

Technology helps advance physical therapy

By **Erinn Hutkin, Special to U-T San Diego**

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Hermes Castro walks with a help of an Ekso Bionics exoskeleton at Scripps Memorial Hospital Encinitas. Physical therapist Alyson Cavanaugh monitors Castro and the device. The exoskeleton is the first one in the county. Castro is a paraplegic patient who was hit by a vehicle while riding his bicycle. — *K.C. Alfred*

The world of physical therapy has changed dramatically over the last few years with the advent of technological breakthroughs and new laws that make rehabilitation more accessible.

Tim Goldberg, interim manager of rehab therapies at Scripps Health in Encinitas, said patients are often referred to physical therapy by doctors to reduce or eliminate pain, assist with walking and improve strength and conditioning.

Physical therapy can also be used to help with dizziness and balance issues and to gain or regain function and independence with activities related to daily living, leisure and vocational activities. not just used for after an injury

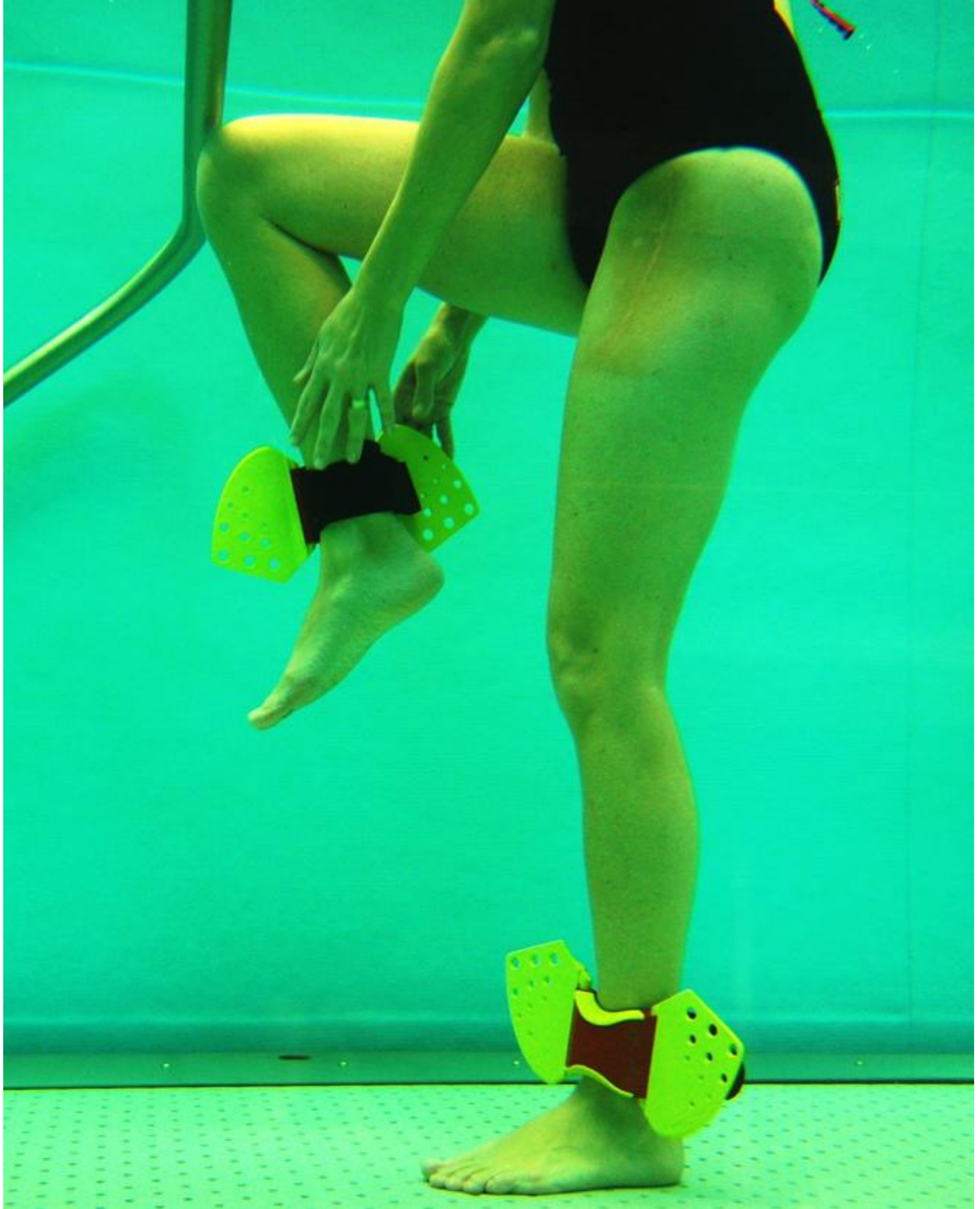
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Additionally, physical therapists find themselves working with those who underwent recent surgeries or those suffering from brain or spinal cord injuries or a range of orthopedic and neurological conditions, becoming more common

Like many aspects of health care, physical therapy has changed over the years. Here's a glimpse at some of what's new in the world of physical therapy.



use of pool therapy is becoming more common for rehab techniques



Patient in Hydroworx Pool at Tri-City Wellness Center Physical Therapy jogging on the underwater treadmill with fins on her ankles for resistance training. — *COURTESY PHOTO*

Direct access

Farshid Farajzadeh, of San Diego's Ocean Physical Therapy, said that as of January in California, many insurances companies will let a patient get physical therapy without a doctor's referral – a move that he said is covered by many insurance plans and saves patients time and co-pay money that was required when getting a referral from a physician.

The catch, he said, is that if a patient still has symptoms after 45 days, the physical therapist is required to send the patient to a doctor. patient can go to PT without a doctor but after must send patient to a doctor(process for getting a patient without a doctors referall)

“It gives the public the right to choose where they want to go and a little bit of freedom,” he said of the change.

Prevention

Goldberg said he believes more and more people use PT as “pre-hab,” or for prevention instead of using it for rehab after an injury or surgery.

“As more emphasis continues to be placed on keeping individuals healthy and out of the hospital, I think we will see more focus on prevention rather than strictly on rehab or treating the patient after they become ill or injured,” he said.



Hermes Castro walks with a help of an Ekso Bionics exoskeleton at Scripps Memorial Hospital. – *K.C. Alfred*

Increased technology

With the advent of smartphones, apps can be used to track a home exercise program to help teach patients about their posture and body mechanics, Goldberg said. PT can make videos or give patient tools for exercises at home to do correctly

Additionally, Michael Ryder, manager of rehab services for Sharp Rees-Stealy, said there are computer programs that allow those in physical therapy to watch personalized videos at home so they can do physical therapy exercises off-site

between sessions. Patients can also keep an online diary that their therapist can check to make sure they are complying. way to help PT keep track of documentation of the patient when not with them

Darshan David, a doctor of physical therapy and orthopedic clinical specialist at Kaiser Permanente San Diego, said those in physical therapy are also now using video to analyze normal versus abnormal movement patterns in activities such as walking and running. along with examination of patient can see where they differ on normal vs. injury

“This type of research can help with evaluating and treating people with movement impairments,” he said.

In addition, the use of video games and virtual reality as an adjunct to PT is on the rise, and Goldberg expects to see growth in telemedicine in physical therapy as well over the next few years.

New equipment

The increase in technology over time has led to advances in equipment. For instance, Scripps, Sharp and other health care systems are utilizing robotics and anti-gravity treadmills to assist with ambulation.

how do they help with rehab rather than regular treadmill?

Ryder said the bonus of these types of treadmills is that they lessen the amount of body weight that's placed on the patient's lower body, allowing them to get exercise and work on their gait without pain and with less pressure on the bones and joints.

Other facilities, such as Tri-City Medical Center, use new equipment such as underwater treadmills with cameras that help with gait and recovery. to get close up look of function of patient

The rehabilitation program at Scripps Memorial Hospital Encinitas was the first in the county to put a wearable robot to use with rehab patients. The exoskeleton suit, made by Ekso Bionics in Northern California, assists patients with walking disabilities. used for patients with lost ability to walk

Evidence-based research

Goldberg said in recent years there's been a strong push for evidence-based practices and increased research by the American Physical Therapy Association, its members and the medical community.

He said the demand for advanced medical research — along with data to support PT treatment approaches — is greater than ever. He said this is important because as surgical procedures change and advance, many patients are starting rehab earlier.

“They are getting out of their hospital bed and asked to participate in therapy the day they undergo a total knee or total hip replacement ... and they are returning to playing sports, their profession or the battlefield sooner than in years past.” fast paced process

Goldberg said that having more data and evidence available to the medical community benefits physical therapists.

“We now have access to chat rooms and online courses, and the Internet allows us to search for the best technology, procedures and the strongest supporting evidence in real time,” he said. “As we see more research and acceptance of the use of stem cells, changes in how we rehabilitate patients or restore their health will likely to change as well.”

Changing attitudes toward health





Many of those in the PT profession said that in recent years, it seems people are taking more responsibility for their own health and well-being than in the past.



Patients are also appearing to be more open to conservative treatment and holistic approaches versus simply turning to drugs or surgery. rehab techniques becoming more popular than surgery or medication

“Individuals are having to pay more out-of-pocket for their health care these days and some may be realizing that it pays to be proactive,” Goldberg said. “Investing in your health can save you a lot of money and pain in the long run.”

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