EPILEPSY AND FITNESS FOR WORK

DR. IAN BROWN OBE FRCP FFOM
CONSULTANT PHYSICIAN
OCCUPATIONAL MEDICINE AND TOXICOLOGY
OXFORD UNIVERSITY AND OXFORD UNIVERSITY HOSPITALS

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## INCIDENCE AND PREVALENCE RATES PER 100,000 POPULATION FOR SOME COMMON NEUROLOGICAL DISORDERS

<table>
<thead>
<tr>
<th>Disease</th>
<th>Incidence</th>
<th>Prevalence</th>
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</thead>
<tbody>
<tr>
<td>Cardiovascular Disease</td>
<td>200</td>
<td>500</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>40</td>
<td>500</td>
</tr>
<tr>
<td>Bell’s Palsy</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Parkinsonism</td>
<td>20</td>
<td>200</td>
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<td>Multiple Sclerosis</td>
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<td>50</td>
</tr>
<tr>
<td>Motor Neurone Disease</td>
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<td>5</td>
</tr>
</tbody>
</table>

(Western hemisphere, modified from Kurland)
THE PREVALENCE OF EPILEPSY

• The prevalence of active epilepsy is between 5 and 10 cases per 1000 persons.

• Epilepsy is therefore amongst the most common of serious medical conditions.

• The majority of patients suffer tonic-clonic or grand mal seizures (62%).

• 11% of patients suffered complex partial seizures.

• 12% of patients suffered mixed partial seizures.

• Seizure frequency is very variable; about $\frac{1}{3}$ suffer seizures less than once per year and about $\frac{1}{5}$ suffer seizures more than once per week.
THE INCIDENCE OF EPILEPSY

• Incidence rate of treated epilepsy:
  80.9 (95% ci, 76.9 - 84.7) per 100,000 per year

• The incidence rate is higher at the extremes of life. Throughout working life, from 16 - 65 years:
  Incidence rate for first seizures:
  40 cases per 100,000 persons per year

• Cumulative incidence of epilepsy, i.e. the risk of having a seizure at some point in life is between 2 & 5%
THE CAUSES OF EPILEPSY

- Toxic causes of epilepsy are rare
- Lead encephalopathy can rarely cause convulsions in children
- Chlorinated hydrocarbons can cause seizures in gross overexposure
- Ingestion of organochlorine insecticides has resulted in status epilepticus
Actuarial percentage recurrence rates after a first seizure for those still free of recurrence at 6, 12, and 18 months, and for all patients (8).
RECURRENT AND REMISSION OF SEIZURES

- A person who has suffered a single seizure is not regarded as having epilepsy

- Actuarial analysis of 564 unselected patients gave a recurrence rate of 67% in the first 12 months since the first event (NGPSE)

- Actuarial analysis of the same group also gave a recurrence rate of 78% with 36 months

- Seizure recurrence is therefore much higher in the first weeks or months after the initial event. The longer the time period which passes without a second seizure, the less the overall risk of subsequent recurrence.
CHANCES OF REMISSION OF EPILEPSY

• A comparison of prevalence and cumulative incidence rates show that **seizures cease in the great majority of patients**

• Most patients, who enter remission, do so in the first 2 years after diagnosis

• Patients who are **seizure-free at 5 years** were found to be 95% in remission and 100% in remission 5 & 10 years later

• Newly diagnosed epilepsy has a good prognosis, chronic established epilepsy has a poor prognosis

• **Poor prognostic factors are**: a long duration of poor control, mixed seizure types, frequent seizures, partial seizures, structural cerebral disorder and associated neurological or psychiatric conditions
PREVENTION OF EPILEPSY IN THE WORKPLACE

- PRIMARY PREVENTION - Apart from rare toxic insults, primary prevention is simply the prevention of SERIOUS HEAD INJURY.

- SECONDARY PREVENTION - The commonest known cause of recurrence is FORGETTING TO TAKE THE PRESCRIBED MEDICATION.

- OTHER SECONDARY CAUSES that should be considered:
  - SHIFTWORK
  - STRESS
  - PHOTOSENSITIVITY
  - ALCOHOL AND DRUGS
SHIFT WORK AND NIGHT WORK

• Seizures are common just before and just after waking

• Is well-controlled epilepsy disturbed by shift work introduction?

• Evidence has not been established for this association

• Do people with epilepsy opt out of shift work?

• Night work may be an exception – sleep pattern (diurnal rhythm) is disturbed because of rest days
STRESS
STRESS AND EPILEPSY

• There is anecdotal evidence that stress increases seizure frequency

• Stress causes a disturbance of sleep pattern

• Stress may cause an increase in alcohol intake

• Stress may reduce compliance with medication

• Stress may modulate the GABA receptors by increase in circulating adrenal steroids (GABA normally down regulates and is inhibitory)

• Paradoxically, inactivity and drowsiness may increase seizure frequency
PHOTOSENSITIVITY AND VDE

• Rare in adults
• Overall prevalence is 1 in 10,000
• Twice as common in women and most sufferers have first convulsion before 25 years
• Spontaneous seizures may occur in photosensitive subjects
• Diagnosis supported EEG response to photic stimulation and a photoconvulsive response. Persisting spike wave activity – sometimes no convulsion – (false positive EEG response)
PHOTOSENSITIVITY AND VDE

- Television was once a common precipitant. Modern TVs much less so because of reduced flicker and no electron gun flying spot. Proximity to screen remains an important precipitant.

- *Flicker* of light is the problem, through leaves, off water, through helicopter blades. Visual display screens are hardly ever a problem because of little flicker even with a photosensitive subject.
ALCOHOL AND DRUGS

- Alcohol misuse/abuse increases seizure risk

- Seizures may be caused by withdrawal, a direct toxic effect or associated metabolic disturbance such as hypoglycaemia (rare)

- Alcoholism always complicates epilepsy control and is multifactorial
RESPONSIBILITY OF THE PHYSICIAN AT THE WORKPLACE

• **THE FIRST TASK** is to establish without reasonable doubt that a seizure has occurred

• **THE EMPLOYEE** should attend the occupational health department (if there is one) and remain on sick leave in the interim

• **A DETAILED HISTORY OF THE EVENT** should be obtained from the employee and, if possible, any reliable witness to establish the nature of the seizure

• **THE PAST MEDICAL HISTORY** is of great importance, especially childhood, head injury, stroke, family history, alcohol and drug consumption

• The employee will need a **FULL PHYSICAL AND NEUROLOGICAL EXAMINATION** (OHP, GP, hospital doctor) as the seizure may be the first symptom of a more serious illness

• Permission needs to be obtained to **CONTACT OTHER DOCTORS**
NOT ALL EVENTS ARE EPILEPSY!

The differential diagnosis will include:

• SYNCOPE (VASOVAGAL OR CARDIAC)

• NON-EPILEPTIC SEIZURES (PSEUDOSEIZURES)

• TRANSIENT ISCHAEMIC ATTACKS

• MIGRAINE
ONCE IT HAS BEEN ESTABLISHED THAT AN UNPROVOKED SEIZURE HAS OCCURRED

1. The medical notes must state clearly the course of events and that a single seizure has occurred

2. Line management should be contacted and given clear and concise agreed recommendations in writing regarding placement of the employee – confidentiality must be maintained

3. Sensible restrictions need to be imposed that the employee is in agreement with and can be conveyed to the manager – they should be no more than necessary on common sense grounds and would apply equally to any individual subject to sudden and unexpected lapses in consciousness or concentration
SOME GENERALISATIONS AND SPECIFIC RESTRICTIONS

1. Minor attacks are much less disruptive than major
2. Periods of automatism will upset colleagues
3. Prolonged periods of post-ictal confusion are disadvantageous

Some sensible generic restrictions will include:
- CLIMBING AND WORKING UNPROTECTED AT HEIGHTS
- DRIVING OR OPERATING MOTORISED MACHINERY
- WORKING AROUND UNGUARDED MACHINERY
- WORKING NEAR FIRE OR WATER
- WORKING FOR LONG PERIODS IN ISOLATION
THE NEW EMPLOYEE WITH EPILEPSY

• Employment in general should only be based on qualification and suitability

• People with established epilepsy can do most, but not all jobs

• The disability provisions of the Equality Act 2010 must always be considered in the UK and EU and epilepsy falls within the Act

• The Health and Safety at Work Act 1974 (HSAWA) is the overarching superior legislation in the UK

• Can the workplace or job be modified or adjusted for the sufferer of epilepsy and still be in keeping with the HSAWA?
SPECIAL JOBS WITH SPECIAL HAZARDS

Certain jobs have special hazards where the risk of even one seizure may give rise to catastrophic consequences. 
These fall into three major groups:-

1. **Transport** – absolute contra-indication for vocational drivers, train drivers, drivers of large container-terminal vehicles, crane operators, aircraft pilots, seamen and commercial divers

2. **Unprotected heights** – absolute contra-indication for scaffolders, steeplejacks, firemen

3. **Working near unshielded hazards** – absolute contra-indication for main line railways, high voltage electricity, hot metal, dangerous unguarded machinery, open tanks of water or chemicals
THE LIFTING OF RESTRICTIONS

- A policy should be established for the lifting of restrictions
- There is little place for partial lifting. The employee is either considered safe or not
- Restriction lifting is based upon trust and honesty between the employee, the doctor and the line manager
- Change of circumstance must be reported immediately as restrictions may need to be temporarily re-introduced, e.g. Change of medication, very stressful event, forgot to take medication, too much alcohol and some late nights
A LIFTING OF RESTRICTIONS PLAN

• The employee needs a planned timescale for restriction lifting and an explicit date should be offered

• For employment purposes, those guidelines as issued by the Department of Transport, (UK), for ordinary (Class 1) driving licences are the most sensible to follow (except for jobs with special hazards)

• If the employee has been seizure free for one year (or only nocturnal seizures for three years or more), restrictions can be lifted
SPECIAL WORK PROBLEMS

**Disclosure** – epilepsy is often not revealed to the employer. 50% still do not reveal the problem to the employer and only 1 in 10 always reveal.

**Accident and absence records** – in general, absence was not increased, although there have been few good studies and half of all sufferers do not reveal their condition. Accident rates were slightly greater in two studies, but this was not found to be statistically significant.
EMPLOYER PREJUDICES AND IMPROVING UNDERSTANDING

• Many of those with epilepsy have difficulty obtaining employment. The DDA has helped a little

• Attitudes are changing though and legislation in the UK and USA has helped

• Many employers consider that an applicant with epilepsy also has a degree of mental handicap and perhaps other physical problems

• Most people with epilepsy are capable of normal employment, but those with additional problems may need to work in a more sheltered environment. (Poorly controlled seizures, physical disability, learning problems and poor social adaptive skills pose special difficulties. Good seizure control is usually achieved with around 70% of sufferers)
EXISTING LEGISLATION AND GUIDELINES FOR EMPLOYMENT

• We have already considered the Equality Act and the HSAWA and the employer and employee have a dual and cooperative responsibility to ensure safe practice at work

• The employer may discriminate against a disabled person if it is genuinely impossible to make reasonable adjustment to working arrangements (or it will be too costly). The discrimination though must be justified by reasons that are material to the circumstances of the particular case and substantial.
FAIR GROUNDS FOR DISMISSAL

The employer may be obliged by an industrial tribunal to justify their decision to dismiss an employee because of epilepsy. There are three important reasons in this context:

1. Is the employee capable of performing their duties safely and efficiently?

2. Has it become impossible for the employee to continue to work without contravening a statutory duty or restriction

3. Is it extremely difficult or financially prohibitive for the employer to make reasonable adjustment to working arrangements which would allow the employee to be accommodated (DDA 1995). Incapacity, illegality and impracticability are all fair grounds for dismissal
CONCLUSIONS AND RECOMMENDATIONS

• At least 50% of employees do not disclose a past or present history of epilepsy

• Non-disclosure may contravene legislation and give the employee no protection from employers liability insurance

• Changing and recent legislation may give the employee (and sometimes the employer) greater protection and fairer treatment

• Responsibility for employment and safe placement rests with the employer and they may need experienced medical advice. Regrettably, occupational health services and provision remain patchy, especially for small and medium sized employers

• Over the past 20 years, I have seen attitudes changing, with disability becoming far less of a bar to employment. Epilepsy is included here, but some significant and out of date prejudices remain.

At the end of the day, we must all …..
THANK YOU FOR YOUR KIND ATTENTION

ANY QUESTIONS?