Syncope While Driving

How Safe Is Safe?

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As healthcare providers, our primary role is the diagnosis and management of the medical conditions of our patients. These medical conditions have an important impact on their personal lives as well as social situations. One of the most critical such interactions between a patient’s medical condition and society is syncope as it relates to driving. In our society, there is a constant conflict between the rights of the individual and the good of society. Just as limits are placed on the rights of individuals, limits are placed on the rights of society to restrict the actions of its members.

There are limited data on the causes, clinical characteristics, and predictors of syncope while driving. Nevertheless, because of the societal importance of this issue, guidelines have been written to provide recommendations to patients who have experienced syncope on the safety and timing of resumption of driving. With certain exceptions, a minimum of 6 months of abstinence from driving has been recommended after a syncopal event, with resumption of driving permitted if no further episodes have occurred. However, many of these recommendations are the consensus of experts, with very limited data on which to base the recommendations. Information on the natural history and predictors of recurrence in patients with syncope would be helpful to inform the discussion in order to find the right balance between public safety and the individual need for mobility.

In the current issue of Circulation, Sorajja et al report the clinical characteristics, causes, and prognosis of 381 patients with syncope while driving and compare them with a contemporaneous group of 3496 patients who had syncope as well but not in the context of driving. Their major conclusions are as follows: (1) The demographics of patients who had syncope while driving were similar to those with syncope who were not driving, although the driving group was somewhat younger, more often male, and had a higher prevalence of cardiovascular disease; (2) the most common causes of syncope while driving were neurocardiogenic syncope and cardiac arrhythmias; (3) prodromal symptoms were insensitive and nonspecific indicators to differentiate cause and prognosis of syncope; and (4) the natural history of syncope and its recurrence while driving must be considered in the context of guideline recommendations that driving can be resumed if syncope does not recur in 3 to 6 months. Key issues addressed by this study are the risk that a patient who has had syncope while driving will have a future recurrence while driving and when that recurrence might occur. Such data are necessary to determine optimal public policy.

In the present study, of the 381 patients who had experienced syncope while driving, 72 had recurrent syncope over a mean follow-up period of 3.85 years. However, of these 72 patients, 35 (48.6%) did not have another syncopal spell until >6 months had elapsed from the initial episode. The actuarial risk of recurrent syncope in the driving group was 12.1% at 6 months and 14.1% at 12 months, similar to that found in the nondriving group. Recurrences during driving occurred in 10 patients in the driving group, 7 of which (70%) occurred >12 months after the initial evaluation. Therefore, only 3 of 381 patients (0.79%) had recurrent syncope while driving in the first 12 months after the initial episode, with 2 of these 3 events occurring within the first 6 months. Thus, the low risk of recurrent syncope while driving in the first 6 months after an index event would seem to contradict the recommendation in current guidelines that driving should be prohibited for 6 months to protect patients and the public. From the vantage point of public safety, the risk of recurrent syncope-mediated driving accidents appears to be lower than the risk of serious accidents in high-risk groups, such as young drivers, the elderly, or those driving while intoxicated. To significantly decrease highway fatalities, these groups, among others, would have to be addressed.

Limitations of the study are as follows. (1) Even though injuries while driving are acknowledged, their significance is downplayed because few patients were hospitalized. Furthermore, injuries to others in or outside the car are not reported. Indeed, one of the concerns relative to loss of consciousness while driving is the public safety issue of injury to passengers and bystanders. (2) There are no data...
in regard to whether the cause of syncope correlated with the likelihood of injury while driving. (3) Because the authors observe that syncope recurs at similar rates irrespective of its relationship to driving, they state that current guidelines on driving after syncope are appropriate. However, the authors make no recommendation on what to do after 6 months. The implication is that in the absence of recurrence, driving may resume. (4) Driving habits and driving time could not be assessed. It would be important to know whether syncope is more likely with longer durations of driving, particularly given that neurocardiogenic syncope is the most common cause. Prolonged driving without a break would promote blood pooling in the lower extremities and would likely be associated with lack of adequate hydration as well, factors that would increase the likelihood of vasovagal syncope in a susceptible individual.

The Canadian Cardiovascular Society had a Consensus Conference at which a formula to calculate risk of harm from driving was developed: Risk of Harm (RH) = (TD)(V)(SCI)(Ac), where TD equals the proportion of time the patient spends driving during the year (0.04 [16 000 km/y] for the average car driver, 0.25 [138 000 km/y] for the average commercial driver); V is a vehicle-specific constant based on the type of vehicle driven (1.0 for a commercial heavy truck and 0.28 for a standard-size passenger car); SCI is the annual probability of sudden incapacitation; and Ac is the probability of injury or accident after SCI (0.02). They define an acceptable RH to be 1/20 000 or 0.00005. Notably, this equation includes the time spent driving and the special risk of a trucking accident given the size of the vehicle. With the use of this formula and the data in the present study, which showed the actuarial recurrence of syncope over the first 12 months to be 14.1%, then 0.04×0.28×0.141×0.02=0.00003 (in other words, an acceptable risk according to the formula).

A key point made by the authors is that the causes and rates of recurrence of syncope did not differ whether the index episode had occurred while driving. Thus, the clinical approach to syncope evaluation and recommendations for driving should not differ on the basis of whether the syncope occurred while driving or not.

Neurocardiogenic syncope was the most common type of syncope in this study, and the overwhelming majority of patients in both the driving and nondriving groups had prodromal symptoms. Given these facts, what is the role of education of patients with respect to minimizing both the risk of recurrent syncope and the risk of harm to the individual and others? By encouraging frequent breaks while driving and optimal hydration, and most importantly by having patients recognize prodromal symptoms promptly, it might be possible to reduce the incidence of recurrent syncope. It is fully acknowledged that we have no data in this regard at the present time.

A unique population of patients whose driving is requisite to their livelihood is those with commercial driver’s licenses. Whereas a private and a commercial driver may have an identical risk of syncope as a consequence of their particular disease state, no matter what it is, the risks of driving over time are very different. Commercial drivers spend more time behind the wheel, their vehicles are larger (and in the event of an accident may lead to more collateral damage than would a car), and the type of driving (local or highway at high speed) may have different attendant risks. As such, the risks of loss of consciousness at the wheel are different for private and commercial drivers from a public safety perspective. Thus, the restrictions for driving for those who operate commercial vehicles are much more stringent than for private driving, often involving permanent prohibition of operating commercial vehicles.2,6

It should be remembered that published guidelines on transient loss of consciousness and driving pertain to all patients who have had syncope, not just those who have had syncope while driving. In that context, the guidelines do not prohibit driving for 6 months in all patients regardless of etiology or severity of symptoms. For example, explainable and likely remediable neurocardiogenic syncope (eg, the young military recruit who has been standing at attention for a long period of time in the hot sun and then fainted) should not prohibit that individual from driving at all. The societal risk with driving in such a patient is completely different from an older man with ischemic cardiomyopathy and sustained ventricular tachycardia.

Is a blanket prohibition of driving after a serious syncopal spell good public policy? At least initially, when a diagnosis is being made and treatment has not yet been instituted, keeping a patient off the road is prudent for the safety of the patient as well as the public at large. However, it must be acknowledged that the current recommendation of driving prohibition for 6 months is somewhat arbitrary. Nevertheless, Larsen et al7 showed that the greatest chance for recurrence of syncope is in the first 3 months after an event, decreasing to baseline by 6 months. In the present study, half of the recurrences of syncope occurred after the first 6 months, and only 2 syncope-related accidents while driving occurred out of 381 patients in the first 6 months of follow-up. However, the 6-month recommendation probably still represents the best compromise between no restriction at all, a highly unrealistic expectation, and permanent prohibition of driving, which is equally unrealistic in a society that depends so heavily on private transportation and with a medical condition with a demonstrably low rate of recurrence.

As healthcare providers, it is incumbent on us to get our patients back to being functional members of society as soon as it is prudent. In the case of syncope, after a diagnosis has been made and treatment instituted, the risk of recurrence helps us to make that decision. How safe is safe? It is a question that still requires better answers, although the present study does give us valuable data to inform the discussion.

Disclosures

None.

References


**Key Words:** Editorials arrhythmia syncope
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Circulation. 2009;120:921-923; originally published online August 31, 2009;
doi: 10.1161/CIRCULATIONAHA.109.890335
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
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