

Technological advance benefits increasing numbers of Canadians with a less invasive and safer method of abdominal aortic aneurysm repair.

There may be a “ticking time bomb” buried inside as many as 3.3 million Canadians. That is the number of Canadians who may develop an abdominal aortic aneurysm, a medical condition that is the 13th leading cause of death overall in Canada and the 10th leading cause of death in men over the age of 55.¹

technology overview

An Endovascular Stent Graft is a fabric graft, supported by metal struts, that works by taking pressure off the weakened portion of the blood vessel wall. Essentially, it replaces a section of the blood vessel.

Using X-Rays to guide them, doctors place the graft into position using a catheter threaded through the circulatory system from a small incision in the thigh. Once in place, the metal struts are expanded, securing the graft in place.

The endovascular procedure eliminates the need for complex, open surgery that may be too dangerous for high-risk patients.

An abdominal aortic aneurysm (AAA) is a permanent weakening in a section of the abdominal aorta, the main artery carrying blood from the heart. This weakened section can rupture and cause massive, often fatal, internal bleeding. AAA represent a significant health problem for individuals over age 50, and may affect between 4.1 and 14.2 per cent

of men and between 0.35 and 6.2 per cent of women.¹

People with AAA may experience no symptoms for years. When symptoms, which include back or abdominal pain, occur, it is often too late as the aneurysm has already ruptured, with the majority of patients dying despite emergency surgery. To stop this potentially fatal blood loss, preventive surgery is performed.

The London Health Sciences Centre (LHSC) in London, Ontario performs 300 to 350 of these AAA operations annually. In the past, surgical options were limited to open surgery to repair the damaged section of the aorta. Under general anesthetic, a large incision was made in the abdomen. All of the abdomen’s contents needed to be moved out of the way to provide access to the aorta, which was then clamped, cutting off circulation to the legs for a short period of time. The aorta could then be opened and repaired by inserting and sewing in a synthetic graft.

Today, AAA can be effectively treated with a much less invasive procedure called an Endovascular Stent Graft. Endovascular procedures can normally be done with local or spinal anesthetic and require only small incisions at the top of both legs. Under X-Ray guidance, a thin catheter is inserted into a blood vessel and

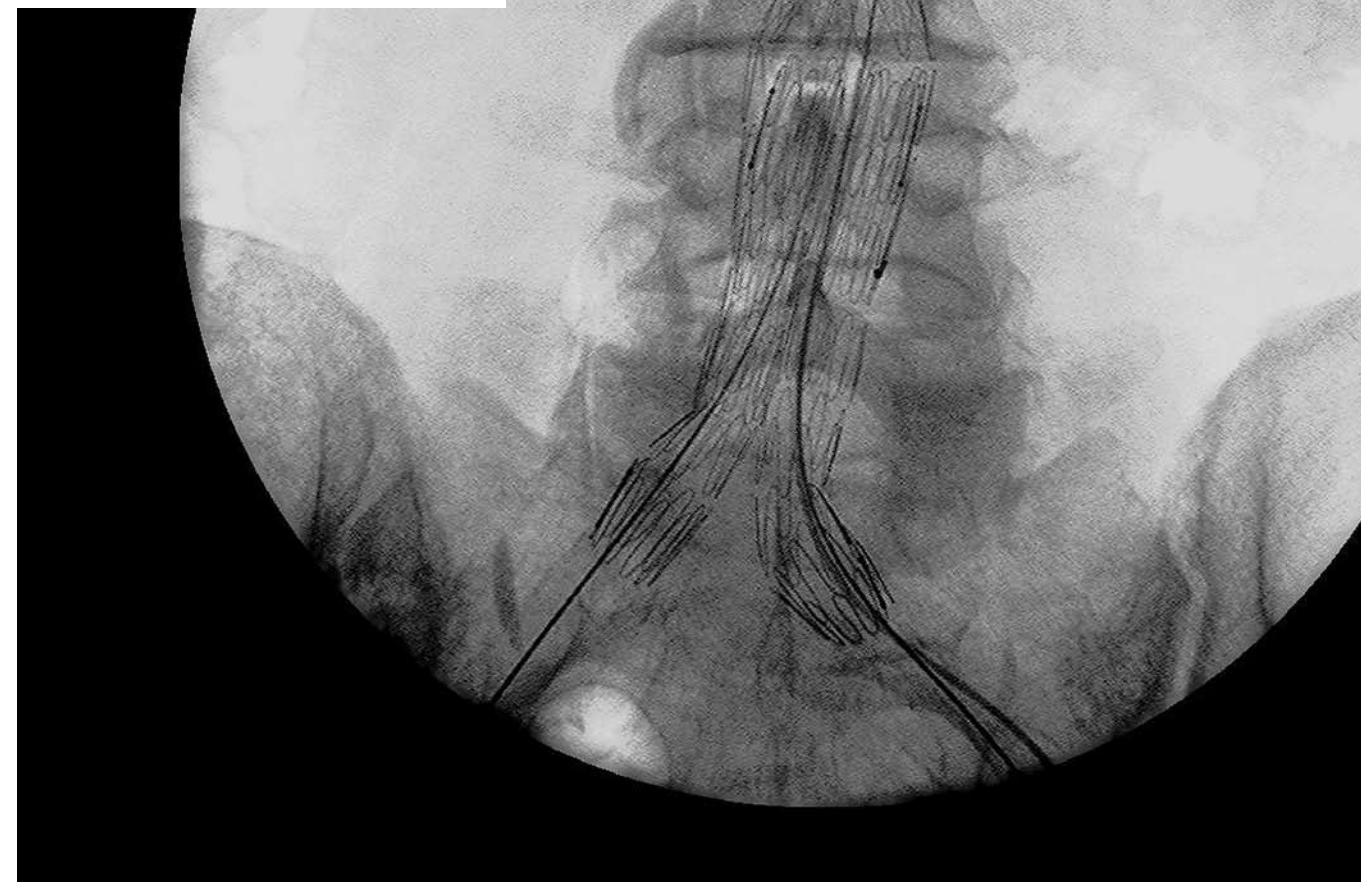
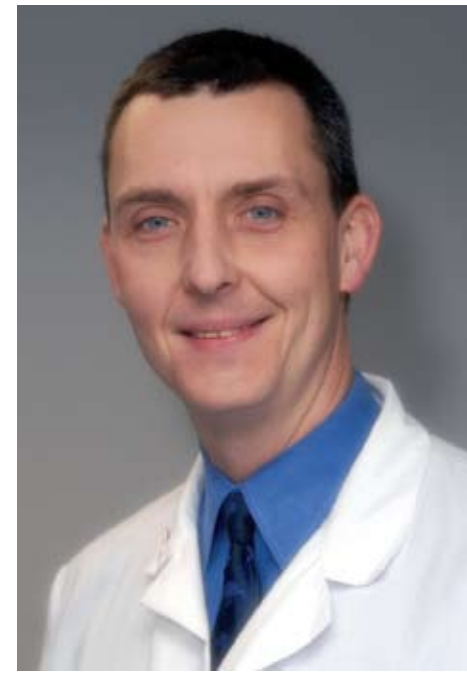
threaded up into the aorta. Once the necessary placement has been achieved, a stent graft can be expanded to provide a new lining that effectively strengthens and excludes the weakened section of the aorta.

An Endovascular Stent Graft procedure normally takes less time than an open procedure and is much less invasive, therefore putting less stress on the patient’s heart and other organs. For patients who are too weak to survive a major open surgical procedure such as a conventional aneurysm repair, endovascular stent grafting can provide a safer life-saving alternative.

“We are now able to treat patients who would otherwise receive no treatment due to the high risk of open procedures,” says Dr. Tom Forbes, of LHSC.

“In the last 10 years, we have experienced a revolution and paradigm shift in endovascular surgery. Patients have directly benefited from this.”

The endovascular stent graft procedure provides other benefits as well. It results in shorter hospital stays, reduces mortality, and allows patients to return to normal activities quicker than open surgery.¹ Shorter hospitalization periods mean it has great potential to decrease wait times for AAA treatment.



fast facts

Abdominal Aortic Aneurysm:

- 10th leading cause of death for Canadian men over 55.¹
- 13th leading cause of death overall in Canada.¹
- Occurs in 4.1% to 14.2% of men.¹
- Occurs in 0.35% to 6.2% of women.¹

¹ Bowen J, De Rose G, Blackhouse G, Novick T, Hopkins R, Tarride J-E, et al. “Systematic Review and Cost-Effectiveness Analysis of Elective Endovascular Repair Compared to Open Surgical Repair of Abdominal Aortic Aneurysms”, Ontario Health Technology Advisory Committee, HTA Report No.: HTA001-0703-02 (2007).

