

Endovascular Aneurysm Treatment

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Endovascular treatment of aneurysms (EVAR) started nearly 20 years ago, from the simple idea that a graft, nearly identical to those used in open surgery, can be supported with metallic stents and collapsed inside a tube. This tube is then introduced from inside the arteries and used to deliver the stent graft to the desired location and exclude the aneurysm from circulation. This less invasive aneurysm treatment modality can be performed through two small incisions in the groin, even under local or spinal anesthesia, and allow patients to go home in one or two days to resume normal activities in one or two weeks.

Compared to standard surgery, EVAR can reduce the death and complication rates of the aneurysm treatment by more than half. Recovery is much faster and the long term outlook is equivalent to the standard operation. However, because of possible backfilling of the aneurysm from branches or possible movement or deterioration of the stent components, lifelong follow-up after EVAR is mandatory and more frequent than after surgery. The follow-up usually means an imaging study once a year together with a visit to the vascular surgeon. Minor problems are detected in nearly one in 10 patients over time and may require an additional intervention, more often than with open surgery. Most of these are minimally invasive and performed through groin punctures as an outpatient procedure.

Because of these late interventions, EVAR was initially offered only to sick patients who could not tolerate the standard surgery. Newer devices have improved the long-term outcomes significantly and allowed the procedure to be offered to the majority of patients with aneurysms. Unfortunately, because of anatomical requirements, not all patients with aneurysms can have EVAR since the seal requires a portion of normal aorta away from essential arteries, like those that feed the kidneys. For these patients open surgery remains the standard treatment although new technological advances may expand EVAR to most patients in the near future.

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