

# News

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\*\*\*Developer of experimental braces and limbs works for improving the lives of handicapped persons.

DALLAS--While no football player is allowed on the field without a helmet, a women's fashion model wearing the same headgear would quickly find herself off the runway and on the sidelines. The Philadelphia fashion model who found herself in this situation was able to return to work because of Mel Stills, new director of orthotics and prosthetics at The University of Texas Health Science Center at Dallas.

Following brain surgery, the young woman's skull failed to close, literally leaving her with a hole in her head. She was forced to wear a football helmet to protect this highly vulnerable area.

Fortunately, she was sent to Stills who designed a small molded plastic head-piece, which conformed to the curve of her skull and covered the injured area. A wig can be fitted over the thin orthotic device, and the model is off the sidelines and back in the fashion game.

"Orthotics" refers to artificial supports for various parts of the body, such as braces for a victim of cerebral palsy or polio. It also may be used for a helmet-like head covering needed for someone whose illness causes recurrent falls, like epilepsy or certain kinds of strokes. "Prosthesis" is a word which describes a replacement for a part of the body, such as an arm or a leg.

Stills, who has been working with designing experimental orthotics and prostheses for 12 years, has recently set up a Dallas laboratory to begin work primarily for patients referred to orthopedic surgery. He is also involved with orthopedic patients at Scottish Rite Hospital and Caruth Rehabilitation Center. He comes to the health science center from the Research and Engineering Center, associated with Moss Rehabilitation Hospital and Temple University, both in Philadelphia. Stills set up the lab and supervised its work for almost seven years.

Usually when one thinks of an orthotic device, says the ruddy-faced craftsman, one thinks of the old-fashioned steel-and-leather braces often worn by crippled children. Today, however, experimental models of new lightweight plastics, which conform to the shape of the leg, give much more freedom to the person needing leg support. These often weigh as little as four ounces.



first add stills

Another type of orthotic device is an electrical stimulator, which is used for a "dropped foot," a neurological problem caused by a stroke. Muscular control over a foot, which then droops, is lost.

"The plastic devices are really wonderful for children," says Stills. "Now a child can wear tennis shoes like the other kids instead of unwieldy--and expensive--orthopedic shoes. Kids can even swim in them."

Also, adults can often be released from the tyranny of heavy, unsightly orthopedic shoes. With the plastic braces they can be free to enjoy not only greater mobility, but more stylish shoes, and even boots.

Plastics are also popular for making artificial legs. The prosthesis can be individually matched to the person's leg so that it is not obvious that an artificial limb is being worn. They are also a lot less tiring for the person to wear. The plastic prosthesis, he says, is about 60 percent lighter than the conventional, sometimes wooden, version. It also gives its owner a much wider range of mobility.

Stills will get his first chance to educate doctors in this part of the country to advances in this orthopedic-related area when he leads a course for Texas hospital residents January 11-13 at the center. He says that while the profession dates back to the "brace makers for the Roman gladiators," only a few places in the country have labs making experimental orthotic and prosthetic devices.

And while there are an estimated 12 million handicapped persons who could be helped by special artificial devices who are untreated in 33 countries today, programs to train specialists in this area in the U.S. have been established in only five institutions of higher education. Such medical schools as UCLA, Northwestern, New York University and the University of Washington are currently training specialists in this area. Shelby State Community College in Memphis, Tenn. has the only program not affiliated with a medical school.

A proposal for such an undergraduate degree plan at the Dallas center through its School of Allied Health Sciences has passed the Board of Regents for The University of Texas System. This plan will be presented to the Coordinating Board, Texas College and University System in the future.

Stills himself sets professional education as a top priority. "Physicians are interested in learning about better fitting procedures and new devices for their patients. There simply has not been this knowledge available in this part of the country up to now." Programs are also being planned for dealers in orthopedic appliances to introduce them to new techniques and new products.



It was through his work as a physical therapy technician in the service that Stills became interested in this field. He says he joined the navy "fresh off the farm" and first saw duty with the Marines as a naval medical corpsman. It was when he was involved in physical therapy with wounded servicemen that he was offered the chance to work in the area of making and developing orthotic and prosthetic devices. He soon found that this field offered him the chance to combine his talents and vocational preferences by working with people and utilizing his artistic and mechanical abilities.

During his navy days, he served as an orthotic-prosthetic specialist in the U.S. trust territories, an area the size of this country. The navy has responsibility for over 20,000 people there, as well as being a stop-over station for wounded being shipped home from Viet Nam. The entire medical needs for the native population are taken care of in just two hospitals. One is operated by the Guam government; the other is the U.S. Naval Hospital on the main island.

Stills says that his three years there gave him the experience of a lifetime. "Life is still quite primitive in the islands," he says. "We saw a lot of spear wounds, and fishermen still use grenades left over from World War II."

While the patients with injuries from spears and grenades are unusual, Stills has dealt with unusual cases in unorthodox ways on the mainland, too.

Several years ago a Catholic priest in Kenya spotted a tourist wearing an unusual lightweight plastic neck brace. He stopped the man and discovered that they were both suffering from the same physical disability. The priest asked the visitor for the name of the person who made his brace and contacted Stills in Philadelphia.

Stills and the orthopedic surgeon he worked with on the tourist's case put the priest in contact with an orthopedic surgeon in Kenya. This doctor made a precise plastic cast of the priest's neck and sent them to the research center. The brace was made and sent although the two men had never met. Later, following the priest's surgery in Rome, a second brace was constructed in Philadelphia.

A five-year old boy had to have both legs amputated after he accidentally slid under the large lawnmower his mother was driving. Today lightweight plastic legs permit him to run and play with much more freedom than he could experience with conventional limbs.

A little boy whose head was turning to the side as he grew faced a future with a twisted body. Stills developed a brace that would hold the head in place as the child grows.



third add stills

A teen-age girl with epilepsy was having three grand mal seizures a day and was required to wear a hockey helmet to keep from injuring herself. Stills developed a sleek helmet which could fit under a wig.

A graduate student overdosed on "bennies" while studying for her exams. She developed partial paralysis in one of her legs following a stroke caused by an allergic reaction to the drug. A lightweight leg brace which can be worn under stylish boots was constructed for her.

Having the freedom to help disabled people like this--particularly the children, who, according to Stills, "are wonderful"--is why he says he doesn't want to work anywhere but an institution where he can do research. Stills says he was drawn to this particular institution to work with the chairman of orthopedic surgery, Dr. Vert Mooney, who has an international reputation.

"There's no way these patients could pay for many of the specially developed devices we produce. It takes grant money and the cooperation of the scientific community behind us."

Although carrying out this work is quite expensive, none of these big dollars find their way into the pockets of the instructor in health care sciences, who is a salaried state employee. His payoff is in the excitement and diversity of his work and in the betterment he sees in the lives of his patients.

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PHOTOS OF STILLS WITH ORTHOTIC AND PROSTHETIC DEVICES ON REQUEST.

PATIENT PICTURES AND INTERVIEWS AVAILABLE AFTER JANUARY 8. MEDICAL INFORMATION WILL BE CLOSED FROM NOON DECEMBER 21-JANUARY 1.

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