Driver & Vehicle Licensing Agency

MINUTES OF THE MEETING OF

THE SECRETARY OF STATE FOR TRANSPORT'S HONORARY

MEDICAL ADVISORY PANEL ON DRIVING AND DISORDERS

OF THE NERVOUS SYSTEM

Thursday, 28 March 2019

Present:

Professor G Cruickshank	Panel Chair
Dr Jeremy Rees	
Dr Ralph Gregory	
Dr P Reading	
Professor Duncan	
Professor R Al- Shahi Salman	
Dr Emer McGilloway	
Dr A R Gholkar	

Lay Members:

Ex-officio:

Dr S Bell	Chief Medical Officer, Maritime and Coastguard Agency
Dr N Lewis	DVLA Doctor Joint Panel Secretary
Dr N Jenkins	Senior Medical DVLA Doctor
Dr A Edgeworth DVLA	Doctor Joint Panel Secretary
Mr Tim Burton	Head of Drivers Medical DVLA
Mr Jason Donovan	Head of Driver Licensing Policy DVLA
Sharon Abbott Drivers	Medical Business Support
Rachael Toft	Driver Licensing Policy
Lorraine Jones	DM Panel Coordinator

1. Apologies

Apologies were received from Professor A.G. Marson, Professor P Hutchinson, Professor C Tudur Smith, Professor N Delanty, Mr R Nelson, Mr R MacFarlane and Mrs Jane Gregory.

2. Chairman's remarks

A warm welcome was extended to the new Panel member, Dr R Gregory, for whom this was the first Panel meeting, and all attendees gave a brief introduction of themselves. Professor Cruickshank provided a synopsis of the discussions at the meeting of the Panel Chairs with the General Medical Council (GMC). The purpose of the meeting was to discuss the awareness of the medical profession of the contents of Assessing Fitness to Drive (AFTD). It was hoped the GMC could assist the DVLA and the Panel in improving knowledge and understanding within the profession of the medical standards of fitness to drive. The discussion covered the responsibility of doctors in informing patients to notify the DVLA and what to do in the situation where individuals carry on driving when they have been advised not to. GMC advice is that the doctor should notify the DVLA and the patient at the same time about their concern. Reference was made in these discussions about the transient loss of consciousness history in a high profile case. The outcome of the meeting was that there was a shared understanding of the concerns held by the DVLA and Panels.

On the Panel's over-riding agenda is a review of the standards for transient loss of consciousness. For about 80% of patients with transient loss of consciousness the cause is cardiac. There has been discussion about the responsibility for these standards which currently lies with the neurology Panel. A meeting is scheduled in May for the transient loss of consciousness standards to be discussed. The Neurology Panel would be grateful for the input and guidance from the Cardiovascular Panel but are of the opinion that some Neurology input needs to remain in this area as 20% of transient loss of consciousness episodes are neurological in aetiology.

An update was requested on recruitment and the Panel was advised that the recruitment process for a further lay member and expert panel member was going through the internal approval process and they were hopeful the new members would join Panel for the next meeting.

3. Minutes of the meeting of 11 October 2018

Item 6, seizures not affecting consciousness or ability to act. Panel was advised that the legislation change that would be required for this item was domestic legislation only and not EU legislation.

Item 14. Declaration of Member's interests. Panel was informed that details were published online and the advice about what should be declared is in the terms and conditions.

Actions from the previous minutes;

Provoked seizures are to be discussed on the agenda and at a meeting 9 May 2019.

It was highlighted that in the latest version AFTD Narcolepsy types 1 and 2 has been included in Roman Numerals i.e. Narcolepsy types I and II. It was requested this be corrected

The minutes were otherwise confirmed as being accurate and correct.

4. Provoked seizures

Panel were updated that there have been a number of meetings when this issue has been discussed. Subsequent to review of the evidence in the 2015 Brown et al. paper and 2007 Hesdorffer et al. paper, this panel have previously advised that 6 months off driving is observed after a provoked seizure for Group 1 licence holders and 5 years off driving for Group 2 licence holders. The data from the Brown et al. paper clearly supports the six-month requirement for Group 1 licensing. However, there is no

sufficiently long-term data available to clearly inform the time period for Group 2 driving. The Brown et al. paper demonstrates that individuals who have a provoked seizure are at an increased risk of having a further seizure, provoked or unprovoked, in the future and that this risk does not fall to a level which is acceptable for Group 1 driving (20% annual risk) until after 5 months, so the standard for provoked seizure is to wait until 6 months after the seizure before returning to driving. This Group 1 provoked seizure standard mirrors the Group 1 isolated seizure standard. A pragmatic decision was made for the Group 2 standard for provoked seizure to also mirror the isolated seizure standard until such time as any evidence is available to support a lesser standard or any further exceptions. The exceptions that have so far already been agreed by Panel are seizures at the time of electroconvulsive therapy and concussive seizures which occur at the moment of impact of a head injury, the evidence to support this exception has been previously considered by this Panel.

Panel was informed of the concerns regarding the limited evidence for the change in the Group 2 standard. The change for Group 1 licensing has gone well and the DVLA have had supportive feedback from their engagement with stakeholders. Further engagement with stakeholders will take place once the agency has reviewed the Group 2 standard with the other medical panels.

Panel was advised that there had been some challenge from the other panels, in particular the Diabetes Panel in relation to hypoglycaemic seizures and the Cardiovascular Panel with reflex anoxic seizures due to arrhythmia. Though evidence was not available to support a lower standard in these cases it was the clinical experience of the relevant panel members that a 5 year period in these cases may not be indicated. This will be discussed further at the meeting of May 9th and the importance of working with other panels on the medical standards was emphasised by the Chair.

It was highlighted that the Brown et al. paper demonstrated something different from what had always previously been assumed and that in fact provoked and unprovoked seizures in terms of recurrence risk are not as dissimilar as previously thought.

5. Assessment of functional impairment in epilepsy

Panel was reminded of the legal advice received at the pre-panel meeting in September 2018 advising that the European legislation could be interpreted to mean any functional impairment in relation to driving rather than *any* functional impairment, which is how it has been interpreted up until now. A list of partial seizure presentations had been shared with Panel for guidance on what presentations may be acceptable for licensing and what may not. The following table provides an example of the manifestations discussed and the outcome of those discussions. The table provides guidance on manifestations that may be acceptable for licensing purposes and those that are unlikely to be acceptable. Each case will be assessed individually and the licensing decision will be based on the specific details of that case.

Potentially acceptable seizure manifestations	**Unacceptable seizure manifestations**
Déjà vu	Any motor manifestation
Epigastric rising	Uncontrolled movement
Speech arrest (as long as awareness and cognition unaffected)	Tremor
Olfactory hallucinations	Facial droop
Feelings of dread or anxiety	Any alteration in conscious level
Sensory symptoms that would not affect control of the vehicle	Automatisms
Gustatory hallucination	Lip smacking
	Jaw clenching
	Needing to stop/alter actions to accommodate seizure
	No reliable witness account
	Protracted seizure

The manifestations were discussed and it was concluded that any motor manifestation including uncontrolled movement, tremor, or facial droop cannot be considered under

the concession for permitted seizures. Other unacceptable manifestations are seizures which alter conscious level, alter the ability to control a vehicle or any automatisms such as lip smacking or jaw clenching. If a seizure manifestation results in an individual needing to stop or alter what they are doing this would not be acceptable for licensing purposes. It was also concluded that without a reliable witness account the seizures cannot be considered under this concession. Consideration should be given to duration of the seizures, any events lasting several minutes would be unlikely to meet the concession. Seizure manifestations that are likely to be acceptable for licensing purposes are déjà vu, sensation of epigastric rising, sensory symptoms which would not affect control of the vehicle, speech arrest (as long as awareness and cognition unaffected), olfactory hallucinations, feelings of dread or anxiety. For a seizure manifestation to be acceptable for licensing purposes it should not affect driving or concentration.

It was discussed as to whether this advice represented a significant change in the application of this concession and whether stakeholder engagement was indicated. The advice received was useful and provided clarity on how the concession should be interpreted.

In the context of a case discussion, Panel advised that during a partial seizure the adaptive processes to another disability, such as a visual field defect, are likely to be compromised.

6. Seizures without influence on consciousness or ability to act – developing an evidence base for change

Discussion took place about whether there was sufficient evidence to extend the proposal to change legislation to other groups beyond the relatively small group who have had epilepsy surgery. A comparison was made with glioma surgery; comment was made that the epileptic focus in glioma is often the brain tissue on which the glioma is

pressing rather the glioma itself. In contrast, with epilepsy surgery the specific aim of the procedure is remove the epileptic focus itself. It was also commented that in the case of epilepsy surgery the patients have an established pattern of one type of seizure that has been clearly changed to a different type of seizure after the operation. The decision was that currently there is not the evidence to support a legislative change to include other groups such as to those who have had surgery for other reasons or to those who have had a change in their seizures with the commencement of anti epilepsy medication. Professor Duncan reminded the Panel of the results from his 25 years of follow up of these patients. There was an 11.3% annual risk of seizure with impairment of awareness after 1 year of having auras (simple partial seizures) only. After 2 years this falls to 9.2% and then 7.8% after 3 years. The DVLA will consider the Panel's view on post epilepsy surgery and will engage with stakeholders to start developing an evidence base in support of the proposed legislative change.

7. Review of medical standards

- **Cerebral Venous Thrombosis**

  In August 2011 the At a Glance (AAG) guide to the medical standards of fitness to drive included venous sinus thrombosis (and amaurosis fugax) with the stroke standard. Therefore, one year off driving for Group 2 was required and an exercise tolerance test (ETT) before relicensing. This was removed from AAG in December 2011 but does not appear to have been based on panel discussion. The question to the panel is what should the Group 2 standard be for customers who have had a cerebral venous thrombosis (CVT)?

  In the context of communication regarding a specific case a consultant had provided a number of papers for consideration. It was acknowledged that there is a lack of high quality data with sufficient numbers on this condition. No systematic review is available on this topic. Professor Al-Shahi Salman commented on the first of the studies below at the meeting, but found all three studies below in a literature review after the meeting:

- A study (*Neurology* 2006;67(5):814-9) included 154 patients with CVT (63/154 [41%] presented with seizure or confusion) and found that the risk of recurrent CVT was 2.2% per year (although the proportion of these that were sudden and disabling was not mentioned).
- A multicentre study (*Stroke* 2004;35(3):664-70) included 624 patients with CVT (37% had an 'acute' presentation), and during follow-up 14 patients (2.2%) had a recurrent CVT (although the annualised risk was not calculated and the proportion of these that were sudden and disabling was not mentioned).
- Arguably the highest quality study addressing this question (*Circulation* 2010;121(25):2740-6), which included 145 patients after first CVT who had stopped oral anticoagulation, found that the risk of recurrent CVT was 0.53 per 100 person-years (95% CI 0.16 to 1.10); nearly half of the recurrences occurred within the first year after discontinuation of anticoagulant therapy, when the annual rate was higher. Again, the proportion of these recurrences that were sudden and disabling was not mentioned.

How impairing to driving that recurrence might be was discussed. Symptoms of recurrence of a central venous thrombosis could be headache, stroke, cognitive problems or seizure. The panel discussed how these patients present clinically and there was a consensus that they often presented with headache and drowsiness rather than sudden events such as seizure. It was acknowledged that CVT is a different pathology from stroke and one which does not necessarily cause sudden incapacity. From the data provided in the *Neurology* 2006 study the presentation was 25% seizure, 14% confusion and various other presentations. The sum of these presentations is greater than 100%, which reflects that some individuals present with multiple symptoms. If it was accepted that confusion and seizure were potentially sudden incapacitating events from a driving perspective, the studies suggest a 2% annual rate of a potentially sudden and/or incapacitating event. The general clinical consensus was made that clinically seizure was often preceded by being unwell in these cases. It was also acknowledged that the presentation of confusion can be variable. As these presentations of recurrence were

unlikely to always present in a sudden and disabling manner, the decision was made that one year off driving should be observed for Group 2 licensing. Due to the pathophysiology of the condition ETT will not be required. It was noted that there are no driving restrictions for venous thrombosis in other areas of the body.

A further question was asked about amaurosis fugax and retinal artery occlusion. Panel confirmed that the DVLA approach to apply the Stroke/TIA standard in these cases was correct and should continue.

- **Untreated aneurysm subarachnoid haemorrhage**

  Panel were asked to advise on the standard for subarachnoid haemorrhage caused by an untreated aneurysm. The current Group 1 standard is *'must not drive until clinical confirmation of recovery but need not notify the DVLA'*. However, previous panel advice, was to stop driving for six months due to the risk of a rebleed.

  Panel confirmed that if an aneurysm that had caused subarachnoid haemorrhage was untreated then a six month period off driving for Group 1 driving is required

- **Intracerebral haemorrhage due to untreated AVMs**

  Panel were asked to review the standard for intracerebral haemorrhage due to untreated arteriovenous malformations (AVMs). The current standard for both infratentorial and supratentorial AVMs which have caused intracerebral haemorrhage are *'Must not drive but need not notify the DVLA. Driving may resume after 1 month provided there is no debarring residual impairment likely to affect safe driving'*. Panel were asked if this standard applied to cases when the AVM was not treated as the lesion was too high risk to treat.

  Panel confirmed that if possible it is preferable to treat AVMs that have bled and if a ruptured AVM is left untreated then it is because it is too high risk to do so either

because of location or because of size/complexity. The standards had previously been carefully reviewed after a meta-analysis in 2014 provided data on which to base the decision. An intracerebral haemorrhage is a sub-type of haemorrhagic stroke. The meta-analysis (*Neurology* 2014;83:590–7) showed the risk of rebleed was 4.8% per annum (95% CI 3.9-5.9%). Even if the risk is greater in the first 6 months it is unlikely to be as high as 20%, the threshold for Group 1 driving. Therefore the standard is correct even if the AVM is untreated because it is too high risk.

8. Brain Tumours an overall review of the standards

This is an area which has seen a huge amount of change in recent time with changes in the molecular classification of gliomas, monitoring of disease, treatment of disease and more information on how patients are responding to treatment. Panel members have also spoken to a number of colleagues who are in agreement there may be a better way of approaching the medical standards of fitness to drive with the advent of these developments in monitoring, treatment and diagnosis.

A document was presented to the Panel with proposed changes to the brain tumour standards. The information presented was discussed and it was agreed that this represented significant progress for updating the medical standards to reflect current clinical practice and knowledge in this area. However, this initial work requires further review to ensure consistency and clarity. Discussion needs to be take place both with the DVLA to make sure the change in standards are presented in a clear and workable format for non-specialists and for the experts on the Panel to liaise with their neuro-oncology colleagues to produce a consensus document.

The following issues were discussed;

1. Molecular classification of Gliomas

It is recognised that in developing and improving the glioma medical standards of fitness to drive then the molecular classification of tumours needs to be given due

consideration. As an example, it is now recognised that Grade II astrocytomas without the IDH mutation behave more like glioblastoma and therefore it would be important to ascertain the IDH status of astrocytomas as part of considering the medical standards of fitness to drive.

2. Metastatic lesions

There has been a large amount of development in this area. Historically the diagnosis of brain metastases in a patient with cancer was often a pre-terminal event associated with short life expectancy. The advent of treatments such as immunotherapy and stereotactic radiosurgery has vastly altered this situation and the prognosis of these patients. As a consequence patients with 'high risk' disease are having MRI brain scans as part of their interval staging for metastatic disease, so metastatic brain lesions are being identified at a much earlier stage, before any symptoms develop. Group 1 licensing guidance was discussed. The recommendation is that asymptomatic metastatic lesions which do not require treatment will continue to be able to drive. Customers who have had their cerebral metastatic disease treated with immunotherapy, and/or surgery and/or stereotactic radiosurgery should observe 1 year off driving. This one year will be from the completion of treatment for stereotactic radiosurgery or craniotomy. The standard for immunotherapy and targeted molecular treatment was discussed at the last meeting and remains unchanged. The cerebral metastatic lesion(s) proposed standard would apply to both single and multiple metastatic lesions and only if there is no imaging evidence of cerebral recurrence, growth or new cerebral metastasis. If cerebral metastatic lesions are treated with whole brain radiotherapy two years off driving is still recommended. This treatment is reserved for those with multiple metastases. This guidance on whole brain radiotherapy does not reflect the seizure risk but more the severity of the disease and the risk of neurological deterioration.

It was raised that a significant change to Group 2 licensing for those customers with metastatic lesions is being proposed. Customers who have had their Group 2 licences

permanently revoked would in future potentially be able to return to Group 2 driving, five years after their treatment if they remain seizure free.

Dr J Rees is starting a prospective study in collaboration with the Royal Marsden hospital on the risk of epilepsy in patients with brain metastases treated with stereotactic radiotherapy. Once the results of this study are available the standards should be reviewed and amended if required. Clinically it is now appreciated that metastatic lesions are not as epileptogenic as previously thought.

3. **Malignant intracranial tumours in childhood- survival without recurrence**

   It was confirmed that this classification should apply to both infratentorial and supratentorial tumours and AFTD should be updated to reflect this.

4. **Neuroendoscopic treatment of tumours**

   A question was asked as to whether, when a tumour is treated neuroendoscopically, the neuroendoscopy standard should be applied or the relevant standard to that tumour. It was recognised that there is a spectrum in approach from surgeons with regard to the lesions which are treated neuroendoscopically making it difficult to provide standard guidance for licensing decisions. Panel was informed that the results were beginning to accrue that would suggest that the seizure and morbidity risk is lower with neuroendoscopic treatment but this is not yet sufficient to inform any change in standards. Panel recommended that in any case where the standard to apply is not clear the case is referred to a panel member for further advice

It was acknowledged that the changes that have been recommended are on the basis of expert opinion.

The suggested changes are in general aiming to adopt a more lenient approach in licensing those customers who have brain tumours.

Panel were reminded that before any significant changes are made to the medical standards of fitness to drive engagement with relevant stakeholders would be required.

Thanks were given for the hard work that has already taken place in reviewing and recommending changes to this large topic area.

9. High Grade non CNS tumours invading intracranially

There is an increasing amount of these cases and the DVLA has requested some guidance from Panel on whether a standard could be recommended to limit referrals to panel members in such cases.

Extracranial (extradural) tumours

This category refers to head and neck tumours which have invaded the intracranial space but not breached the dura. There are little data on this category of tumours, the only evidence which could be found was the risk of seizures in those tumours treated with radiation which have post radiation necrosis and these were found to have 16% seizure risk over 2 years[1,2]. The Group 1 licensing recommendation was for extradural tumours which have invaded intracranially, not breached the dura, and where there is no post radiation necrosis to continue to drive as long as there is no functional or visual impairment likely to affect driving. For Group 2 licensing, the licence will be refused or revoked. Relicensing may be considered after two scans 12 months apart show no growth, individual assessment will be required if such lack of growth cannot be demonstrated. Group 2 licences, if issued, will be issued with annual review.

A question was asked regarding those tumours which do breach the dura. A discussion took place and it was decided that 1 year off driving after completion of treatment is required - the same standard as is currently applied to a Group 1 driver with an intracranial metastatic deposit. This is because it is similar to metastatic disease in that it is a tumour from elsewhere that has invaded intracranially albeit by local invasion rather than haematogenous spread. For

Group 2 licensing the recommended standard for those without seizures is five years after surgery with complete removal of the tumour.

10. Autoimmune encephalitis

The DVLA is seeking clarification about autoimmune encephalitis. The medical standards for encephalitis recommend that seizures which occur during the acute febrile illness require 6 months off driving even if they have 2 or more seizures over a greater than a 24 hour period. The query is when the encephalitis is autoimmune is there a phase of this illness that can be considered acute and the same standard applied. Panel advised that autoimmune encephalitis is not an acute illness and the ongoing presence of antibodies increases the risk of further seizures. Therefore, seizure(s) in autoimmune encephalitis should observe a one-year period off driving as the patient has an underlying risk factor, in the form of antibodies, which increase risk of further seizures. It was acknowledged that antibodies are not always identified in these cases, if the clinical diagnosis is that of autoimmune encephalitis, regardless of whether antibodies have been identified or not, a year off driving is recommended after a seizure(s).

The Panel made clear that autoimmune encephalitis is a clinically distinct condition from viral encephalitis even though they may initially present with similar clinical features.

11. Older vulnerable road users

Panel was provided with information on the Government's future policy thinking with regards to different groups of drivers and were advised of the ministerial announcement made in June 2018.

More information can be found at: https://www.gov.uk/government/speeches/road-safety-recent-progress-and-future-work

It was emphasised that older drivers have a lower accident rate than younger drivers. However, the injury caused by a collision is likely to be more serious for an older driver, suggesting their

physical frailty partly explains their increased vulnerability. The current system is that drivers renew their licenses at 70 and they are asked to declare any relevant medical conditions. Those medical conditions are investigated, if appropriate, and a licensing decision made based on the information received. Otherwise, a three-year licence is issued. This renewal provides an opportunity for licence holders to declare medical conditions of which the DVLA may not have been previously aware and arrange any necessary monitoring or review.

The issue of increasing the age of renewing the driving licence to 75 was discussed. This was suggested by a report published by the Older Drivers Task Force in 2015. Discussion took place regarding life expectancy and healthy life expectancy, the reason for selecting 70 years as the age for renewal initially, and the high incidence of neurological conditions in the older age group. A suggestion was made that there was no convincing reason to increase the age of licence renewal and the current age provided a useful tool for the DVLA to be informed of relevant medical conditions.

Several issues were discussed on this theme including;

- in car monitoring of driving behavior over time to identify any deterioration in driving ability
- the use of driving simulators
- the effectiveness of self regulation of driving behaviour including limiting speed, avoiding driving at night and keeping to familiar routes
- the role of fatigue and sleep disorders
- Comment was made that commonly used cognitive assessments such as Addenbrooke Cognitive Examination (ACE) and Mini Mental State Examination (MMSE) do not have a verified link with driving ability.
- the challenge of driving assessments taking place in unfamiliar cars and in unfamiliar locations to this age group was acknowledged.

There are 5 million drivers over 70 and the importance of personal freedom and social mobility was commented on as was the observation that a driving licence enables you to drive anywhere at any time and that the ageing process affects people differently.

Panel are pleased to see this item on the agenda and the issues surrounding it being discussed.

The data on accident risk per decade of life was requested by Panel to be provided.

12. Cases

Five cases were discussed.

Panel discussed cough syncope. The Panel minutes were shared from 2017 when a leading expert in cough syncope, Professor Morice, gave a presentation to Panel on the topic. A suggested change to the wording of the cough syncope standard had been shared with Professor Morice prior to the meeting. It was proposed that the cough syncope standard should have the follow wording;

Having experienced an episode(s) of cough syncope, a person has identified themselves as being in a higher risk group that is predisposed to cough syncope. Therefore, even if the cough syncope occurred during a short-lived period of increased cough (such as an episode of acute respiratory infection), this would not alter the fact that the person is then at a higher risk of experiencing a further episode of cough syncope whenever they cough, regardless of the cause. Treatment, management or resolution of the condition which caused the cough does not reduce the risk of syncope with further episodes of cough.

Panel agreed that the revised wording would make it clearer the resolution of the acute illness which caused the cough syncope would not result in a lesser time off driving as the person remains at higher risk of cough syncope.

13. Research and literature

It was confirmed that research papers which are discussed are referenced in the Panel minutes.

14. Horizon scanning

This was confirmed as an opportunity for Panel members to update DVLA of any new developments in their area which could have an impact on the medical standards. Panel was advised that laser treatment of brain tumours is an evolving area. Comment was made that proton beam therapy is being increasingly offered in the UK with new treatment centres opening. It was confirmed that this is unlikely to have an effect on the medical standards as the benefits of the treatment are seen in the longer term and in the preservation of adjacent structures. Proton beam therapy is a type of stereotactic radiosurgery and so the stereotactic radiosurgery standards are applied in these cases.

15. Appeals data

This was reviewed and the case upheld was discussed and the reasons for this.

16. Declaration of Members' Interests

Already discussed

17. AOB

Dr J Rees asked if there was any funding available from the DVLA to undertake research which is relevant to medical fitness to drive such as the planned research into seizure risk with patients with cerebral metastatic disease. Dr Rees was advised for the DVLA to fund any research it would need to be directly related to driver licensing and go out to tender. It was pointed out that it would be beneficial for the DVLA and panel to work together on primary research to help provide an evidence base for the medical standards.

The British Medical Association Occupational Health committee have enquired to all panels as to whether an occupational health doctor on each panel would be of benefit, this would be

particularly with regard to Group 2 driving. This was discussed and the Panel were of the opinion it may be more appropriate to invite them to meetings when the agenda items might benefit from occupational health input. However, within the limitations of this particular Panel an occupational health doctor is probably not necessary as a permanent member.

The issue of Obstructive Sleep Apnoea Syndrome was raised. Comment was made many of the issues of a couple of years ago have been resolved. Clinicians in this area have advised there still remain some problems and particular mention was made of the online service. It was confirmed this was a topic which remains under active review and DVLA are currently refining their processes. A meeting between representatives of the DVLA and an expert in sleep medicine took place a couple of weeks before the Panel meeting to review the improved forms. The expert was pleased with the improvements made and there were further recommendations about how to improve the assessment of compliance with treatment, which the DVLA are in the process of implementing.

18. Date of next meeting – 24th October 2019

Original Draft Minutes prepared by	Dr Amanda Edgeworth Date: 23rd May 19
Final Minutes signed off by:	Professor Garth Cruickshank Panel Chair Date: 5th June 2019

The DVLA will consider the advice provided by the panel and no changes to standards will take effect until the impact on individuals and road safety is fully assessed

Driver & Vehicle Licensing Agency

References

1. Rong X et al; Statin treatment may lower the risk of post-radiation epilepsy in patients with nasopharyngeal carcinoma. Epilepsia 2017; 58(12); 2172-2177 (https://onlinelibrary.wiley.com/doi/full/10.1111/epi.13924)

2. Tang Y et al. Epilepsy related to Radiotherapy in patients with Nasopharyngeal Carcinoma . Epilepsy Research 2011; 96: 24-28