

## **Clinical Pathways for the Management of Adults with Epilepsy in Hull and the East Riding of Yorkshire**

Patients with suspected Epilepsy should be referred to a specialist in Epilepsy and seen within 2 weeks of referral. Should the diagnosis of Epilepsy be suspected on clinical parameters, the patient should be referred for special investigations which include brain imaging (ideally MRI scan) if semiology of seizure type indicates focal onset seizures, electroencephalography (EEG) and electrocardiography (ECG). Investigations should be completed within a 12 week window.

When the diagnosis seems secure (this might be after the first clinical consultation), patients and their carers should be given general counselling and information about Epilepsy and its management. Issues including driving, employment, lifestyle should be discussed. All patients should have access to a specialist epilepsy nurse who will be involved in the education, support, counselling and management of the patient with epilepsy. The specialist nurses must have open access to the medical epilepsy specialists, to whom they are responsible, to discuss all management issues. Recommendations will then be made to the patient's general practitioner about the initiation of medication; regular monitoring of the patient will then be required by both primary and secondary care, the frequency being dependent on the success and tolerance of the medications. When patients are deemed to be stable or well controlled, they should be discharged back to the care of their general practitioners. Should new problems arise with regards the epilepsy, patients could be referred back to the Epilepsy specialist. Even when patients are stable and controlled, they need to have at least an annual review by their general practitioners concerning their epilepsy.

There should be provision of some additional specific epilepsy services e.g. patients with learning disabilities and epilepsy, pregnancy and epilepsy, vagal nerve stimulator monitoring clinics.

### **Specific management of Epilepsy**

1. Medical management
2. Surgical treatment

#### **1. Medical Management.**

Treatment will typically initially be in the form of anti-epileptic drugs (AEDS), Surgery may be indicated early in treatment in certain situations e.g. if there is a tumour. Surgery may be considered later if there is a specific responsible lesion and drug treatment is not successful.

### Drug selection and management.

Based on the clinical assessment, it should usually be possible to establish the seizure type – focal onset seizures versus general onset seizures or if there is a specific epilepsy syndrome e.g. juvenile myoclonic epilepsy. The selection of the appropriate drug to be prescribed will depend primarily on the seizure type and then secondarily on the patient profile including, age, sex, potential pregnancy, possible side effects, concurrent medications, coexistent illnesses and other symptoms e.g. if a patient has epilepsy and migraine, Topiramate could be a first choice drug; if there is epilepsy pain and severe anxiety, Pregabalin could be a first choice. The ideal would always be to prescribe monotherapy in the least effective dose to minimise potential drug side effects. Where polytherapy is prescribed, this should be “rational” polytherapy where drugs with different pharmacological effects are tried to have a more broad spectrum effect. On occasion additional drugs e.g. benzodiazepines can be prescribed on a “when required “basis”, when the patient is likely to have an increased risk of seizures e.g. with stress, perimenstrually, peri-operatively or to halt clustering of seizures.

### Primary generalised seizures.

First line treatments to be considered include Sodium Valproate, Levetiracetam and Lamotrigine. Sodium Valproate should be avoided initially in women with child bearing potential because of teratogenic risks. See separate guideline on use of valproate in women of child bearing potential and related MHRA Drug Safety updates.

Second line treatment includes Topiramate, Zonisamide, Clobazam, Clonazepam

Third line treatments include Ethosuximide (for typical absence seizures), Piracetam (for myoclonic seizures), Phenobarbital and Rufinamide (for Lennox Gastaut syndrome).

### Focal onset seizures

These account for 85% of adult onset seizures.

First line treatments include Lamotrigine, Carbamazepine and Levetiracetam.

Second line treatments include Sodium Valproate, Topiramate, Pregabalin, Gabapentin, Zonisamide

Third line treatments include Lacosamide, Phenytoin, Phenobarbitone and Perampanel

Oxcarbazepine or Eslicarbazepine can be considered where Carbamazepine has been most effective but cause unacceptable side effects. Brivaracetam is restricted to last line therapy for adult patients with drug resistant partial onset seizures with or without secondary generalisation.

## **2. Surgical Treatments**

Surgical treatments include “brain surgery” and Vagal Nerve stimulation. There are various procedures available for different indications – to remove an abnormal epileptiform focus or to prevent focal seizures from becoming generalised. These treatments are usually reserved for refractory Epilepsies or if there is a high chance that surgery would be curative without the need for long term medications or would allow for significant reduction in use of AEDS.

### **3. When required therapy**

Midazolam oromucosal solution is the preferred preparation for acute management of seizures. It is available in multiple strengths; however in adults the usual dose is the 10mg/2ml syringe (4 dose pack). This is a licensed product but used off-label in adults.

Both clonazepam or clobazam tablets may be initiated as a short dose 3-14 days for multiple seizures improve control.

(These pathways are based on NICE and SIGN guidance; SANAD 1 study)

#### **APPROVAL PROCESS**

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