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### **The sun should not set twice before hip fracture repair**

Optimal timing to reduce mortality after hip surgery in medically stable older patients is on the day of admission or the following day, according to a large study published in *CMAJ (Canadian Medical Association Journal)*.

In Canada, about 30 000 older adults are admitted to hospital each year with hip fracture. They are at increased risk of death, with about 5% of women and 10% of men dying within 30 days. Canadian Health Ministers have set 48 hours from admission as a standard for 90% of hip fracture surgeries. However, the appropriate timing of hip fracture surgery remains a matter of debate, with some research indicating an optimal window of 24 hours.

“Our study was concerned with effects of possible changes in policy for the timing of surgery on mortality in the population of patients with hip fracture in Canada,” says lead author, Prof. Boris Sobolev, School of Population and Public Health, the University of British Columbia, Vancouver, BC.

Researchers from Canada, the United Kingdom and the United States analyzed data from the Canadian Institute for Health Information on nearly 140 000 patients aged 65 years or older who had surgery for a first-time hip fracture at 144 hospitals in Canada (38 teaching and 106 community hospitals). The majority (74%) were women and almost half were older than 85 years.

The authors asked how postoperative mortality would change if the same patient population were to undergo surgery on the day of admission, on inpatient day 2, day 3, or after day 3, as would be done in a randomized trial. Previous studies had, in contrast, compared mortality among patients with various observed times to surgery.

The authors project an additional 11 deaths for every 1000 hip fracture surgeries if all surgeries in medically stable patients were done after inpatient day 3 instead of on admission day.

“Our findings allow us to infer a critical point for the timing of hip fracture repair. We suggest that clinicians, administrators, and policy-makers ‘not let the sun set twice’ on medically stable older adults before their hip fracture repair,” says Dr. Pierre Guy, an orthopedic surgeon and a principal investigator in this study.

“We estimate that 16.5% of in-hospital deaths currently occurring in patients delayed for more than two days are avoidable by adopting the ‘don’t let the sun set twice’ policy for hip fracture patients,” he says.

The “two sunsets” recommendation is stricter than the current 48-hour standard and places the emphasis of managerial efforts on ensuring timely access to the operating room for patients whose surgery might be delayed due to late admission or hospital transfer.

The study was conducted by researchers from **University of British Columbia**, **University of Manitoba**, Winnipeg, Manitoba; **McGill University**, Montreal, Quebec; **University of Alberta**, Edmonton, Alberta; **University of Toronto**, Toronto, Ontario; **Dalhousie University**, Halifax, Nova Scotia; **Vancouver Coastal Health Research Institute**; **King’s College London**, London, United Kingdom; and **William Beaumont Army Medical Center**, El Paso, Texas, United States.

It was funded by the Canadian Institutes of Health Research (CIHR).

“*Mortality effects of timing alternatives for hip fracture surgery*” is published August 7, 2018.

#DontLetTheSunSetTwice

***MEDIA NOTE: Please use the following public links after the embargo lift:***

***Research:*** <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.171512>

***Visual abstract:*** <http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.171512/-/DC2>

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