Abstract
Little more than 30 years ago many physicians believed that epileptic patients should not be involved in any sport especially collision sports such as football and hockey. This was because epilepsy was regarded as an illness requiring rest. Many people with epilepsy are shown to have a poorer level of self esteem leading to higher levels of anxiety and depression. This can often lead on to unemployment, social isolation, less physical activity and lead to their overall fitness becoming prone to developing hypertension, diabetes and heart disease.

In many Asian and African countries there remains a stigma associated with epilepsy which prevents many people from taking part in sports. This is due to fear of embarrassment if seizures were to occur in public places. In Africa there is still the stigma associating epilepsy with the Devil. This also continually leads to social isolation, unemployment, lack of education and loss of family and friends who are too afraid to associate themselves with a person who has epilepsy.

Many studies across the world in the last 20 years have proven that physical exercise does not aggrivate epilepsy. It has actually been shown that in most cases that seizure frequency can actually be improved by regular exercise due to the production of substances which prevent seizure occurrence along with improved motivation, vigilance and alertness.

The International League Against Epilepsy’s (ILAE) listed recommendations restricting only patients from few sports, like scuba diving and sky diving. There is no reason why a person with epilepsy should be excluded from the participation in sport as long as the necessary precautions and individual assessments are taken. Most sports and exercise have been proven to reduce seizure activity and improve the quality of life for many with epilepsy. It should therefore be encouraged and not discouraged at all times.

Keywords: Epilepsy- Sport- Athletes- Stigma.

Résumé
Il ya un peu plus de 30 ans de nombreux médecins croyaient que les patients épileptiques ne doivent pas être impliqués dans un sport en particulier les sports de collision, comme le football et le hockey. En effet, l’épilepsie a été considérée comme une mala-die nécessitant du repos.
Beaucoup de personnes atteintes d’épilepsie sont montré pour avoir un niveau plus pauvre de l’estime de soi conduisant à des niveaux plus élevés d’anxiété et de dépression. Cela peut souvent conduire à la perte de l’emploi, à l’isolement social et à avoir moins d’activité physique; ces facteurs conduisent à certaines tares comme l’hypertension, le diabète et les maladies cardiaques.

Dans de nombreux pays asiatiques et africains, il reste un stigmate associé à l’épilepsie qui empêche de nombreuses personnes de prendre part à des activités sportives. Cela est dû à la peur de l’embarrass si les crises devaient se produire dans les lieux publics. En Afrique, il existe encore la stigmatisation associant l’épilepsie au diable. Cela conduit aussi constamment à l’isolement social, au chômage, au manque d’éducation et la perte de la famille et des amis qui ont trop peur de s’associer avec une personne qui souffrant d’épilepsie.

De nombreuses études à travers le monde au cours des 20 dernières années ont démontré que l’exercice physique ne pas aggraver l’épilepsie. Il a effectivement été montré que dans la plupart des cas que la fréquence des crises peut effectivement être améliorée par l’exercice régulier en raison de la production de substances qui empêchent la survenue de convulsions avec une motivation accrue, la vigilance et l’attention.

La ligue internationale contre l’épilepsie (LICE) a émis des recommandations qui ne restreint que de rares sports, comme la plongée et le parachutisme. Il n’y a aucune raison pour laquelle une personne atteinte d’épilepsie devrait être exclue de la participation dans le sport aussi longtemps que les précautions nécessaires et les évaluations individuelles sont prises. La plupart des sports et de l’exercice...
ont été prouvées comme réduisant l’activité critique et améliorant la qualité de vie pour beaucoup d’épileptiques. Cette activité sportive devrait donc être encouragée et pas découragée tout le temps.

**Mots-clés**: Epilepsie-Sport- Athlètes-Stigmatisation.

**Did You Know?**
Little more than 30 years ago many physicians believed that epileptic patients should not be involved in any sport especially collision sports such as football and hockey. This was because epilepsy was regarded as an illness and all illnesses required rest!

**Early Epilepsy Diagnosis & Quotes**
Epilepsy has been on this planet since the dawn of our species and has attracted many controversies and false ideas of the condition which are still common in some parts of the world today.

400 BC: The Greek physician Hippocrates known as the “Father of Medicine” wrote the first book on epilepsy and called it the “Sacred Disease”. He wrote that epilepsy is a natural disease not a sacred one and seizures begin in the brain but incorrectly stated that epilepsy motion was caused by surplus phlegm. However he spoke out against idea that seizures were a curse from the gods and people with epilepsy held the power of prophecy.

157 AD: The Greek physician, writer and philosopher Latin Galenus wrote “In all forms it is the brain which is diseased; either the sickness originates in the brain itself or it rises in sympathy into the brain from the cardiac orifice of the stomach.” He was the first person to use the word “aura” in medical literature and using sport as a means of treatment for epilepsy. In reference to a patient’s epilepsy he said to the boy’s father “At the beginning of Spring, the boy ought to be purged and his life ordered as follows: He should rise early and take a moderate walk to the gymnasium...where the exercise would be calculated to warm up the body in order to expel excess material and should aim at strengthening the head and cardia.”

**Attitudes Towards Epilepsy In Sport**
Many people with epilepsy are shown to have a poorer level of self esteem leading to higher levels of anxiety and depression. This can often lead on to unemployment, social isolation, less physical activity and lead to their overall fitness becoming prone to developing hypertension, diabetes and heart disease.

In 1941 Lennox claimed that “Physical and mental activity seems to be the antagonist of seizures. Enemy Epilepsy prefers to attack when the patient is off-guard, sleeping, resting or idling”. But later studies have proven that exercise does not increase the number of seizures but may actually lead to fewer seizures.

In many Asian and African countries there remains a stigma associated with epilepsy which prevents many people from taking part in sports. This is due to fear of embarrassment if seizures were to occur in public places. In Malaysia recent studies also showed that only 42% knew how to handle a seizure if it occurred.

In Africa there is still the stigma associating epilepsy with disease and the Devil. This also continually leads to social isolation, unemployment, lack of education and loss of family and friends who are too afraid to associate themselves with a person who has epilepsy.

Studies by Nakken in Norway showed that people with epilepsy exercised more in confined areas like fitness centres and at home rather than in public places such e.g. swimming pools, walking, skiing, hiking. He also stated that seizures provoked by sport were uncommon. There is still a long way to go to removing these barriers set by caregivers, family and society. But it is important to keep educating these people about epilepsy and the advantages sport can have on the condition.

**Regulations In Sport**
In 1968 the American Medical Association (AMA) produced a publication which was advising individuals with a convulsive disorder (that was not completely controlled by medication) to avoid all sports! It stated that not only all collision sports (e.g. football and hockey) and contact sports (e.g. baseball) should be avoided but also non-contact sports like tennis!

It took until 1974 for the AMA to amend it’s stance on these views by saying epileptics with reasonable control and supervision of seizures should be allowed to play any sport activities except where chronic head trauma may occur. In 1983 it was opened wider by the American Academy of Paediatrics who stated that “epilepsy per se should not exclude a child from hockey, baseball, football, basketball and wrestling.”

A Periodic Health Evaluation (PHE) of Elite Athletes was published by the International Olympic Committee (IOC) in March 2009. This stated that the main purpose of the PHE was “to screen for injuries or medical conditions that may place an athlete at risk for safe participation”. It also said that “the rationale for including assessment of neurological conditions in the PHE of athletes is that neurological conditions are common and can include a variety of different
conditions such as headaches and epilepsy”. The report regarding neurological conditions suggests that any athletes with a past history or currently suffering from any symptoms of diseases of the nervous system must undergo an in-depth assessment. This would consist of a comprehensive examination, including assessment of cranial nerve function, motor function, sensory nerve function, reflexes and the extrapyramidal system.

**Which Sports Suit Epilepsy**

Many studies across the world in the last 20 years have proven that physical exercise does not aggravate epilepsy. It has actually been shown that in most cases that seizure frequency can actually be improved by regular exercise due to the production of substances which prevent seizure occurrence along with improved motivation, vigilance and alertness. There is only one form of epilepsy which can have seizures triggered by increased activity and physical exercise and that is extremely rare. The International League Against Epilepsy’s (ILAE) recommendations only restricts patients from scuba diving and sky diving. Aerobic sports such as running, track and field athletics, present no specific risk to people with epilepsy as long as fluid intake and diet are maintained. These are actually good sports for reducing the seizure frequency. Contact and collision sports can consist of football, hockey, rugby, basketball and baseball. There is no proof that any of these sports can actually induce seizures. However one exception would be boxing and possibly martial arts due to continual blows to the head. There are still mixed opinions on whether these sports put people with epilepsy at a greater risk. But as no official paper has been written about this, athletes are currently individually assessed before allowing participation in these sports.

Swimming is always recommended for cardiovascular health and maintaining muscle strength. Swimming and Water sports (rowing, canoeing, rafting, sailing, fishing) always run the risk of drowning. So as long as people with epilepsy don’t swim alone and have supervision at all times by a qualified life guard then there is no reason why they can’t participate in these sports. Scuba diving however is not recommended to a person with regular or uncontrolled seizures as the pressure on the head at depths can trigger seizures and little airway protection can be provided for a rapid ascent.

If heights are involved at all in a sport then people should be individually assessed. Gymnastics, cycling, horse riding and rock climbing could all be participated by those with well controlled epilepsy as long as the coaches and trainers are aware of the basic first aid for seizures and there is supervision at all times for these sports. However outdoor sports like hang gliding, parachuting, sky diving and free climbing are still not recommended for people with epilepsy due to the risks of injury or death.

In motor sports there are different regulations in different countries. In the UK you have to go one year without any seizures before you can apply for a driving licence however you can participate in driving on private land. Other countries state a person must go two years without an epileptic seizure before they can participate. But the danger to the driver, other drivers and spectators in motor sports could be catastrophic so this is not recommended at anytime to people with epilepsy.

**Conclusion**

There is no reason why a person with epilepsy should be excluded from the participation in sport as long as the necessary precautions and individual assessments are taken. Most sports and exercise have been proven to reduce seizure activity and improve the quality of life for many with epilepsy. It should therefore be encouraged and not discouraged at all times.

The following sportsmen had epilepsy and made it to the top of their field:

**Past:**

**Figure 1:** Florence Griffith Joyner (1959-1998) – An athlete who won three gold medals and one silver at the 1988 Seoul Olympics, one silver at the 1984 Los Angeles Olympics. She was diagnosed with epilepsy in 1996 and died of a seizure due to a congenital blood vessel abnormality known as a “cavernous angioma” on the front left part of the brain.

**Figure 2:** Emlyn Hughes (1947-2004) – A footballer who captained Liverpool and England to win fourteen British and European title medals. He also founded and became Chief Patron of an epilepsy charity called FABLE (For A Better Life with Epilepsy)
Present:

Figure 3: Jonty Rhodes a former South African cricketer with epilepsy who always used a helmet when he played cricket to protect his head. But he has become a role model to others by encouraging everyone that they can lead full and happy lives with epilepsy regardless of prejudices and misunderstandings.

Figure 4: Tom Smith a former Scotland and British Lions rugby union player who suffered from nocturnal seizures since age 18. He says “I want other sufferers to know that epilepsy doesn’t have to be a barrier to achievement. I’ve been involved with a couple of excellent charities for a while now and I intend to continue working with them.”

Future:

Figure 5: David ‘Dai’ Greene – A Welsh 400m hurdler who has won gold at the European and the Commonwealth games in 2010 and is a hopeful medal winner for the London 2012 Olympics. He was diagnosed with epilepsy at age 17 but says he keeps it under control by eating healthily, exercising daily, going to bed early and shunning alcohol.

London 2012 Olympics

With the London 2012 Olympics epilepsy was initially brought to the forefront for the wrong reasons due to animated footage promoting the event causing photosensitive seizures in viewers. These health concerns have since been addressed and the animation modified. So now may 2012 bring epilepsy to the forefront for all the right reasons and see many more gold medallists with epilepsy in future Olympic Games.