

Machine a medical MVP

Bears' Marshall, other athletes swear by healing effects of ARP device, but is science behind it sound?

BY DAN WIEDERER

Tribune reporter

The tightness in Brandon Marshall's right quadriceps had been around for a week, first surfacing during the Bears' loss to the Rams in St. Louis. A week later, as kickoff approached Dec. 1 in Minneapolis, Marshall's discomfort lingered, convincing him he wouldn't have his top-end speed against the Vikings.

So shortly before that game, the Pro Bowl wide receiver encouraged coach Marc Trestman and quarterback Josh McCown to tailor their plans.

"I don't think I can really open up," Marshall said. "All the deep stuff, we have to give that to Alshon."

Stepping aside, Marshall watched Alshon Jeffery take a blowtorch to the Vikings defense during a 23-20 loss, racking up a Bears-record 249 receiving yards with two deep touchdowns.

A few days later, seeking to expedite his recovery, Marshall stood in a small examination room at Synergy Diagnostic and Therapy Center in Libertyville, willingly subjecting himself to intense discomfort, courtesy of an Accelerated Recovery Performance (ARP) machine.

With the ARP's electrical stimulation pads attached to the front of each leg, Marshall cued Synergy Director of Training John McNulty to increase the electrical current pulsing into his body.

Marshall then did a series of calf raises, five at a time, his shins instantly feeling as if hundreds of miniature butcher knives were attacking them with machine-gun rapidity.

He grimaced, bent forward and pounded the cart in front of him with his right fist.

This is what it feels like to heal?

"There's an intensity to this, as you can tell," McNulty said. "But it has a purpose."

That purpose, according to McNulty, is in part to diagnose and treat injuries as electrical failures rather than physical or mechanical breakdowns. The theory holds that negative charges in damaged cells can be reduced or even reversed with the electrical stimulation an ARP machine can provide.

Not long after Marshall's quadriceps issue popped up, he began experiencing hamstring tightness in the same leg. Through a diagnosis with the ARP RX100, Marshall discovered "hot spots" — the potential roots of his problems — near each shin.

For McNulty, that detection was proof Marshall's body was compensating, forcing his quad and hamstring to absorb undue force.

So with three ARP treatment sessions under McNulty's supervision — a standard session lasts 14 minutes — Marshall attacked those problem areas, convinced the toaster-sized ARP machine again would work its restorative powers with brief, intense signals through his body via countless uncomfortable, rapid-fire jolts.

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"The healing is what I believe in," Marshall said. "It has proven itself. That's what I go off, my own experiences. I've used it for everything, from preventive to recovery to treatment and strengthening. Once you feel what this thing does for your body, you believe."

Testimonials like Marshall's have made the ARP a popular topic among pro athletes who understand the importance of availability and longevity to their careers. Still, it's difficult to know just how much to make of ARP's effectiveness because empirical evidence of its success still is minimal.

While the Food and Drug Administration has approved it as a device that promotes muscle re-education, relaxation of muscle spasms and increased range of motion and blood circulation, the medical community remains uncertain.

With so little scientific research available, firsthand testimonials of those who swear by ARP's therapeutic capabilities are better known in NFL locker rooms, including the one at Halas Hall.

In addition to Marshall, Bears fullback Tony Fiammetta is one of ARP's most loyal devotees. Running back Matt Forte and long snapper Patrick Mannelly also are on board. And returning starting quarterback Jay Cutler has acknowledged his relationship with Synergy and ARP therapy over the last two months as he has battled through a torn muscle in his left groin and a high-ankle sprain on the same side.

The latter injury kept the quarterback out for four games, with the stability, strength and mobility of his ankle slow to return. But Cutler's torn groin only cost him one start in part, he has said publicly, because he included intense ARP therapy sessions as part of his recovery regimen.

The quarterback's rapid return from the groin tear not only came as little surprise to Marshall, it's something the receiver repeatedly predicted publicly because of his belief in ARP.

"That was all of it," Marshall said. "It was only because of this machine. Because of my experience with it. I wasn't just trying to be crazy."

Diagnostic tool

Denis Thompson went into business with his ARP machine in the late 1990s. An exercise physiologist based near Minneapolis, Thompson had studied the physical nature of injuries but said he had grown disenchanted with traditional treatments.

Fascinated with the neurological variables that contribute to injuries and recovery, Thompson set out to develop a technology that enhanced the connection between muscles and the nervous system.

Thompson asserts his ARP machine has tremendous value as a diagnostic tool, able to detect cellular disruption — those so-called hot spots — often found in areas away from where a patient is experiencing discomfort. He says an ARP electrical wave can disperse a negative charge in a cell while also increasing blood flow to accelerate healing.

"Whereas we always had been conditioned to focus in on where a problem ended up, I wanted to zero in on the why. Why did it happen in the first place?"

When exercises are performed with ARP's wave turned on, Thompson said, the nervous system can be adjusted and re-educated to fire muscles without pain.

At present, the only independent study of ARP's success was conducted at the University of Hawaii medical school. Testing 25 patients recovering from ACL reconstruction, the orthopedic residency program found greater quadriceps strength in those using ARP helping to stabilize their recovering knees.

Renowned orthopedic surgeon James Andrews, also a Redskins team doctor, admits he doesn't have comprehensive knowledge of the ARP or experience with its therapeutic benefits. But Andrews said he wouldn't discourage athletes from using ARP if they believed it could boost their recovery.

"I know players are asking for it," Andrews said. "To me, if there's something like this out there that appears to help them, it's probably going to continue to take a foothold.... The main thing is to make sure it doesn't do any harm. Which it doesn't."

Seven-time Pro Bowl defensive end Dwight Freeney is one of the NFL's highest-profile advocates of the ARP. Freeney, who has been working with Thompson for years, experienced his most publicized recovery in early 2010. After suffering a Grade 3 ankle sprain in the Colts' AFC championship game victory that January, Freeney was considered a long shot to play in the Super Bowl.

But the Colts standout incorporated high-intensity ARP therapy into his recovery, even sleeping with the machine on to increase blood flow into his ankle.

Fourteen days after suffering the injury, Freeney started in Super Bowl XLIV, recording a second-quarter sack of Drew Brees.

"Those doctors couldn't believe what they saw," Thompson asserted.

Former Colts general manager Bill Polian, however, points out that Freeney's therapy entailed much more than his ARP treatments. Polian also recognizes that while Freeney admirably battled through his pain to play in the Super Bowl, he ultimately wasn't able to produce much after halftime.

"What role the ARP played in all that, other than he believed passionately in the therapy, I can't say," Polian said. "It's impossible to isolate the ARP's contribution because of everything else that was involved in Dwight's treatment."

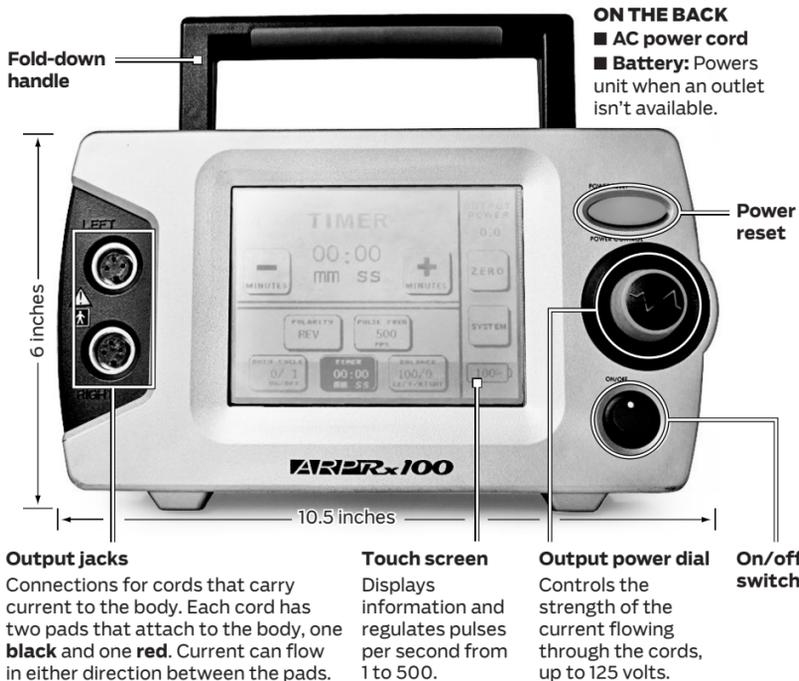
Polian said the ARP machine had been around the Colts locker room for close to

How the ARP works

The Accelerated Recovery Performance machine has become popular with many professional athletes, including Brandon Marshall and several other Bears. The machine uses contracts to conduct electricity into the body, causing muscles to rapidly pulse and contract but still allowing the body to move.

The machine's proponents say it helps people develop strength and recover from injuries more quickly than traditional methods, although little empirical evidence exists to validate its effectiveness. The machine's developers also say it can help determine the cause of an injury, which they say often is located elsewhere in the body than where the injury is felt.

A look at the ARP machine



Treating Brandon Marshall

Marshall allowed a Tribune reporter to accompany him earlier this month while he underwent ARP therapy at a training facility in Libertyville. He was treating soreness in his right quadriceps and hamstring. Here's how the therapy was administered.

1 Placing the black pad

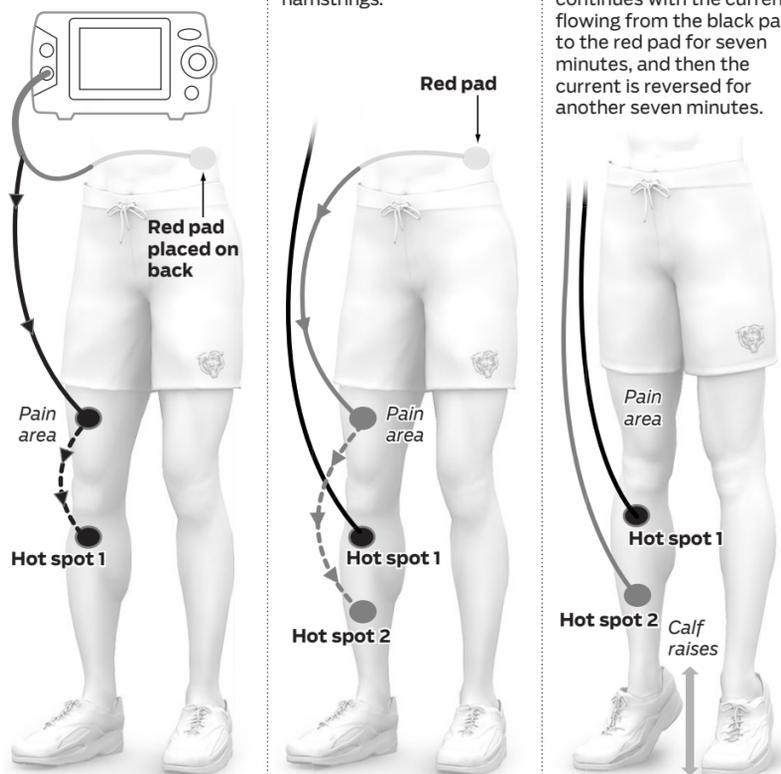
The black pad is placed on the spot on Marshall's right quadriceps where he has been feeling pain. The red pad is placed on his back. The machine is turned on and power is slowly increased to a relatively low level. The black pad is moved around Marshall's leg until it touches a "hot spot" that causes Marshall to feel maximum discomfort — in this case, on his right shin. The pad is secured at this location. Power is turned off.

2 Placing the red pad

The red pad is now placed on the spot on Marshall's right quadriceps where he has been feeling pain. The power is slowly increased to a relatively low level. Then the pad is moved around Marshall's body until it touches another hot spot — in this case, below the black pad on Marshall's right shin. The red pad is secured at this spot. Marshall and the ARP therapist suspect the hot spots are causing the pain in his quadriceps and hamstrings.

3 Therapeutic exercises

With the black and red pads anchored on the hot spots on Marshall's right shin, the power is gradually increased until Marshall says he feels maximum discomfort. Marshall then does a set of five calf raises with the power flowing. The exercise becomes easier with each repetition. After finishing the set, the power is slowly increased until Marshall again says his discomfort has peaked. He then does another set of calf raises. The process continues with the current flowing from the black pad to the red pad for seven minutes, and then the current is reversed for another seven minutes.



NOTE: Marshall's left leg had the same hot spots and was treated at the same time.

SOURCES: Denis Thompson, John McNulty, U.S. Patent and Trademark Office

TRIBUNE PHOTO ILLUSTRATION

JEMAL R. BRINSON AND RYAN HAGGERTY/TRIBUNE

"Once you feel what this thing does for your body, you believe." — Bears wide receiver Brandon Marshall

two years. But, at that point, it was used by "no more than a handful of players." Admittedly skeptical of the machine, Polian asked team doctors and strength coaches about it and found "a mixed bag" of reviews.

"Some of them thought there might be something to it," Polian said. "Others thought it was just a gadget. Nobody was jumping up and down about a miracle cure.... Anecdotal evidence isn't anything I've ever relied on. And there just wasn't any science that they could point to that could tell them that this was an amazing breakthrough or even significantly beneficial."

"That's not to say it isn't. There just wasn't anything there that they could point to."

Miracle recovery

Marshall was introduced to the ARP early in his career by his agent, then became a firm believer in 2010 when he suffered a

painful hamstring pull while playing for the Dolphins.

Marshall vividly remembers the move — a cyclone spin past Bears linebacker Lance Briggs after an 18-yard catch over the middle. He also remembers the pain, instant and severe, causing the 230-pound receiver to crumple before being hit.

Most vivid, though, is Marshall's memory of breaking through the recovery timetable, a breakthrough for which he credits ARP. Told he would likely miss four to six games, Marshall missed only two. Marshall swears it would have been only one game if Dolphins coach Tony Sparano had not held him out as a game-time decision in the second.

"That," Marshall said, "is when I became a true advocate."

Marshall hasn't missed a game since and his most recent experience with the ARP hasn't diminished his optimism. On Monday night against the Cowboys, with his

right leg feeling better after last week's work with McNulty, he led the Bears in receiving with six catches and 100 yards in the Bears' 45-28 blowout.

McNulty declined to discuss specifics of Cutler's recent treatments but did reveal that according to ARP mapping, the quarterback's groin tear "more than likely" occurred through a ripple effect stemming from multiple other issues in Cutler's leg that showed up as hot spots.

"If you have an area of your lower body that is not turning on fast enough to absorb force," McNulty said, "then every single time you step or you run or you jump, that force is going to be directed somewhere. And when it is directed somewhere that is fatigued or can't handle it, that's when the injury occurs."

Because of the pins-and-needles sensations the ARP wave produces — most intense in areas with damaged cells — Thompson has heard his therapy described as a 21st century brand of acupuncture. He believes there may be parallels in the way acupuncture seems to regulate a body's energy flow and the manner in which the ARP current harmonizes with the body's electricity. But...

"I've had acupuncturists tell me that what they do is a whisper of wind and what I do is a hurricane," Thompson said.

Thompson has had the ARP on the market for 15 years and says he has sold and licensed equipment to more than 1,400 athletes in the four major sports leagues. At present, Thompson estimates 150 current NFL players are licensed with ARP machines. The sticker price to own one begins at \$15,000.

"The reason they're with us," Thompson said, "is because we make them feel better."

Added Mannelly: "As an athlete, your body is your business. So for me and I think for a lot of guys you have to view it as a sensible long-term investment."

True believers

Within the Bears' locker room, word of mouth seems to be spreading, an informal infomercial always available.

Forte, for example, borrowed cornerback Charles Tillman's ARP machine last year to treat the ankle sprain he suffered early in the season. Surprisingly, Forte found hot spots in his upper leg and near his calf. Using the ARP, Forte said, his mobility quickly heightened.

"A day or two into it, I put the ARP on it and I was actually doing single-leg hops," he said. "Back and forth. If I hadn't used it, there's no way I could do that."

Mannelly, the longest-serving Bear in team history, most recently used the ARP while rehabilitating a calf strain that caused him to miss two games in November. The 16-year veteran also used the ARP extensively during his rehabilitation from a torn anterior cruciate ligament two seasons ago and has relied on it for years to treat nagging "knots and stingers" in his neck.

"All I can do is speak for myself," Mannelly said. "And it always has worked for me. There have been numerous times where my neck would be all jacked up after a game. With the ARP, by Wednesday I'd be fine. And I know that if I didn't have the ARP, I'd be struggling until Saturday or Sunday to get it all loosened up again."

Fiammetta, now in his fourth NFL season with his third team, became familiar with the ARP as a Panthers rookie in 2009 after seeing Pro Bowl linebacker Jon Beason using it for a knee injury. Fiammetta signed on, invested in his own machine and became a believer.

He says he uses ARP frequently to detect problem areas and to treat contusions. He has deployed it on more significant injuries as well, including an MCL sprain in 2010 that he was able to play through.

"From my experiences," he said, "I've always gotten back on the field a lot faster from injuries than I've been told by trainers."

So where does this leave a player like Anthony Walters, a third-year safety and core special teams contributor who missed October games against the Giants and Redskins with a hamstring injury, then was scratched from the Vikings contest with a groin problem?

Walters is familiar with the ARP and its claims. He acknowledges his curiosity.

"I missed three games this year," he said. "So whatever I can try to do to get back on the field as soon as possible, I'll look into it."

Walters recently trekked the five miles from Halas Hall to Synergy for a consultation with McNulty.

Walters' hot spots, the ARP mapping showed, were in his shins, which McNulty believes created the problems in the safety's hamstring and groin.

Walters had shin splints during high school, an issue McNulty theorizes may have never fully dissipated even though Walters' pain had.

But even with ARP's diagnosis, Walters still sits on the fence. Does he believe the ARP could aid his health, even with some common side effects?

"The soreness that I've heard can occur just wasn't something I wanted to do during the season," Walters said. "With so few games left, I need to be back as soon as possible and I didn't want to deal with the risk of adding extra soreness. But I do plan to look more into it and work with it more in the offseason when I have more time."

So Walters isn't ready to fully commit.

"I've heard the guys who swear by it," Walters said. "Players are always trying to get an edge. So if you think it's working for you, you're going to use it religiously."

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