# ASU students train with new device to fight back pain

**By TERRI GREENE**
**Montgomery Advertiser**

It's a major twist on the mainstream physical therapy approach. A new therapeutic device, the Active Therapeutic Movement 2 (ATM2), takes the traditional horizontal therapy table and turns it on its feet.

Therapeutic tasks the patient would ordinarily perform lying on a horizontal table are done in a vertical, weight-bearing position.

The device targets patients with back pain, a complaint the CDC reports will affect 75 to 80 percent of people at some time in their lives and one with which physical therapists are all too familiar.

Students in the Alabama State University Doctorate of Physical Therapy program are now training to implement this innovation, already a fixture at Stanford University's sports medicine department, NFL training facilities and other places around the country.

It's just the latest addition to the ASU program's increasingly advanced physical therapy regimen, said program director Dr. Jerry Lee, who sees it as a whole new take on physical therapy, one that could not only improve patients' chances of a speedy recovery but could also revolutionize the way physical therapists approach their work.





Article Tools
Print
E-Mail Article
Bookmark
Discuss



"This equipment allows the physical therapist to better access the patient," he said, adding that it also frees up the therapist's own body, which is usually put under fire after constantly maneuvering over a horizontal table.

Steve Hoffman, founder of Sunnyvale, Calif.-based BackProject, the company behind the ATM2, recently lectured on and demonstrated the ATM2 for local clinicians and students at ASU's Medical Auditorium.

Hoffman said unlike traditional therapy, in which patients perform tasks against the direction of painful movements, the ATM2 has them performing these movements in the natural direction - in the direction of their pain. Adjustable belts and ratchets both compensate for the lack of gravity and control the amount of pressure patients react to, as they repeatedly perform the otherwise pain-inducing movement.

The new approach offers full control of the position of the pelvis and a large range of compression so that the patient's movements can be normalized.

"We have the patient redo the painful movement on the unit, where they can do it pain-free," Hoffman said.

Hoffman and Colbert demonstrate the functions of the ATM2 device.

Even in everyday activities, the muscles of people with back pain are continuously firing just to keep the person stable, he said.

Once on the unit, "those muscles don't need to fire anymore," he said. "The strain goes down with each notch of the ratchet."

Hoffman said during the exercises, the central nervous system "memorizes" the pain-free movements; joints are repositioned so that when patients are off the unit, they're able to perform the movement in an extended range, without pain, he said.

He said in a Dublin (Ireland) City University study with the ATM2, improvements to lumbar range of motion were still clinically significant even three days after the pain intervention; in a study at BACKtoGolf Fitness in Windsor, Calif., the amount of treatments needed before pain was resolved was more than halved with the device, he said.

In the early 1990s Hoffman, an avid cyclist, had back pain that kept him off the road. News from physical therapists was grim: After six months, perhaps 20 percent of his pain would go away; 50 percent might relieved within five years, and 80 percent might be gone by age 60.

He said that was the motivation to find a method that created immediate, sustained improvement. At the time, he was only 26.

Malcolm Colbert III, also in his 20s, isn't only a student close to completion of the ASU doctoral program, he's also a former pro athlete who's still intense about fitness but has been sidelined by back pain.

As both a therapist and a potential patient, he was eager to try out the ATM2.

With Colbert, Hoffman went through the patient-clinician process, first asking about the pain's location (upper back), duration (a year and a half) and perceived level ("about a six out of 10," Colbert said).

Hoffman then asked Colbert to move in the direction of the pain as far as he could, and to stop as soon as he felt pain. Colbert edged back mere inches before stopping.

Once on the equipment - face in, back out, and with a couple of belts around him to add stability and pressure - Colbert repeated the usually painful movement in sets of 10, at first with a lot of difficulty. Because Colbert's range was so limited, Hoffman added more support with additional belts and ratchets. Gradually, Colbert was able to perform the movement with ease.

Then, the real test: Once Colbert was off the machine, Hoffman asked him to perform the once-pain-inducing movement. Colbert seemed surprised as he eased back into a normal, full-range-of-motion backward bend.

There was no pain, he said.

"It feels good," he said.

Even with his improved movement, after trying the machine, Colbert offered a caveat:

"I can see how someone who's claustrophobic would have a problem with this," he said, referring to the machine's many restraints.

Other patients not well suited to the unit include pregnant women and people whose pain doesn't stem from musculo-skeletal problems.

Ten days after his experience with the ATM2, Colbert said he still had a little back pain, but that his condition was one that would require follow-up treatments.

He said the day after trying the machine, he experienced soreness akin to that following a strenuous workout - what those in the field call "delayed onset of muscle soreness."

But he'd do it again, and he and others at ASU are excited about the benefits the machine offers clinicians. The students are still training on the new equipment, but eventually they will treat local back pain patients on the ATM2, with a doctor's referral.

"It frees up clinicians' hands to be able to do other things" instead of supporting the patient on the table, he said, which puts more therapeutic power into the hands of the clinician.

And physical therapists might just get a chance to save their own backs.

"This reduces the risk of clinician injury," Colbert said. "Body mechanics is a big concern among physical therapists. It's crucial to the longevity of the therapist."

BACK