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stroke [2] brain [3] exercise [4]



Rebuilding life after a stroke takes hard work. Technology, treatments, teams of helpers and time also play their part, here's all you need to know about life after a stroke.

As more people survive stroke, the number living with the physical and mental after-effects [5] is increasing, with an estimated 1.2 million stroke survivors in the UK.

Teams of helpers

Writing in 1970, Valerie Eaton Griffith [6], a pioneer of stroke rehabilitation, describes how she used crosswords, card games, dominoes, word repetition, memory games and mental maths to improve the communication, confidence and concentration of survivors. Valerie helped Roald Dahl's wife recover from a stroke, and he acknowledged that the secret of Valerie's success lay in the simplicity of her methods.

Volunteers [7] remain a vital part of the work of the Stroke Association, working alongside doctors, nurses, physiotherapists, occupational therapists, speech and language therapists, psychologists and rehabilitation assistants. At their disposal are ever more sophisticated technologies and treatments. Here are some of the latest ideas.

Technology

Are virtual reality and interactive video gaming helpful in improving arm function after stroke? What role for robot-assisted arm training? Can brain stimulation improve communication after a stroke? These are some of the questions asked by the Cochrane organisation, a global network of experts dedicated to informing health policy.

Simulating real-life events through virtual reality and video gaming [8] did seem to improve arm function in stroke survivors when it was used in addition to physiotherapy, perhaps because it allowed the practice of everyday

activities that are otherwise not possible in the hospital environment; the novelty factor meant that motivation was high to keep practising.

Robot-assisted arm training [9], meanwhile, improved arm function and arm muscle strength, leading the research team to conclude that “these devices can be applied with some confidence as a rehabilitation tool, but we still do not know when or how often they should be used. There’s still a need for well?designed, large?scale, multicentre studies to evaluate benefits and harms of robot?assisted arm training after stroke”.

To date, there’s no evidence that applying an electrical current [10] to the brain after stroke improves language difficulties.

Treatments

Does yoga help with recovery after stroke? What role for acupuncture? Might treadmill training help to improve walking after a stroke?

According to researchers [11] at Glasgow Caledonian University, the jury is still out on whether yoga improves recovery from stroke, and more studies are needed. It’s possible that through reducing stress, yoga might benefit the mind and body, improving confidence and helping recovery. (In other studies, yoga has shown some positive effects in the prevention of heart disease [12], the treatment of back pain [13] and asthma [14] and in the reduction of anxiety, depression and fatigue in breast cancer [15]).

Results with acupuncture [16] in stroke recovery are promising, but incomplete, with more research needed. As well as testing whether it improves muscle movement, studies continue into whether acupuncture improves the way that the brain thinks and understands after stroke.

“People after stroke who receive treadmill training are not more likely to improve their ability to walk independently compared with people after stroke not receiving treadmill training, but walking speed and walking endurance may improve slightly in the short term,” say scientists writing for the Cochrane Library [17].

Any form of exercise [18] that feels comfortable after a stroke is likely to be helpful in some way, including reducing your risk of further stroke. A physiotherapist will be able to advise on the best way to exercise.

Time

It’s important to start rehabilitation soon after the stroke, with therapy often beginning in the hospital. The subsequent time window for brain recovery post-stroke used to be thought to be very short, perhaps lasting only a matter of months. Recent research [19], however, suggests that sustained physiotherapy can lead to improvements in arm and hand use years, and even decades, after the stroke strikes. Time is not on your side when the symptoms of stroke first appear—but it seems that time (with exercise) can be a healer in the long term.

MEDICAL JOURNALISTS' ASSOCIATION

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