

Driving After Stroke: What Are the Appropriate Criteria?

CASE SCENARIO

For most people, driving is a very important activity that enhances opportunities for social interactions. Stroke can result in impairments that potentially make driving unsafe, thus contributing to social isolation, reduced activities, and depression. At times, these impairments are obvious, but often the determination of driving competence is more difficult to ascertain. One solution is to obtain a formal driving evaluation. However, these can be costly and are often not covered by insurance. This case report and following debate highlights some of the challenges in the decision making process, and options to consider when facing a similar situation.

A 67-year-old, right-handed man is seen by you for the first time. This is an initial outpatient clinic visit 6 weeks after discharge from acute inpatient rehabilitation. The patient sustained a left subcortical stroke 10 weeks earlier with involvement primarily of the posterior limb of the internal capsule. He did not have any seizures or loss of consciousness related to the stroke. Past medical history is notable for hypertension, which the patient reports to be well controlled. His recovery progressed well, and he was discharged independent in performing activities of daily living and ambulating with a straight cane. He was discharged back to his house, where he resides with his wife, who does not drive. A comparison of muscle strength findings at the time of rehabilitation admission and at the 10-week follow-up is shown in [Table 1](#).

No sensory or coordination deficits were identified in this patient. No visual deficits were noted both during acute rehabilitation and during the current examination. Cognitively, the patient did not have deficits noted during his rehabilitation stay ("MMSE 30/30" per chart), but his wife mentioned that for the past year or 2 he has seemed to be "more forgetful." On current examination, he recalls 3 of 3 words at 5 minutes, is fully oriented, and describes accurately events related to the stroke and to subsequent care. Presently, he denies that memory has been a problem, and he is solely focused on receiving clearance to return to driving, emphasizing that he has driven for 50 years without any accidents. He also says that he has been driving in his neighborhood for the past week and has not noted any problems, even though he knew that the inpatient physician had told him that he should not drive until he received clearance by a physician. He originally learned to drive with the right foot on the gas and the left on the brake and resumed this without a problem. When the recommendation of a formal driving evaluation is brought up, he exclaims that it is too expensive and reiterates that he has never had, nor does he now have, a problem with driving. He points out that his wife does not drive, that there is no one else around to drive them anywhere, and that in their area there is no convenient public transportation. He states that, without being able to drive, he would be a "prisoner" in his house. What do you recommend?

Guest Discussants:

Hillel M. Finestone, MDCM, FRCPC

Stroke Rehabilitation Program, Bruyere Continuing Care, Elisabeth Bruyere Hospital; Division of Physical Medicine and Rehabilitation, University of Ottawa, Ottawa, Ontario, Canada
Disclosure: 8B, Dr. Tony Hakim Innovative Stroke Research Award, Heart and Stroke Foundation Centre for Stroke Recovery; Heart and Stroke Foundation; Bruyere Academic Medical Organization Innovation Fund; Canadian Institutes of Health Research; The Drummond Foundation; 9, University of Ottawa Associate Professor since 2000

Arthur Gershkoff, MD

Department of Stroke and Neurologic Diseases, MossRehab, Elkins Park, PA; Department of Rehabilitation Medicine, Thomas Jefferson University School of Medicine, Philadelphia, PA
Disclosure: nothing to disclose

Feature Editor:

Thomas Watanabe, MD

Drucker Brain Injury Center, MossRehab, 60 Township Line Rd, Elkins Park, PA 19027; Department of Physical Medicine and Rehabilitation, Temple University School of Medicine, Philadelphia, PA. Address correspondence to: T.W.; e-mail: watanab1@einstein.edu
Disclosure: nothing to disclose

Hillel M. Finestone, MD, CM, Responds

I can think of no other clinic- or inpatient-related discourse that engenders as much emotion, angst, and downright anger as the issue of driving after stroke. Telling patients that they should not drive and that they require a full driving evaluation often seems worse than informing them that they have an incurable disease.

Patients sometimes seem to actually hate me for having the temerity to question their ability to drive. To them, driving is a right. I train residents and medical students to state to their patients that driving is a privilege [1]. It is certainly no privilege to have to talk about the issue with my patients.

Table 1. Comparison of muscle strength findings at rehabilitation admission and at 10-week follow-up

	Shoulder Abduction	Elbow Flexion	Elbow Extension	Wrist/Finger Flexion	Wrist/Finger Extension
Rehabilitation admission	2/5	3/5	3/5	3+/5	3+/5
10-Week follow-up	4-/5	4-/5	4-/5	4/5	4-/5

	Hip Flexion	Knee Extension	Ankle Dorsiflexion	Ankle Plantar Flexion
Rehabilitation admission	3-/5	3/5	3-/5	3-/5
10-Week follow-up	4-/5	4+/5	4-/5	4-/5

Physicians are the only health care professionals who are required to report patients to the Ontario Ministry of Transportation—none of our rehabilitation colleagues, including nurses, physiotherapists, occupational therapists, psychologists, recreation therapists, or speech and language pathologists are legally required to do so. I have been told by the College of Physicians and Surgeons of my province, Ontario, that patients frequently complain to the College when their physician informs the Ministry of Transportation that the patient may be unfit to drive, even though this is a legally sanctioned act. The responsibility of determining whether our patients can simply get back to driving after their stroke or, alternatively, be subjected to a specific driving test is certainly difficult from many perspectives.

Of all the processes necessary for driving—including cognitive, perceptual, psychological, visual, and physical—the physical demands are probably the least important aspect entering into the quotient of being a safe driver [2]. Our patient has minimal hemiparesis. In addition, he is back at home, his most recent mental status examination result is 30/30, and he denies that memory has been a problem. He even says that he has been driving in his neighborhood for the past week. He may also say that he has a neighbor, friend, or work colleague who is far more affected than he is, “and he drives!” It is fair that the patient believes that he is a good driver and that he can get back to driving. I challenge the reader to find more than 2 patients currently driving on this planet who would admit that 1) they are bad drivers and 2) they should not be driving anymore. People’s positive perception of their own driving skill is almost limitless [3]. In my driving-related research, I have rarely heard anyone describe him- or herself as a “bad driver.”

However, it is my opinion that this patient needs a specific driving assessment. The key features of this case belong to the etiology of the stroke and to the patient’s behavior before and after the stroke. He sustained a left subcortical stroke, also called a lacunar stroke. What is this? It is a “small” stroke, “lacunar” coming from the word “lac” (French for “lake”). With such strokes, the volume of brain that is actually damaged, which produces the hemiparetic deficits, is indeed quite small, often about the size of the end of a pencil. However, what is the etiology of our patient’s stroke? The etiology is noted in the history to be hypertension. In general, we know that hypertension may lead to the presence of

small-vessel disease, or microangiopathy, which is seen as multiple white matter lesions on brain imaging, better on magnetic resonance imaging (MRI) than on computed tomography (CT) [4]. The patient’s stroke is a “sentinel event.” The definition of a sentinel event in medicine is 2-fold. In quality of care matters, it may refer to a type of clinical indicator that is used to monitor and appraise, including events that require immediate attention. It is also defined as an adverse event in health care delivery or other service that leads to, or has the potential to lead to, catastrophic outcomes, thereby often mandating initiation of emergency intervention or preventive measures [5]. In this case, it was the subcortical stroke that brought the patient through the doors of the emergency department and subsequently into acute care and then to the rehabilitation inpatient unit. As multiple scientific articles attest, however, this lacunar stroke is likely merely the tip of the cerebrovascular iceberg [6]. Small-vessel disease is probably prevalent throughout the patient’s brain. Although a specific hemisensory or hemimotor loss may become dramatically evident, there is also much other brain activity, such as cognitive or perceptual function, that may be lost, but this is slower to come to the clinical surface—or to reveal more of the iceberg [6,7].

Cognitive function is frequently lost with small-vessel disease, and our patient’s history is indicative of cognitive decline. First, the wife indicates that for the past year or 2, her husband has seemed to be “more forgetful.” Although the patient may make light of this, I believe that the wife has identified a specific cognitive decline. Small-vessel disease can contribute to the predominant impairment of executive function and secondary impairments of associated cognitive functions such as memory and attention [8-10]. Our patient likely fits the bill.

Second, what about the fact that the patient has been driving in his neighborhood when the inpatient physician has told him that he should not drive until he has been cleared by a physician? Perhaps this is simply the patient flouting this directive, or perhaps this is a reflection of cognitive decline resulting from the microangiopathy caused by hypertension. The patient heard that he should not drive but did not act on this very serious advice. Is his judgment impaired? He should know that a physician’s recommendation not to drive would be documented in his chart, and that, if the car insurance company found out, there would be

Download English Version:

<https://daneshyari.com/en/article/2707784>

Download Persian Version:

<https://daneshyari.com/article/2707784>

[Daneshyari.com](https://daneshyari.com)