



Press Release 2

FOR IMMEDIATE RELEASE

Carpal Glove Orthosis Helps Industry

Solving an Age Old Problem

May 6, 2005

The prevention and treatment of Repetitive Motion Syndrome injuries has long been on the minds of industry in America. The most prominent of these conditions is Carpal Tunnel Syndrome (CTS). Each year, over 900,000 Americans are diagnosed with CTS, prompting 260-400,000 Carpal Tunnel surgeries. Each diagnosed employee cost employers and insurance companies an estimated average of \$29,000 per hand. TherAid Manufacturing, Inc., and founder Roger Williams dedicated more than a decade of research and development to combat CTS. The Carpal Glove, in its two current versions, are the first Co-Dynamic Orthotics and the result of a tireless dedication to help others.

The Carpal Glove Orthosis (CGO) has been the dream of inventor and Occupational Therapist Roger Williams since the early 1990's. This device is the culmination of years of Mr. Williams' research into the root causes of Carpal Tunnel Syndrome (CTS), and development of effective treatments to mitigate the symptoms of the disorder.

This research led Mr. Williams to devise the "Theory of Environmental Deformity (TED). TED asserts that CTS is a misalignment of the wrist due to imbalances in the relative strengths of the wrist muscle groups. This imbalance creates a mechanical disadvantage to the functions of the hand and wrist.

In 1992, with the assistance of a Cooperative Research and Development Agreement with the United States Air Force, the first dedicated CTS assessment device was developed. This first CTS diagnostic device provided valuable insight into the root causes of CTS and helped direct the development of hundreds of treatment device prototypes to follow over the next several years. Although this test fixture provided much needed information on the function of CTS, it was very limited in its' function, accuracy, and repeatability.

In 1999, Theraid Manufacturing Inc. (TMI) upgraded the original test fixture to be a completely automated test utilizing high-precision sensors and drivers. This new fixture provided highly repeatable testing and automatic data processing with storage as well as many levels of redundant safety systems and the ability to self-calibrate. This instrument was named the "Diagnostic Instrument for the Detection and Analysis of Carpal Tunnel Syndrome" (DIDACTS). The root causes of Carpal Tunnel Syndrome and the treatment methods to resolve symptoms were formulated utilizing the patented methods and prototypes that DIDACTS was designed to evaluate.

Continued extensive research and development combined with the DIDACTS test data led to the development of the "Carpal Glide". The Carpal Glide was the first off-the-shelf Co-Dynamic Orthotic. It was invented in 1999 and proved to be useful in treating the symptoms of CTS. This benefit was documented with DIDACTS test data analysis and corroborated with patient-reported resolution of symptoms. These results were presented to the American Society for Peripheral Nerve at their annual conferences in 2002, 2003, and 2004.

Although the Carpal Glide was effective in resolving the symptoms of CTS, it was also a bit cumbersome, difficult to fit, and required extensive training by Mr. Williams in order to assure its proper use by other health care professionals. Although the Carpal Glide could be very effective in resolving CTS symptoms, the benefits realized were very dependent on the patient's ability to properly apply and use the device. If the device was not precisely fit each time the patient put it on, the desired outcome would be diminished. Even though the Carpal Glide was very effective when used properly, Mr. Williams knew that this device was too complicated to be effectively utilized by the ever growing number of Carpal Tunnel sufferers.

The limitations of the Carpal Glide drove Mr. Williams to continually improve his designs and led to the release of the first "Carpal Glove Orthotic" (CGO) in 2003. The CGO was a highly optimized and simplified device specifically designed to provide effective symptom resolution and prevention with very minimal supervision from a health care professional. The CGO has been successful in clinical

and industrial environments, and has even benefited Theraid's own work force of seamstresses and machinists while manufacturing the device.

Two versions of the CGO have been developed to date. These devices are referred to as Co-Dynamic Orthotics - meaning that they work with the natural movement and function of the hand and arm and specifically restrict a little-known deleterious wrist behavior called Volar Translation. The CGO I was designed specifically for the health care professional and are available only through health care providers.

The CGO II version is the most popular for both health professionals and consumers. The CGO II's are fitted with ease and are so minuscule that many users have often said, "I didn't think something that small would do anything." Most all who have used the CGO II said that it was non-cumbersome, easily used in all activities of daily living and work requirements. Users have also reported that the CGO II promoted increased productivity and strength.

The effectiveness of the Carpal Glove versions brought the attention of many clients in local industry that were looking for a solution to their employees CTS symptoms. The Carpal Glove showed tremendous benefits in the work place immediately. With no loss of motion, employees were able to be fitted with the orthotic and immediately return to their normal duties.

First introduced to industry in the fall of 2004, the CGO-II has been met with widespread acceptance by both employers and employees alike. Its simple application and great benefits to the wearer have produced high compliance rates in trials with area manufacturing facilities.

A 7-week trial was established within the Aearo Manufacturing Company in Chickasha, Oklahoma to determine if the CGO II would positively impact workers productivity and create a favorable opinion of its use.

21 symptomatic and non-reportable (no claim filed) employees volunteered to take part in a functional trial. These volunteers were fitted with CGOs, given instructions for wearing the CGOs and returned to their respective manufacturing jobs.

At the end of 7 weeks, a questionnaire was given to ascertain the workers benefits and opinions of the Carpal Glove. Reported percentages reflect that 20 of the 21 volunteers completed the questionnaire with the following outcomes.

1. Do you feel that the CGO reduces fatigue in your hands while you perform your work? Yes? 95% No? 5%
2. Did your hands feel stronger (increased grip strength) when wearing the CGO? Yes? 95% No? 5%
3. Do you feel that wearing the CGO assisted you in doing your job? Yes? 95% No? 5%
4. Would you recommend the CGO to friends and family? Yes? 100% No? 0%
5. Do you feel like the CGO would be a benefit to your fellow employees who were not a part of this study? Yes? 100% No? 0%
6. Are you going to continue wearing your CGO? Yes? 95% No? 5%

At the end of the study, employees demonstrating CTS symptomology reported that they wore their CGO II an average of 88% of the time while working. Study participants who exhibited CTS symptoms when the study began, also reported an average of over 84% symptom resolution by wearing the CGO-II while performing their customary jobs. None of the study participants engaged in other treatment, nor were they referred outside of the facility for physical therapy. Each employee was given grip strength testing using a calibrated Jamar Hand Dynamometer at the beginning of the study and reassessed at the study's conclusion. Jamar testing showed that at the end of the study there was an average gain in grip strength of 20% while wearing the CGO-II.

Very high confidence was given by the participants who used the Carpal Glove Orthosis in the work place with 95% reporting reduced fatigue, feeling stronger and improved job performance. All participants would recommend and promote the use of the Carpal Glove Orthosis for family, friends and co-workers.

A very high employee satisfaction rate and enhanced work performance of those who used the CGO in a manufacturing plant indicate the potential for a decrease in reportable wrist or hand problems while increasing productivity. Many other studies are in the planning stages as TherAid upgrades its manufacturing capacity to handle current demand.

With the two current versions of the Carpal Glove, TherAid Manufacturing has a proven device to help American Industry combat the rising costs of workplace related health care. The CGO provides highly effective treatment of those who exhibit symptoms, and an invaluable tool for prevention in those not yet effected. Roger Williams and everyone at TherAid are appreciative of those who have helped make the Carpal Glove possible. TherAid Manufacturing, Inc. can be contacted through their web site <http://www.carpalglove.com> or by emailing info@carpalglove.com