

RETURN TO DRIVING AFTER ORTHOPAEDIC TRAUMA OR SURGERY

VINCENT CHEN; NICOLE DESROSIER, NP; PAUL APPLETON, MD; EDWARD K. RODRIGUEZ, MD

DEPT. OF ORTHOPAEDIC SURGERY, BETH ISRAEL DEACONESS MEDICAL CENTER

INTRODUCTION

Patient safety, as well as growing liability concerns, makes the timing of return to driving after trauma or surgery an important decision that is made by orthopaedic surgeons on a daily basis. No definitive recommendations, guidelines, or policies exist that address when a patient is able to return to driving or who should be the one responsible for the decision. The lack of well accepted guidelines has the potential to expose practitioners to medico-legal claims should patients be involved in an accident where their pre-existing injury may have been a causal factor.

Existing literature regarding this issue is limited. Spalding et al. [1] examined the reaction times of drivers following total knee replacement, MacDonald et al. [2] examined the reaction times of drivers following hip replacements, Hau et al. [3] examined driving reaction time after right knee arthroscopy, and Nguyen et al. [4] examined driving reaction time after anterior cruciate ligament reconstruction, but few studies have examined reaction times or driving ability following orthopaedic trauma. Egol et al. [5] tested braking times for patients who had undergone operative fixation of right ankle fractures, and found that by nine weeks, total braking time had returned to a normal baseline value. Rees and Sharp [6] polled Orthopaedic Consultants in the U.K. about when they felt patients with treated, pain free limb fractures could resume driving. Their survey found that in 61% of hypothetical scenarios involving fractures of the lower limb, a majority of the practitioners agreed on whether patients were fit to drive, but that opinion was much more divided regarding fractures of the upper limb.

The purpose of this study was to assess both surgeons' as well as patients' attitudes and practices regarding return to driving after orthopaedic surgery or trauma. To the best of our knowledge, no similar studies have been conducted polling

traumatologists in the U.S and no poll has been conducted of patients addressing their issues and concerns when returning to driving after injury. The survey was prompted by the lack of guidelines available and has served to develop a return to driving policy that fits the needs of our patients and practice while also addressing potential safety and liability issues.

METHODS

A. SURVEY OF PRACTITIONERS

41 traumatologists were surveyed during the 2007 AO New England Trauma Summit, Stowe, Vermont. Participants were polled on their recommendations on return to driving following specific injury patterns. Decision-making on clearing a patient to drive was also surveyed, as well as attitudes towards liability.

B. SURVEY OF PATIENTS

A preliminary survey of 70 patients returning for follow-up in an urban Level I trauma center was performed. The survey is presently ongoing at the BIDMC Dept of Orthopaedic Surgery and the final number of patients polled is expected to exceed 300. Participants were anonymously polled on their experiences and attitudes regarding return to driving following injury or orthopaedic surgery.

RESULTS

A. SURVEY OF PRACTITIONERS

For all injury patterns surveyed, respondents varied significantly in how long they waited before telling patients they could return to driving (Table 1). For example, for patients with right tibial plateau fractures, while some traumatologists typically waited six weeks, others waited 12 or even 14 weeks. Responses for operative right ankle fractures ranged from 2 to 12 weeks post op. Patients with right non-operatively treated ankle fractures were allowed to drive at an average of 7.8 weeks (range 4-12 weeks).

Various criteria for assessing a patient's ability to return to driving were reported. A majority, 68%, instructed patients to practice in a parking lot until they felt comfortable. 12.5% instructed patients to seek clearance from physical therapy. Some practitioners allowed patients to drive only when fully weight bearing, able to walk, or when they stopped taking narcotic pain medication. One surgeon referred patients to a driving simulator lab available at his institution's occupational therapy department.

Regarding surgeons' concerns about the decision process, 68% of traumatologists reported generally feeling uneasy about telling patients that they could drive again, and 44% reported

concern about potential litigation if a patient had an accident after being allowed to drive. The majority of respondents (76%) did not have a return to driving policy that they followed consistently. Only 28% of respondents felt that the physician should decide when a patient was ready to return to driving, 78% responded that the patient should decide, 12.5% deferred to the physical therapist treating the patient, and 6% thought that the Department of Motor Vehicles should.

B. SURVEY OF PATIENTS

A significant number of patients reported that the inability to drive presented a significant difficulty (Figure 1) with 26% feeling that the inability to drive presented a major financial hardship beyond the hardships presented by their injury.

Not a difficulty	13
Minor difficulty	15
Major difficulty	17
More than a major difficulty: it is vital that I drive	4

Fig. 1

Of those not driving, 82% said that they intended to ask their physicians before beginning to drive, while 18% reported that they did not intend to ask. Of those that had begun driving, many did not consult with their doctors before driving, found that their doctors initially opposed their return to driving, began driving while still on narcotic pain medications, or had felt unsafe at times because of their injuries (Figure 2).

Began driving while still taking narcotic pain medications	35%
Felt unsafe at times as a result of their injuries	19%
Returned to driving despite the opposition of family or friends	8%
Felt that they may have convinced their physicians to allow them to drive earlier than their physicians would have preferred	5%
Had to ask several times before getting permission to drive	5%
Found that their doctors initially opposed their return to driving	28%
Did not consult with their doctors before driving	36%

Fig. 2

Of most interest from the policy standpoint is that 71% of patients say they would approve of a strict policy that recommends a new state administered driving test following a serious injury, while only 10% said that they would approve of a strict policy recommending a new driving test following any orthopaedic injury.

DISCUSSION

Patient responses suggest that the inability to drive following orthopaedic injury or surgery can present a significant difficulty to patients, with 42% of patients describing the inability

to drive as either a major hardship or more than a major hardship, and 26% of patients reporting that the inability to drive presented a major financial hardship. This difficulty may explain why patients often return to driving without consulting their physicians, while still taking narcotic pain medications, despite the advice of friends and family, or despite feeling unsafe because of their injury. Especially troubling is the finding that of the patients polled, more than 1 out of 3 reported that they began driving while still taking narcotic pain medications, and that nearly 1 out of 5 admitted that they had at times felt unsafe behind the wheel because of their injuries.

The practitioner-survey data suggests that the decision of return to driving is one of concern to most traumatologists from a safety and a medico-legal standpoint. Practitioners surveyed varied significantly in their practices regarding allowing patients to return to driving. It is possible that this could reflect differences in patient populations, or differences in how different practitioners treat similar injuries. However, it is also likely that a significant portion of this discrepancy reflects different regional attitudes towards allowing patients to drive, an inability on the part of a traumatologist to accurately gauge when a patient is ready to drive, and a lack of guidelines for practitioners to follow. Many traumatologists often argue that their limited patient contact in the typical post-operative course precludes them from properly judging a patient's ability to drive. Driving is an activity that involves multiple factors beyond a patient's ability to hit the brakes in an emergency or turn a steering wheel. It involves judgmental and cognitive abilities that may be impaired by narcotic use, head injury, or psychiatric issues as often occur in the post multitrauma patient.

Deciding when a patient can return to driving is a difficult decision for practitioners to make. The risk of a patient driving and being involved in an accident due to prior injury must be minimized, while at the same time practitioners must try not to unnecessarily prevent a patient from driving, especially as 42% of patients described not being able to drive as a major difficulty or more, and 26% reported that it presented a significant financial hardship. In order to protect patients and others from the risk of accidents related to impaired driving ability following orthopaedic trauma, and to protect practitioners from potential medico-legal consequences, we feel it is of value to develop guidelines and policies to follow even if they are only formulated at a departmental level. National society or academy approved recommendations would also be valuable but none are available at present.

Given that only 28% of physicians feel that they should decide when their patients are ready to drive, that over 1 in 3 patients does not consult with their physicians before beginning to drive, and that 71% of patients say they would approve of strict new policies requiring a state-administered driving test following serious injury, one possibility to be considered is that the decision to return to drive should not be made exclusively by the physician, but rather by the physician with input from a therapist and then the decision certified by the Department of Motor Vehicles or corresponding licensing authority. It would

be the physician's responsibility to properly advise a patient when he or she may be ready for retesting or when further assessment and delay should be considered. Return to driving programs can be developed for patients that may require further assessment of their abilities beyond what can be done in a 10-15 minute office visit. This would require planning with occupational therapy or physical therapy programs to develop in-office simulators or offer individual evaluations behind the wheel in a controlled setting. Reimbursement for these services would have to be covered by insurance or otherwise may be provided for a fee.

Any policy that is decided on by a physician or department should be fair, well documented, clearly stated to patients before they ask about driving, and not so rigid that it precludes patients from driving who are not a significant risk. Our present policy within the Orthopaedic Trauma service at the BIDMC is that we will no longer "clear" patients for driving. We offer patients advice as to when they may be ready to retest with the DMV and allow them to follow through with this at their own

discretion. Chart documentation once a patient reaches this point mentions that the patient "has improved to the point that he/she may drive again but was instructed to retest before doing so". We at present do not offer a return to driving PT/OT program but will be developing one in the future. However, a successful completion of the program would not override our recommendation to retest. Our policy is in print as part of a patient introduction brochure that is given to all trauma patients and their families on first contact with the BIDMC Orthopaedic Trauma Service.

CONCLUSIONS

Deciding when a patient can return to driving is a difficult decision, requiring traumatologists to minimize the risk of patients driving while impaired while at the same time avoiding unnecessarily preventing a patient from driving. Practitioners vary significantly in their practices regarding return to driving. Relevant policies or guidelines to advise the trauma community would be of high value.

Table 1: Weeks practitioners typically waited before telling patients that they could return to driving following upper or lower extremity fracture:

		Right Upper Or Lower Extremity Fracture		Left Upper Or Lower Extremity Fracture	
		Average	Range	Average	Range
Ankle	Operative	7.0	2-12	2.7	0-6
	Cast	7.8	4-12	2.8	0-6
Pilon Tibia		11.3	4-18	4.8	0-10
Tibial Plateau		10.0	6-16	5.1	0-12
Tibia Shaft		8.3	2-16	3.8	0-8
Hip		8.1	4-12	5.6	0-12
Wrist		5.0	0-12	4.4	0-8
Elbow		5.3	0-12	4.8	0-10
Shoulder		5.9	0-12	5.3	0-12

References

1. Spalding TJW, Kiss J, Kyberd P, Turner-Smith A, Simpson AHRW. Driver reaction times after total knee replacement. *J Bone Joint Surg* 1994;76B:754-6
2. MacDonald W, Owen JW. The effect of total hip replacement on driving reaction. *J Bone Joint Surg (Br)* 1988;70B:202-5
3. Hau R, Csongvay S, Bartlett J. Driving reaction time after right knee arthroscopy. *Knee Surg Sports Traumatol Arthrosc.* 2000;8:89-92
4. Nguyen T, Hau R, Bartlett J. Driving reaction time before and after anterior cruciate ligament reconstruction. *Knee Surg Sports Traumatol Arthrosc.* 2000;8:226-30
5. Egol KA, Sheikhzadeh A, Moghtaderi S, Barnett A, Koval KJ. Lower-extremity function for driving an automobile after operative treatment of ankle fracture. *J Bone Joint Surg (Am)* 2003;85:1185-1189
6. Rees JL, Sharp RJ. Safety to drive after common limb fractures. *Injury* 2002;33(1):51-4