Seizure Disorders

Guidelines for assessment of fitness to work as Cabin Crew

General Considerations

As with all “medical guidelines”, it is important that each individual case is assessed on its own merits. No “blanket” bans or restrictions should be imposed without a full individual assessment, a full and open consultation with the employee, and if necessary communication with the individual’s own medical advisers.

All fitness to work decisions must take the following considerations into account:

1) Ethical considerations:

   The need to meet operational requirements and maintain employment in a safety critical role, without compromising optimal management of the crewmember’s seizure disorder.

2) Effect of Health on Work:

   Are they fit to carry out the role effectively and safely, and will the interaction of their medical condition (and/or its treatment) and the job role pose unacceptable risks to the individual or others?

3) Effect of Work on Health:

   Will the job have a significant adverse effect on the condition or its management?

4) Regulations

   Any relevant State (Country) rules and regulations, which include local human rights and disability legislation?

5) Other medical conditions

The presence of a specified medical condition should not distract from the assessment of the individual as a whole; general fitness as well as the existence of other medical conditions must be considered.

Seizure Considerations

An assessment of a cabin crewmember's ability to work with a history of having had a seizure should be made individually and only after a complete assessment with the best medical evidence available as part of that assessment. The absolute risk * (probability that a specified event will occur in a specified population) of recurrence of a seizure must be factually considered, and distinction should be made between provoked and unproved seizures. Specific recommendations for return to work for cabin crewmembers should be similar to guidelines that apply to recommendations made for vehicle operation licensure. However consideration may be given for the inherent "redundancy" in aircrew staffing when there are more crewmembers present than is required for operation of the aircraft or in responding to emergency procedures. An opinion from a specialist in neurology and preferably in the treatment of epilepsy would ideally be a part of the assessment.

Accommodation into a ground position for a period of documented stability may be considered if available. Recommendations presented below would be applicable for new-hire candidates as well as current employees, as long as there is thorough documentation provided by the applicant verifying the individual factors discussed below.

** Note: Relative risk values unaccompanied by absolute risk values offer insufficient information for decisions based on risk assessment*

Seizure types

A provoked seizure is a symptomatic seizure caused by an acute insult to the nervous system; examples of provoked seizures are alcohol withdrawal, toxic exposure, hypoglycemia, stroke, or trauma to the nervous system such as a head injury. A provoked seizure is treated by identifying the cause and subsequent treating of the underlying cause. In an unprovoked seizure, there is no immediate connectable cause for the seizure. When there is an occurrence of two or more unprovoked seizures that are greater than 24 hours apart, the presence of epilepsy is diagnosed, and medical therapy is normally initiated.

Guide to Decision Making

As a starting point and in order to try and adopt an evidence based approach as far as possible, it would seem reasonable to consider driving recommendations as a baseline for assessments, as this group has been widely researched.

Many factors impact on a patient's risk for seizure recurrence; however, the seizure-free interval has been widely adopted as a practical measure of ability to safely return-to- work. Other favorable modifiers which may be considered to shorten a required "seizure-free" interval include:

- Seizures occurring during medically directed changes in medication
- Simple seizures (only) that are confirmed to not interfere with consciousness, motor function or essential job activities
- Seizures with auras that can be reliably predicted and/or are prolonged such that appropriate work accommodations can be made.
- Seizures related to acute toxic or metabolic states, such as withdrawal from alcohol or drugs, or other illnesses that are not likely to recur or cause epilepsy (acute symptomatic seizures)
- An established pattern occurring during sleep
- Seizures occurring under a clear provocation (sleep deprivation), if that provocation can be avoided

Conversely, high seizure frequency, medical non-compliance, and a history of incidents such as Motor Vehicle Accidents (MVAs) should extend the seizure-free interval before a clearance to work is recommended.

Requirements in the evaluation of a single, unprovoked seizure:

In considering whether a cabin crewmember should be allowed to work with a history of a single, unprovoked seizure (no immediate cause identified), the following factors should be taken into consideration:

- Type of seizure activity and any precipitating factors
- History of status epilepticus
- Complete diagnostic test results, including EEG and Computed Tomography (CT scan) or Magnetic Resonance Imaging (MRI scan) (note: MRI is generally the preferred neuro-imaging modality for evaluation of seizures)
- Current medication(s) taken
- Course of treatment(s) for co-occurring conditions
- Length of time seizure free
- Specialist clearance
- Family history of epilepsy
- Ability or difficulty in performing Essential Job Functions
- Age of individual

It is recommended that a <u>minimum</u> period of 6 months seizure-free (note: some authorities recommend minimum of 12) be documented before consideration of clearance after a single, unprovoked seizure.

Requirements in the evaluation of a cabin crewmember diagnosed with Epilepsy and on medication(s)

- Specific type of seizure disorder
- Frequency of seizures
- Documented compliance on medications
- Course of treatment(s), changes in treatment
- Length of time seizure free
- Physician caution against fatigue, alcohol

A cabin crewmember demonstrating good compliance and who provides adequate documentation may be considered for clearance if there has been a 12 month seizure free interval. Special favorable consideration may be given for a diagnosis of epilepsy involving only simple partial seizures or seizure events occurring only during sleep periods.

Requirements in the evaluation of a cabin crewmember that has experienced surgery to prevent seizure recurrence

A cabin crewmember may be considered for clearance after a documented 12 month seizure free interval, provided there are no other complications affecting the performance of the affected crewmember's job functions.

Special considerations in the evaluation of a cabin crewmember previously diagnosed with epilepsy whose anti-epileptic drug therapy has been discontinued

The risk of seizure recurrence is much higher than in the general population for someone who has been on anti-epileptic drug but has subsequently discontinued that anti-epileptic drug. The most important factors predicting seizure recurrence were longer seizure-free periods before attempting drug withdrawal (which reduced seizure occurrence) and a history of tonic-clonic seizures treated with more than one anti-epileptic drug (increased recurrence). Additional factors that have been associated with an increased risk of seizure recurrence after discontinuation of anti-epileptic drug therapy include the following:

- Identifiable brain disease
- Abnormal neurological examination
- Seizure onset after the first decade
- Multiple seizure types
- Poor initial response to treatment
- Combination therapy at the time of withdrawal
- Selected epilepsy syndromes
- Specifically epileptiform abnormalities detected on EEG
- Family history of epilepsy

However, even persons who are seizure-free for several years and have none of the above risk factors listed may still have up to a 20–25 % risk of recurrence after the anti-epileptic drug is withdrawn. Although consensus regarding clearance recommendations for cabin crewmembers does not exist in the literature, consideration could be made for a restriction from duty for a seizure-free period of time for a minimum of 1–2 years (consideration for shorter restriction from duty if able to accommodate in multi-crewmember (vs. single) cabin crewmember environment (depending on experience with recommendations from different jurisdictions). Ground accommodation may be considered for a period of time to assist in the documentation of stability, with regular updates provided to the physician responsible for eventual safety-sensitive clearance.

Requirements in the evaluation of a cabin crewmember with a provoked seizure (with an identified cause)

A seizure that occurs due to a temporary illness or related to an isolated event that has been identified and is unlikely to re-occur may not require prolonged restrictions from working. A thorough evaluation must be completed which identifies and corrects the specific cause of the provoked seizure (see section on Seizure Considerations, above). Note that a common and often overlooked cause of a provoked seizure is sudden abstinence from alcohol or in conjunction with use of an illicit drug or substance. The crewmember must meet other medical qualification standards in addition to the history of seizure event.

Special consideration must be given to a history of seizure associated with head injury (impact seizure). Individuals with a history of impact seizure commonly have good outcomes, and seizures that occur immediately after trauma may not be due to epileptic phenomenon (seizure may not recur). Significant risk factors for recurrent seizure after head trauma:

- Brain contusion with subdural hematoma with abnormal CT findings
- Skull fracture associated with cerebral contusion
- Prolonged Loss of Consciousness and/or post traumatic amnesia of greater than 24 hours
- Older age

February 2018