

At A Glance

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Monthly highlights of ICES research findings for stakeholders

No increase in cardiovascular risk detected for kidney donors in years following donation

Garg A, Prasad R, Thiessen-Philbrook H, Ping L, Melo M, Gibney E, Knoll G, Karpinski M, Parikh C, Gill J, Storsley L, Vlasschaert M, Mamdani M, for the Donor Nephrectomy Outcomes Research (DONOR) Network. Cardiovascular disease and hypertension risk in living kidney donors: an analysis of administrative data in Ontario, Canada. *Transplantation*. 2008; 86(3): 399–406.

Issue	Knowledge of the potential risks associated with becoming a living kidney donor would guide future donor selection, informed consent and living donor follow-up. Existing studies did not use a healthy control group to assess outcomes attributable to donation, and their estimates of risk were variable. This study assesses the risk of death, a major cardiovascular event, or hypertension in living kidney donors.
Study	Analyzed health data on 1,278 patients who became living kidney donors in Ontario between July 1993 and March 2005. Their rates of myocardial infarction, stroke, angioplasty or bypass surgery were compared to those of 6,369 healthy adults, matched on age, sex, neighborhood income and non-physician visits (to account for the propensity to seek and receive health care). Time to death or first cardiovascular event and time to a diagnosis of hypertension were calculated for both groups.
Key Findings	<ul style="list-style-type: none">• Of the donor group, 38% had donated to a sibling, whereas 18%, 15%, 12%, 9% and 8% had donated to a parent, spouse, child, friend or another relative, respectively.• During a follow-up period of 1 to 13 years (average 6 years), 1.3% of the living kidney donors died or experienced a cardiovascular event compared to 1.7% in the control group.• More significantly, 16.3% of the donor group experienced hypertension compared with 11.9% in the control group.• Donors were seen more often by their primary care physician: 3.6 visits per year vs. 2.6 visits per year for control group members.
Implications	These results provide important safety assurances for those who consider living kidney donation and for health professionals who care for these individuals. They also emphasize the importance of counselling kidney donors to manage modifiable factors in an attempt to prevent hypertension and future cardiovascular disease.

Seriously ill hospitalized patients unaffected by SARS restrictions in Toronto

Stukel T, Schull M, Guttman A, Alter D, Li P, Vermeulen M, Manuel D, Zwarenstein M. Health impact of hospital restrictions on seriously ill hospitalized patients: lessons from the Toronto SARS outbreak. *Med Care*. 2008; 46(9): 991–997.

Issue	Restrictions on nonurgent hospital care imposed during the 2003 severe acute respiratory syndrome (SARS) outbreak in Toronto led to substantial disruptions in hospital clinical practice, admission and transfer patterns. The effect of the restrictions on seriously ill hospitalized patients, who are more sensitive to variations in hospital services, is unknown.
Study	Analyzed patients residing in Toronto or a control region not affected by restrictions (Ottawa or London) who had a hospital admission for one of seven serious conditions during three periods: pre-SARS (April 1, 2000 to March 14, 2003), peri-SARS (March 15 to July 14, 2003) and post-SARS (July 15 to November 14, 2003). Short-term mortality and readmission rates were calculated for acute myocardial infarction, hip fracture, intracerebral hemorrhage, gastrointestinal bleeding, pulmonary embolism, respiratory cancer and very low birth weight babies; as well, complication rates were calculated for very low birth weight babies.
Key Findings	<ul style="list-style-type: none">• Average 30-day mortality was similar for each medical condition across time periods within regions.• Rates of mortality and readmissions were no different for any condition in any region during or after vs. before restrictions.• Although rates of invasive cardiac procedures for acute myocardial infarction patients were 11–37% lower in Toronto during restrictions, rates of nonfatal cardiac outcomes did not change.• There was no difference in the proportion of very low birth weight babies born in or transferred to a level-III neonatal intensive care unit or in hip repair delay.
Implications	Planned, short-term restrictions on nonurgent hospital utilization and hospital transfers may be a safe public health strategy in a large well-developed healthcare system with good community-based alternatives to hospital-based specialty services. Patients with potentially serious conditions should continue to seek hospital care during such disruptions. These findings may be useful to policy makers and hospital administrators considering risk mitigation strategies for pandemic planning.

Flexible sigmoidoscopy of limited benefit in screening for cancers of the proximal colon

Rabeneck L, Lewis J, Paszat L, Saskin R, Stukel T. Risk of proximal and distal colorectal cancer following flexible sigmoidoscopy: a population-based cohort study. *Am J Gastroenterol.* 2008; 103(8): 2075–2082.

Issue	Flexible sigmoidoscopy (FS) can reach the distal colon but not the proximal colon (the section of the colon farthest from the anus). Given the association between distal and proximal adenomas, however, FS is used for the purpose of indirect screening of some proximal adenomas. Little is known about the risk of proximal and distal colorectal cancer (CRC) following flexible sigmoidoscopy (FS) in usual clinical practice.
Study	Identified all individuals 50 to 80 years of age who had a positive or negative FS in Ontario between January 1996 and December 1998; excluded those who had a previous diagnosis of CRC, ulcerative colitis or Crohn's disease, or whose service claim was not recorded in the Ontario Health Insurance Plan database. The remaining 39,762 individuals were followed from their procedure date to December 2005. Age- and sex-standardized rates of proximal and distal CRC were calculated.
Key Findings	Patients' average age was 64 years, and 57% were women. Following a negative FS, the incidence of distal, but not proximal, CRC was reduced for up to seven years. In those who had a positive FS, the incidence of distal and proximal CRC after the first year of follow-up did not differ from the Ontario population.
Implications	The benefit of FS was confined to that part of the rectum and colon that is examined during the procedure—the distal colon. In practice, there appears to be little benefit in using FS to screen the proximal colon for CRC.

Mechanically ventilated patients benefit from early tracheostomy

Scales D, Thiruchelvam D, Kiss A, Redelmeier D. The effect of tracheostomy timing during critical illness on long-term survival. *Crit Care Med.* 2008; 36(9): 2547–2557.

Issue	Between 2% and 11% of intensive care unit patients who require mechanical ventilation (breathing assistance) receive a tracheostomy (the surgical construction of an opening in the windpipe for the insertion of a tube to facilitate breathing). Optimal timing for tracheostomy is controversial.
Study	Analyzed 10,927 mechanically ventilated patients receiving a tracheostomy in Ontario between April 1992 and March 2004. Tracheostomy timing was categorized as early if performed 10 days or less, and late if performed 11 days or more, after initiation of mechanical ventilation.
Key Findings	One-third (3,758) of the patients received an early tracheostomy. These patients had lower 90-day (34.8% vs. 36.9%) and one-year (46.5% vs. 49.8%) mortality than patients receiving a late tracheostomy.
Implications	Physicians should consider performing tracheostomy earlier to achieve its established benefits (e.g., earlier weaning from mechanical ventilation, reduced ICU length of stay, prevention of ventilator-induced pneumonia and lung injury) and not in anticipation of improving long-term survival. Future research should focus on identifying which patients will receive the most benefit from the procedure.

Study shows epidural anaesthesia only slightly improves postoperative survival

Wijeyesundera D, Beattie S, Austin P, Hux J, Laupacis A. Epidural anaesthesia and survival after intermediate-to-high risk non-cardiac surgery: a population-based cohort study. *Lancet.* 2008; 372(9638): 562–569.

Issue	Epidural anaesthesia (EA) administered to the spine during surgery offers better postoperative relief than other forms of pain control and reduces the surgical stress response, which may benefit the heart and lungs. The impact of EA on survival is unknown.
Study	Analyzed 259,037 patients aged 40 years or older who underwent selected elective intermediate-to-high risk non-cardiac surgical procedures between April 1994 and March 2004 in Ontario.
Key Findings	In total, 22% of the patients received EA. Receiving EA was associated with a small reduction in 30-day mortality—1.7% in patients who received one vs. 2.0% in those who did not.
Implications	The findings do not provide compelling evidence that EA improves postoperative survival. They do support the safety of EA when used for indications other than improving survival, for example, improving postoperative pain relief and preventing postoperative pulmonary complications.