Should you restrict your cardiac patient from driving?

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Evidence-based answer

That depends, of course, on your patient's particular condition, but your decision can be guided by various cardiovascular society consensus conferences, such as the one from the Canadian Cardiovascular Society (**TABLE**), since no evidence-based guidelines exist. It seems sensible to say, though, that impairment of consciousness associated with any heart disease needs further evaluation, with a complete restriction of driving for at least 6 months (strength of recommendation [SOR]: **C**, based on expert opinion and extrapolation from observational studies).

Clinical commentary

Helpful guide stratifies risk

This review points out the lack of evidence for a common clinical problem. Evidence is scant, but the **TABLE** helps the busy clinician stratify risks for different types of heart disease and provides some rational basis for the duration of restrictions. The existing expert consensus guidelines are sensible and useful when discussing this important issue with patients and their families after diagnosis of heart disease. However, to be quite frank, when I am driving I am more worried about the teenager on a cell phone behind the wheel of an SUV than my grandmother with an ICD.

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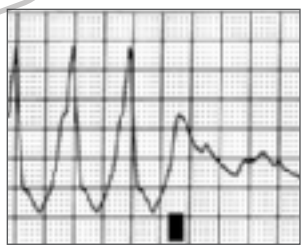
Evidence summary

Our search identified no randomized controlled trials, no systematic reviews, 6 observational studies, and 3 consensus panel guidelines on risks from driving and cardiovascular disease. No studies deal specifically with coronary artery disease, congestive heart failure, or valvular heart disease and the risk of motor vehicle crashes for patients with these conditions. A population-based case control study of 5204 male drivers ages 45 to 70 in Quebec found no increased risk of crash for drivers with unspecified cardiovascular disease.[1]

Car accidents among ICD patients are low

The most studied patients are those with life-threatening ventricular arrhythmias—particularly those with implantable cardioverter-defibrillators (ICDs). Based on observational studies of patients and their physicians, patients with ventricular arrhythmias treated with ICDs do not have an increased risk of motor vehicle crashes.[2–4] The largest of the studies[2] prospectively and anonymously surveyed 627 patients from the Antiarrhythmics vs Implantable Defibrillators Trial. During follow-up, 2% of patients had a



FAST TRACK

Patients should wait 6 months after ventricular fibrillation or unstable ventricular tachycardia before they resume driving

—Canadian Cardiovascular Society

TABLE

Should your heart patient get behind the wheel? A helpful guide

CONDITIONS	TIME TO RESUME DRIVING
Coronary artery disease	
Coronary bypass graft	1 month after discharge
ST elevation myocardial infarction	1 month after discharge
Unstable angina	
– PCI during hospital stay	48 hours after PCI
– PCI not done during hospital stay	7 days after discharge
Ventricular arrhythmias	
Non-sustained VT with no loss of consciousness	No restriction
VF or unstable VT	6 months after event
Implantable cardioverter defibrillator	
For VF or VT with decreased level of consciousness	6 months after event
Rhythm disturbances	
Atrial flutter (without impaired level of consciousness)	No restriction
Supraventricular tachycardia	No restriction
Atrial fibrillation	No restriction
Heart block	
First- and second-degree atrioventricular block, Mobitz Type 1 (without impairment of consciousness)	No restriction
Second-degree atrioventricular block, Mobitz Type II	No driving
Permanent pacemaker	
All patients	1 week after implant; normal pacer function; no impaired level of consciousness
Congestive heart failure	
NYHA Classes I–III	No restriction
NYHA Classes IV	No driving

Adapted from Canadian Cardiovascular Society Consensus Conference 2003.[5]

PCI, percutaneous coronary intervention; VF, ventricular fibrillation; VT, ventricular tachycardia; NYHA, New York Heart Association

syncopal episode while driving, and 11% had dizziness or palpitations that required stopping the vehicle.

Of the 55 car crashes that occurred during 1619 patient-years after resumption of driving, 11% were preceded by a possible symptom of arrhythmia (0.4% per patient per year). The annual incidence of car accidents for patients with an ICD was 3.4% per patient-year. This is substantially lower than the 7.1% rate among the general driving population in the US.

Recommendations from others

Expert panel guidelines regarding fitness to drive for patients with heart disease are available from the Canadian Cardiovascular Society (CCS),[5] the European Society of Cardiology, the American Heart Association, the North American Society of Pacing and Physiology,[6] and the Cardiac Society of Australia and New Zealand.[7] The 2004 CCS guidelines are the most recent and include a "Risk of Harm" formula that attempts to assign a quantitative level of risk to drivers with heart disease. These guidelines appear sensible but are not evidence-based (**TABLE**). ■

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