

## Wii-hab

### Has the Wii made video games healthy? New research shows that virtual sport has real world benefits.



**It's unlikely that anyone on a waiting list for a heart transplant felt that they had cause to celebrate when Nintendo released their Wii console in 2007. Two years later it seems that the picture may be about to change.**

A recent study published on Live Science has shown that given the choice between a surgeon who's fine tuned their motor skills on a Wii before surgery and one who hasn't, a patient would be wise to chose the former.

The US study concluded that members of a control group who'd played the Wii prior to a virtual laparoscopic surgery worked 'more accurately and faster' while performing 48 percent better than their counterparts.

But it's in another area of medicine that Nintendo's unashamedly soft edged games console is displaying most promise. Rehabilitation centres worldwide are embracing the motion technology it offers as an effective adjunct to traditional treatment programs.

It's shown particular promise treating the kind of burns so many suffered during Victoria's horrific bushfires early this year.

Chief of burns surgery from New York- Presbyterian Hospital Roger Yurt explains that, "If a burn injury is near joints, the healing process makes the skin tight, so the natural tendency is not to move normally.

"However, if the patients don't, the joint itself starts to get stiff, so right from the beginning after a significant burn injury, patients have to start doing physical therapy."

The Wii is often effective in intervening before joints can stiffen, because patients often don't even realise that they are stretching the painful scar tissue that causes this loss of movement.

"If you can imagine, any kind of stretching is excruciating for someone who's had serious burns," says Suzanne Stacey, a Recreational Therapist from Sydney's Royal Rehabilitation centre, where the Wii has been used as a rehabilitative tool for around 18 months.

"The Wii helps distract from the pain – playing a game of tennis for example, patients tend to get lost in what they're doing," says Stacey.

The Wii's increasing skill level ensures that the games remain a challenging prospect for patients.

The Royal Rehabilitation Centre treats over 2,000 patients a year – its Physio and Recreational Therapists mostly use the Wii in the Brain and Spinal Injury Units, along with the Aged Rehabilitation/Stroke recovery programs. Around 50 patients use the Wii as part of their treatment on any given day.

According to therapists like Stacey, rehab mostly requires patients to perform intensive repetitive tasks that are, for want of a better description, 'boring and mundane'.

"We've noticed that with the Wii our clients are actually practicing their balance, range of motion etc, on the weekends and outside hours," Stacey says.

Not that all patients are so receptive to the idea of using a video game to improve their health.

Elderly patients in particular often ask therapists 'are you for real?'. But Stacey says that once she's explained how the Wii works, she finds it difficult to get them to put the controller down.

While the fact that you can work up a sweat while playing the Wii has been a key to its use in a rehabilitation environment, it's also proving its worth as a cognitive rehabilitation tool.

"If you've got some cognitive problems, it does seem to help. Particularly with vision," Stacey says.

"I put one client onto the Wii before he was assessed properly, and right away I could tell he had visual impairment."

This type of anecdotal evidence is also supported by recent data to come out of the US.

In the UK, the BBC recently reported that playing video games "can boost an aspect of adult vision previously thought to be fixed".

The Nature Neuroscience study stated that contrast sensitivity – an important component of healthy vision required in situations like driving at night could be boosted by game platforms like the Wii.

Previously the only way to improve contrast sensitivity was to undergo surgery.

Despite this type of positive evidence, Stacey does stipulate that the Wii is a complementary component of her rehabilitation programs, rather than a stand-alone treatment.

"I know that there's a lot of propaganda out there that it's the latest rehab tool, but it was never designed for this work. We use it because of the remote controller – it's hands free and it allows patients to use similar movements to real world tennis and golf, regardless of whether they can stand or not."

Stuart Smith, a Senior Research Officer at the Prince of Wales Medical Research institute, says that games consoles like the Wii are also a potential weapon in the fight against aging.

"Worldwide researchers have been looking at the ability of the Wii and other video game consoles to help older people recover from fall injuries for a couple of years," Smith says.

According to Smith, when elderly people have a fall and suffer an injury like a broken wrist or hip, it can very quickly lead to serious medical complications or death.

"A lot of people who have a broken hip die as a consequence," Smith says.

While Smith is emphatic that we're always going to need occupational and physiotherapists, the goal of his program is to use the relatively low cost technology of the Wii to ensure that people continue with their rehab while they're at home.

"If you have a stroke or bust your spinal cord, you're in hospital for a certain amount of time," Smith says. "But once people go home we lose track of them and we don't really know if they continue with their rehab."

As the Wii continues to become one of medicine's tools of choice, it's easy to lose sight of exactly what Nintendo designed it for in the first place. Surgeons might use it to warm up for virtual exams, prisoners in the UK may even be given the Wii Fit to improve their health, but as the likes of Stacey and Smith will attest, the real key to its success is that it's bloody good fun in the first place.

*"Games -Latest Features" article in Stack Magazine, Nov 2009 .*