Epilepsy & Sport

Past concerns about exercise for people with epilepsy are losing ground to research and advocacy.

Exercise can help everything from stress and depression, to healing injuries and preventing disease. This is fantastic for anyone but has particular benefits in managing epilepsy and its impacts.

The brain and exercise

Traditionally brain cells were thought to die off during a person’s life, never to be replaced. But recent studies show at least some nerve cells can be replenished, helped by physical exercise. The result is improved brain function and protection against cognitive decline.

In a study published in 1999, Dr Elizabeth Gould at America’s Princeton University discovered new cells could be generated by the hippocampus – well-documented as the region of the brain where seizures often originate.

The implication of these findings for people with epilepsy is that exercise may:

• Help with seizures.
• Ease associated stress and depression.
• Assist with any difficulties in learning and memory – functions centred in the temporal lobe which epilepsy often affects.

Exercise and its effect on seizures

For years many parents and doctors discouraged physical activities and sports, worried about safety and effects on seizures. People with epilepsy were still less fit than the general population. But doctors are now encouraging exercise in light of recent evidence that people with good seizure control can participate in both non-contact and contact sports such as football, soccer, hockey, basketball, and rugby, without negatively affecting seizure frequency.

Although in rare cases exercise prompts seizures, only 2% of people with epilepsy have genuine exercise-induced seizures.

In fact, regular exercise may have a moderate seizure preventive effect in 30-40% of people with epilepsy and decrease seizure frequency, along with improving cardiovascular and psychological health.

Some small uncontrolled studies even indicate a potential positive effect on seizure frequency for people whose seizures persist despite proper medication.

On the flip side, there are studies showing epileptiform activity in the brain increases during exercise or immediately afterwards – most often in people with generalised epilepsy, although reports also exist of focal epilepsy worsening during exercise.

Some possible explanations for exercise triggering seizures include:

• Hyperventilation – over breathing
• Hypoglycaemia – low blood sugar
• Dehydration – sweating profusely during exercise and not rehydrating
• Changes in AED levels – due to metabolic changes

If exercise is identified as a seizure trigger then a program can usually be designed to exercise safely and possibly even avoid the factors that increase seizures.

Benefits of exercise

Physical benefits

There are too many to list here, but generally regular exercise:

• Improves cardiovascular health
• Reduces risk of premature death
• Reduces cholesterol level
• Reduces blood pressure
• Helps with maintaining a healthy weight
• Assists bone health
• Improves muscle tone and physical ability
• = less aches and pains

Other therapeutic benefits

With social isolation, a sense of loss of control, anxiety and depression all common in epilepsy, the following can be especially helpful:

• Exercise can boost people’s self-esteem because they are taking an active role in managing their own condition.
• Some forms of exercise, such as team sports, are also social events.
• Physical activity burns up stress chemicals, like adrenaline, which promotes a more relaxed state of mind.
• An enjoyable exercise session may be distracting enough to break a vicious cycle of pessimistic thinking.

What exercise and how often?

Today, most physical activities and sports are believed safe for people with epilepsy. Normally no special precautions are required except minor levels of supervision, mainly when seizures are not fully controlled.

It is wise to pay attention to seizure control and anything that could increase seizure activity such as dehydration, loss of body salts, and low blood sugar; closely monitor medications; and prepare family, teammates or coaches.

Before starting, speak with your doctor, especially if you haven’t exercised for some time.

• Choose a range of fun activities you enjoy.
• Exercise with a family member or friend for motivation.
• Exercise 2-5 times a week for at least 30 minutes a session.
• Train at 60-70% of your maximum heart rate (calculated by subtracting your age from 220).
• Wear cool comfortable clothing.
• Try a more active lifestyle – walk instead of drive.

Things to bear in mind

Even water sports such as swimming and water polo are safe with direct supervision if seizures are well controlled.

With frequent seizures, more care is needed to avoid situations where a fall or seizure will potentially cause injury (for instance, horseback riding or gymnastics, e.g. parallel bars and uneven bars). Some sports carry a higher risk of injury for people who could possibly have a seizure.

Sports stars with epilepsy

This awesome foursome achieved international sporting fame despite challenges – and have courageously promoted epilepsy awareness.

Luke Quinlivan

The Australian rugby league champion’s seizure at the 1974 World Cup final, which he scored a try in, has not deterred him from becoming a successful commentator whose voice alone is widely recognised. A ‘cured’ athlete, he is now a commentator.

Wally Lewis

He represented Australia 33 times in rugby league from 1981 to 1991 and captained Queensland’s State of Origin side for a record 30 games. He says the main reason he embarked on a career in commentary was to encourage others with epilepsy to always take medicine – and to follow their dreams wherever possible.

Paul Wade

The 46-year-old former ‘Socceroos’ Captain played 113 soccer games for Australia from 1986 to 1996. He had a seizure on camera in 2001, and in 2005 had successful brain surgery. Now a commentator, school coach and motivational speaker, he has a genuine interest in epilepsy awareness – which included hiding his epilepsy during his international career to avoid stigma. Of his busy life today, he says: “it’s a pleasure to know you can still do all those things.”

Tony Greig

English Test cricketer and captain in the 1970s, the 64-year-old has become such a successful commentator his voice alone is widely recognised. A ‘cured’ athlete, his epilepsy awareness campaign is widely known.

Luke Quinlivan, one of the few players with epilepsy, is a star of the Australian national team. He is known for his courage and determination, and is an advocate for people with epilepsy. Quinlivan has been a commentator for the past ten years, and has used his platform to promote awareness of epilepsy and its impact on people's lives. He has also been an advocate for the inclusion of people with epilepsy in sports and other activities.

Tony Greig, another player with epilepsy, was a member of the English national cricket team in the 1970s. He was a successful commentator and has been an advocate for people with epilepsy. He has been a vocal supporter of epilepsy awareness campaigns, and has helped raise awareness of epilepsy and its impact on people's lives.