

Berbakov*, Peter, Matt Cameron*

12-week VACUSPORTS study conducted by the Sydney Swans AFL Football Club

The Vacusport Regeneration System is a chamber in which a player lies and insert their legs. The chamber or tube produces a vacuum that alternates with normal air pressure and creates an external pump. The vacuum or hypo-baric chamber is the opposite to a hyperbaric chamber in terms of pressure, and cycles through normal and negative pressure conditions.

The manufacturers claim that this pump improves lymphatic drainage and improves circulation in the legs and body. These effects are purported to improve recovery from intense exercise and games, reduce swelling and improve healing.

The Swans commenced a trial of his system in Feb 2012. Ten players used the system for recovery purposes as recommended in a German study conducted in 2007. These players used the system for 30 mins on Monday & Tuesday after a game for 8 weeks. The recovery of these players was compared to ten other players matched according to age and training history.

In addition, the system has been used in the management of various injuries, particularly with management of lower limb haematomas. The recovery of these injuries has been assessed anecdotally.

More recently, players with high blood creatine kinase levels have utilised the system in an attempt to reduce these levels as fast as possible.

To assess the recovery of players between games, a number of variables were measured and monitored from Monday to Friday. These variables are contained in the table below.

The group of players using the Vacusport regeneration system twice per week over an 8-week period had significantly greater improvement in Sit & Reach scores and Sleep Quality from Monday to Friday. These players also had greater improvement from Monday to Friday of their Vertical Jump scores, average and general muscle soreness ratings, Wellness Score and Stress Level scores- although these improvements were a trend and were not statistically significantly different to the players not using the system.

Currently, the two groups of players have crossed over and those that did not use the system in the first 8 weeks of the study are now using the system. Further analysis will be conducted at the end of this second 8-week period.

Preliminary results indicate some significant positive effects of the Vacusport regeneration system in terms of player recovery from games across a number of variables. There is also a trend toward positive effects in a number of other variables. In addition, a number of lower limb haematomas have improved at a greater rate anecdotally.

* Peter Berbakov – Football planning and Operational Manager;; Matt Cameron - Head Physiotherapist

Variable	Regen Tube 10 players	No Tube 10 players	Difference
Vertical Jump improvement Mon-Fri	12.5 mm	5.5 mm	trend
Calf lunge score improvement	2 mm	2 mm	none
Sit n Reach improvement	8 mm	0 mm	significant
Average muscle soreness (scale 1-10)improvement	0.5	0.3	trend
General muscle soreness	0.45	0.28	trend
Low back soreness	0.25	0.25	none
Wellness Score(scale 4-20) improvement Mon-Fri	0.85	0.4	trend
Fatigue Score (scale 1-5) improvement	0.1	0.15	none
Muscle soreness Score improvement	0.3	0.3	none
Sleep Quality Score improvement	0.15	-0.15	significant
Stress Level Score improvement	0.3	0.08	trend

There does appear to be a number of beneficial effects in terms of physical and mental recovery from games and the management of some injury types in some players. The trial of the Vacusport Regeneration System should be continued.

In June 2012 the Sydney Swans wanted to do further analysis and swap the trial groups over, however, at the conclusion of this time, a further 12 weeks, according to Peter Berbakov, "similar results were seen in the second half of the study to the initial findings, however we could not get comparative data about those that used the Vacusport initially in the trial to when not using it, as most of the players continued to use the Vacusport (which is positive feedback alone)".

Peter Berbakov went on to state: "anecdotal feedback is considered valuable to us, and why we have consistently said we believe there seems to be value in using the Vacusport."

Examples of player specific injuries that used the Vacusport are:

Adam Goodes returning at 6 weeks from a torn hip flexor rather than expected 8 weeks

Jude Bolton recovering well enough from a "corky" to train fully before a game, where initially he thought he'd struggle to be ready for the game

Dan Hannebery providing similar feedback on a "corky" as per Jude - feeling better earlier than expected

Mike Pyke able to control his knee inflammation well enough to keep training and playing after injuring his posterior cruciate - didn't need to miss a game

Trent Dennis-Laue saying he thought it made him sleep better

Shane Mumford couldn't pin point anything, but didn't want to not be able to use it

Peter Berbakov has indicated that he would be more than happy to discuss the Vacusport and how they found it beneficial during the season when they won the AFL Grand Final.

He can be contacted on mb: 0403 810 801 or by email at BerbakovP@sydneyswans.com.au

Disclaimer:

The Vacusports was supplied to the Sydney Swans, at no charge by Cantley Medical Services, the Australian and New Zealand Distributor. in order to conduct this trial without prejudice

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Take it lying down ... Matthew Spangher tries out the Vacusport Regeneration System as he tries to recover from a hamstring injury. Photo: Dallas Kilponen

Swans' rehab is out of this world

Michael Cowley

AS MATTHEW SPANGHER lay in the latest medical device his club hopes will give it the slightest of scientific edges against its AFL rivals, observers wondered whether this would be one small step for Matt, one giant leap for the Swans.

In a sport where teams are equalised by a salary cap and draft, the Swans have been among the leaders in searching for any advantages they can find off the park.

Their latest machine, the Vacusport Regeneration System, while untried until now in Australian sport, has been successfully used by football stars including Lionel Messi, the South African cricket team and Super Rugby team the Bulls.

It was developed with the German Space Agency and is used by astronauts on the International Space Station to help with their arterial

blood movement, though not in this same form.

"One area where you can try and get a minimal, slight advantage over you opposition is your treatment of players and the Swans have had a pretty good history in emphasising recovery," Peter Berbakov, the club's football program planning and operations manager, said.

"This probably suits that bracket of recovery machines that hopefully can help us keep players on the park, or get them out there feeling better than what they would otherwise."

The Swans' machine, valued at \$80,000, is the only one of its type in the country. It acts like a pump, with intermittent waves of negative pressure and atmospheric pressure bringing about the dilation of the capillaries, which increases blood circulation and purification, and aides with detoxification.

"From a regenerative and recuper-

ative perspective, the pressure pushes your blood and opens up your capillaries, then part of the pressure system helps with the perfusion which is moving all the fluid between your cells," Berbakov said.

"When the pressure drops, it feeds everything back towards your trunk and heart, and all of the waste products get excreted from there."

"We are hoping to regenerate damaged muscle cells after intense bouts of exercise or training. Hopefully that importance we place on recovery is enhanced by having the system available to players, primarily to help get all of the bad stuff out of their muscles versus really trying to regenerate them with greater oxygen ..."

"Hopefully it's just another one of those recovery mechanisms to get players feeling back to normal quicker after exercise or games."

Berbakov added that players such as Spangher, who has been battling

a hamstring injury, should also benefit through the regeneration of muscles cells.

"Even things like corks and rolled ankles, one of the main benefits we think we can get from it is to suck out all that swelling," he said.

"We have only been using it for a week so we don't have any evidence of our own as yet, but if someone does a calf for instance, we'll find out on a scan that [there is] normally an average ... period of time [they are out], and now we'll be able to get someone on a [rehabilitation] system which includes the Vacusport and see if that results in faster recovery time."

"Part of our high-performance culture is to try and test as many things as we can, as long as there has been a bit of background research - and that's the case here."

The Swans head to Rouse Hill tonight to meet North Melbourne in a NAB Cup clash.

Presse release

Mumford feeling no pressure

by: *Malcolm Conn*

From: [The Daily Telegraph](#)

May 29, 2012 12:00AM



Ruckman Shane Mumford in the negative-pressure chamber at Sydney Swans headquarters as he recovers from a freak back injury. Picture: Tracee Lee *Source: The Daily Telegraph*

THIS space-age machine is part of Shane Mumford's desperate bid to play his first game in six weeks.

The Swans' leading ruckman declared to The Daily Telegraph last night he was ready to play against the Western Bulldogs at the SCG this Sunday, despite a more cautious approach by coach John Longmire.

"I'm definitely pushing my name out there," Mumford said after a session in the Vacusport negative-pressure chamber that aids recovery by moving fluid around the body.

With the brilliant Adam Goodes still missing through injury, Mumford's imposing presence would be a boost for Sydney as they attempt to overcome a worrying slump of three losses in four weeks.

The Swans are having more problems with their ruck division following the revelation that back-up ruckman Lewis Roberts-Thomson has suffered a recurrence of his bruised heel and is also in doubt for Sunday's match.

Mumford has been sidelined since round three after a cortisone injection for a back injury led to infection and required surgery.

"It's ridiculous. I was the unlucky one in however many hundred thousand chances," he said with a rueful laugh.

"The club doctor has been sending patients for this sort of injection five or six times a week for 20 years and has never known this to happen."

The cruel irony of an injection meant to fix his back stopping his season dead has at least allowed the original injury to heal during a couple of weeks of doing nothing.

"My back's feeling heaps better now," Mumford said.

"Slowly I've been doing more training bit by bit.

"I wasn't able to move too much after the surgery and I was still taking antibiotics so I couldn't do too much training for the first couple of weeks."

Mumford was happy with his progress in a solid session yesterday after a strong hit-out last Saturday and will train again tomorrow and on Friday in a bid to convince Longmire he should return.

"I'd like to get back straight in," Mumford said.

"I'd much prefer to be playing than watching. It's been a bit hard watching after things haven't been going so well and not being able to have any impact on what's going on."

If Mumford gets through a solid week of training, Longmire is unsure whether to play his most important big man in the senior side or the reserves. "It's always tempting (to rush Mumford back) because of the quality player he is," Longmire said.

"That doesn't mean he's guaranteed a walk-up start.

"We've got to make sure his body is okay and is resilient enough.

"That's what we'll try and work out with the medical staff this week in relation to the load on his body.

"We're keen to get him back in the seniors as quickly as possible but we want to make sure his body is ready to withstand the rigours of AFL football this week and for the rest of the season. That will be the challenge."