

It is easy to think about cycling injuries being associated with the lower extremities as they are actively doing the work of pedaling, but cyclists' upper extremities actually have a higher rate of injury. Common

causes of hand and wrist pain in cyclists include ulnar neuropathy, median neuropathy, DeQuervain tenosynovitis, and extensor carpi ulnaris tendonitis. These upper extremity injuries are related to the weight distribution over the front of the bike. Injuries to the hand and wrist can be caused by handlebars, bar ends, grips, stem height relative to the saddle, shifter type, and front suspension.

In a recent study published in American Journal of Sports Medicine in 2003, 70% of bike riders who took part in a four-day 600km ride experienced motor or sensory symptoms in their hands. The study group included cyclists of various skill levels

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*(About the Contributor)*

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**David Westerdahl, M.D.** joined **Cleveland Clinic Florida** in October 2004.

Dr. Westerdahl works in the Department of Orthopedics where he specializes in sports medicine including non-surgical orthopedics, sports injuries, exercise related medical disorders, as well as neck and back pain.

He serves as Director of Sports Medicine at Florida Atlantic University as part of the FAU partnership with the Cleveland Clinic.

He received his undergraduate degree from Washington State University in 1996, and earned his doctorate from Loma Linda University in 2000.

Dr. Westerdahl completed his fellowship with the Cleveland Clinic Foundation and his family practice residency with the Florida Hospital in Orlando, FL.

He holds medical licensure in Florida, Oregon, and Ohio and belongs to the following Professional Societies: American Medical Society of Sports Medicine, American College of Sports Medicine, American Association of Family Practice, and the Florida Academy Family Practice.

# GET A HANDLE ON OUR CASE AT HAND HANDLEBAR PALSY

*Chris W. Smethie, OTR/L, CHT and Dawn M. Stackewicz, MS, OTR/L*

Common cycling injuries generally fall into two categories: acute trauma and overuse injuries. Acute trauma of the upper extremity may consist of fractures, dislocation, strains, contusions, abrasions and lacerations. Overuse injuries can involve the median nerve but more frequently involve the ulnar nerve. If the ulnar nerve is involved, this condition is referred to as “handlebar palsy”. Irritation of the ulnar nerve may occur either at the elbow or the wrist. Since cycling has become more popular recently, the incidence of handlebar palsy is on the rise.

An avid cyclist may be able to determine if he or she has handlebar palsy by recognizing some common symptoms. Cyclists may experience the following symptoms throughout their upper extremities while riding and even after their outdoor excursion has ended. First, abnormal sensation will occur in the forearm traveling all the way distal to the small finger. What starts as tingling or the sensation of “pins and needles” may eventually progress to numbness if the exacerbating factors are not corrected or modified. Pain is a second symptom of handlebar palsy, generally starting in the middle and ulnar side of the forearm and extending to the cyclist’s hands. If the above two symptoms are ignored for a long period of time then weakness, decreased strength and muscle atrophy can develop in the hands.

So what can be done? Once you have handlebar palsy the best treatment is to stop cycling. Generally, in about four to six weeks, the symptoms should lessen. But as we all know prevention is the key. Cross training can be a good way to utilize other body



parts including muscles, nerves and joints. A couple of alternatives might include swimming and/or running. Additionally, when cycling, padded gloves and/or padding the handlebars will reduce the impact to the ulnar nerve. One’s riding position can be evaluated to determine weight distribution and upper extremity pressure on the handlebars. Exercises for both the wrist flexors and extensors will improve strength. A simple home exercise program can be created for the cyclist by a certified hand therapist.

Most importantly, education about recreation or sport cycling will make a huge difference. Many resources are available. Some popular links on enhancing a cyclist’s safety education, as well as ways to minimize injury, can be found at the following web sites:

[www.bikeleague.org](http://www.bikeleague.org)  
[www.floridabicycle.org](http://www.floridabicycle.org)  
[www.nhtsa.gov](http://www.nhtsa.gov)

# OUT OF HAND STAFF NOTES

## HANDY TIP

*Chris W. Smethie*

*Assistant Clinical Director, OTR/L, CHT*

LOWERING BLOOD PRESSURE

WITH INCREASED HAND

STRENGTH - Did you know that

you can lower your blood pressure by

performing handgrip exercises?

*A study published in the European Journal of Applied Physiology determined that systolic blood pressure decreased by 15 points and diastolic blood pressure by 5 points. Just by squeezing a soft ball or putty 2 minutes 4 times each day one can reduce their blood pressure.*

## HANDLE WITH CARE - ADVOCACY/MANAGED CARE

*Lesley R. Sankin, Communications Director*

■ Therapy Cap Exception Process Extended Through 2007-The Tax Relief and Healthcare Act of 2006 (H.R. 6111) extends the therapy cap exception process through 2007. Under the exception, patients will still be able to apply for additional physical, occupational, and speech-language therapy even if they have exceeded the annual cap on these services.

■ CMS has established new accreditation requirements for suppliers and providers of DMEPOS (durable medical equipment, prosthetics, orthotics, and supplies). CMS has recognized 10 accreditation organizations to accredit DMEPOS suppliers

(www.cms.org). The NBAOS (National Board of Accreditation for Orthotic Suppliers) was incorporated in September 2006 and is now available to serve as an accrediting body for all suppliers of orthotics (www.nbaos.org).

■ Fort Lauderdale Hand Clinic is proud to announce we are now network participating providers with HUMANA MILITARY HEALTHCARE SERVICES/TRICARE which services active duty service members, retirees and their family members and represents more than 2.8 million eligible beneficiaries who reside in the 10 southern region TRICARE states.

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Therapists at the Fort Lauderdale Hand Clinic are certified by the Hand Therapy Certification Commission (HTCC).

*Established in 1981, by Robin E. Miller, OTR/L, CHT, the Fort Lauderdale Hand Clinic specializes in upper extremity splinting and rehabilitation.*

## CYCLISTS

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and both those riding road bikes and mountain bikes. An extremely high incidence of ulnar nerve compression compared to median nerve compression was noted. It appeared that the ulnar nerve compression (cyclist palsy) was due to localized pressure over and distal to Guyon's canal. The median nerve appeared less susceptible to external compression due to the transverse carpal ligament. Sensory or motor deficits, or both, occurred in a high number of hands tested. The study found that motor deficits were common among the riders tested. The motor deficits arose from compression of the deep motor branch of the ulnar nerve. Additionally, there was no statistically significant difference seen between riders of various levels of experience or between mountain bike riders versus road bike riders.



While the motor and sensory changes are usually temporary, they can be worrisome for cyclists, decrease the enjoyment of their sport, and lead them to seek treatment by a hand specialist. In order to get them back on the bike and enjoying sunny South Florida, it is important to discuss proper grip size to comfort, frequent changes in hand position, and padded gloves. Also, have these patients experiment with handlebars, and decrease suspension preload and tire pressure. ■

## FORT LAUDERDALE HAND CLINIC HANDPICKS!



*Dawn Stackewicz, MS, OTR/L.*

■ We are pleased to welcome our new therapist, **Dawn M. Stackewicz**, who will be working full time in our Fort Lauderdale clinic. Dawn recently moved to Florida from her home in New Jersey.



*Lesley R. Sankin*

■ We would also like to welcome our new Communications Director, **Lesley R. Sankin**, who will be concentrating her efforts on developing our hand therapy programs between our clinics and our patients, our referral sources, and the community at large. She looks forward to meeting each and every one of you in person in the near future!

## • • • • ANNOUNCEMENTS • • • •

### AMERICAN SOCIETY OF HAND THERAPISTS (ASHT)

Phoenix, Arizona • October 4 - 7, 2007

The ASHT is holding its **30<sup>th</sup> Annual Meeting "Leading the Way in Hand Therapy Education for 30 Years"** at the Hyatt Regency in Phoenix, Arizona on October 4-7, 2007.

### AMERICAN SOCIETY FOR SURGERY OF THE HAND (ASSH)

Seattle, Washington • September 27 - 29, 2007

The ASSH will be holding its **62<sup>nd</sup> ASSH Annual Meeting** at the Washington State Convention & Trade Center in Seattle, Washington on September 27-29, 2007.

### SOUTH FLORIDA HAND STUDY GROUP

Fort Lauderdale, Florida

The **South Florida Hand Study Group** meets quarterly at the **Fort Lauderdale Hand Clinic**. This is an opportunity to network and review scientific journal topics relevant to our daily work. All those physicians, therapists and other health professionals interested in participating may email [lesleysankin@handclinic.com](mailto:lesleysankin@handclinic.com).

### FLORIDA HAND SOCIETY

Orlando, Florida • May 2 - 3, 2008

The next annual meeting of the **Florida Hand Society** will be held in Orlando on May 2-3, 2008 at the **Marriott Orlando Airport Hotel**. On Friday, May 2, 2008, the meeting will begin with a light buffet lunch at noon, followed immediately with a series of educational presentations. All those interested in presenting may contact **Cecil Aird, MD** at [caird@aol.com](mailto:caird@aol.com). Friday's events will conclude around 5 p.m. followed by cocktails and a gala dinner social event with a lively Latin band provided by our President, **David E. Halpern, MD**. The meeting resumes early Saturday morning with a buffet breakfast and continued educational presentations. It will conclude around noon with a brief business meeting to discuss plans for the following year. Anyone wishing to present or attend may contact either Dr. Aird for presentations, or the FHS administrative office for membership/attendance information. Remember to "Save the Date" for this educational and fun meeting – the 2007 meeting was a huge success in terms of physician and therapist attendance, quality of presentations, and widespread testimonials of a "great time had by all" thanks to the Caribbean Crew's live music donated by Dr. Aird and to the uniquely personal "Island Dancing With Dr. Aird" fun demonstrations!

### AMERICAN OCCUPATIONAL THERAPY ASSOCIATION, INC.

St. Louis, Missouri • April 20 - 23, 2007

The **American Occupation Therapy Association, Inc. (AOTA)** held its **87<sup>th</sup> Annual Conference & Expo** in St. Louis, MO on April 20-23, 2007. This year's keynote speaker was senior **TIME correspondent Michael Weisskopf**, who lost his arm during a roadside bombing while covering the war in Iraq.

## • • • • IN RECOGNITION • • • •

**April was named Occupational Therapy Month by the United States Veterans' Affairs Health Subcommittee**, to acknowledge the contributions of occupational therapists and occupational therapy assistants to not only our veterans across the country, but also our brave service men and women serving in Iraq and Afghanistan and their families.

**Hand Therapy Awareness & Injury Prevention Week, June 11-15, 2007**, is an integrated national program sponsored by the American Society of Hand Therapists demonstrating the advantages of preventative as well as treatment procedures for patients who may have been affected by an accident or trauma. The Fort Lauderdale Hand Clinic sponsored an "Open House" in our main clinic with cookies and iced tea, "I Love My Hand Therapist" stickers, "Protect Your Hands" flyers, posters and balloons. We also had a table in the lobby of the Cleveland Clinic Florida (we have a clinic inside their facility) and handed out lots of brochures and flyers and answered many questions about hand therapy from visitors to the Cleveland Clinic Florida and from the CCF staff and physicians. It was a great opportunity to promote our profession within our own community and it was also truly inspiring to be so well received.

### **INSIDE** *Hands-On*<sup>®</sup> **AUGUST 2007**

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**CASE AT HAND - "HANDLE BAR PALSY"**  
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**STAFF NOTES**

**ANNOUNCEMENTS**



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