

rates for up to 15 years. Screening was associated with more overall and elective surgeries and fewer emergency operations and lower 30-day operative mortality rates at up to 10- to 15-years of follow-up. One RCT involving 9342 women showed that screening had no benefit on AAA related mortality or all-cause mortality rates in women.

Comment: This updated review by the USPSTF reconfirms the value of aneurysm screening in older males. The data remains limited by the fact that the trials included for this evaluation consists mostly of white men outside the United States and there's little information about subgroups and rescreeing. Screening for abdominal aortic aneurysm thus far remains the only vascular condition in which the USPSTF has found benefit for the screening process, with this group previously coming out against screening for peripheral arterial disease and screening for carotid artery stenosis.

Optimizing the Outcome of Vascular Intervention for Takayasu's Arteritis

Perera AH, Youngstein T, Gibbs RGJ, et al. *Br J Surg* 2014;101:43-50.

Conclusions: Perioperative assessment in a detailed fashion will improve vascular outcomes of Takayasu's arteritis with focus on measurement of disease activity and using optimal immunomodulatory therapy before and after the procedure.

Summary: Takayasu's arteritis (TA) is a large-vessel vascular arteritis characterized by granulomatous changes of the aorta and its major branches. The typical patient is under 40 years of age and the Takayasu's process results in stenotic or occlusive lesions predisposed to symptoms of end-organ ischaemia such as claudication or hypertension. Less commonly there is medial degeneration and aneurysmal dilation. There are numerous imaging modalities including [¹⁸F] fluorodeoxyglucose combined positron emission and computed tomography (¹⁸F-FDG-PET-CT), Doppler ultrasonography, magnetic resonance angiography or CT angiography that have the ability to identify prestenotic disease, and to reveal the extent of arterial injury and perhaps to help monitor the response to immunomodulatory therapy (Mason JC, *Nat Rev Rheumatol* 2010;6:406-415). Poor outcomes in patients with Takayasu's arteritis have been attributed to delayed diagnosis, which may result from a lack of awareness of the condition, as well as late administration of adequate medical treatment. Poor outcomes also can result from inadequate patient selection and suboptimal timing of vascular intervention. The authors sought to analyze, retrospectively, a cohort of patients with Takayasu's arteritis in the UK, to try to identify and analyze outcomes of open surgical and endovascular interventions and to report concurrent use of imaging before and after the procedure and also to investigate the impact of perioperative immunosuppressive therapy. This was a retrospective view of patients with Takayasu's arteritis referred from 2001 and 2012 to a single tertiary care center. 97 patients with Takayasu's arteritis were seen. Immunosuppression was required in 87 patients (90%). Thirty-seven (38%) underwent 64 procedures: 27 patients underwent 33 open surgical procedures and 20 patients had 31 endovascular procedure. After a median follow-up of 6 years, the overall success rate was 79% for open surgery (mean graft patency, 9.4 years) and 52% for endovascular procedures ($P = .035$). Procedural failure was reduced in patients receiving perioperative immunosuppression, particularly in those with endovascular procedures ($P = .001$). Clinical examination, measurement of acute-phase reactants and combination non-invasive imaging including Doppler ultrasonography, [¹⁸F] fluorodeoxyglucose combined positron emission and computed tomography (CT), magnetic resonance angiography and CT angiography were used to identify arterial lesions, establish the diagnosis and monitor treatment outcomes. Overall and cumulative intervention failure rate was 34% (22 of 64), 7 (21%) of the 33 open and 15 (48%) of the 31 endovascular procedures. Analyses of the outcomes of intervention suggested significantly improved results in those who received immunosuppression before an endovascular intervention ($P = .001$), but not necessarily for those that received an open surgery ($P = .095$). Six of the seven failed open procedures were done in patients who did not receive preoperative medical therapy. 14 of 15 open procedures in patients who received medical therapy achieved long-term patency (93%). In the endovascular group, 13 of the 15 failed procedures were not associated with preoperative immunomodulatory therapy. However, 12 of 14 endovascular procedures associated with preoperative immunomodulatory therapy remained patent.

Comment: In general, immunosuppression at the time of surgery is considered a potential cause of postoperative complications. In this series, however, no patient receiving immunosuppressive therapy at the time of their procedure had a life-threatening complication and there were no deleterious effects of immunosuppressive therapy on surgical recovery or wound infection noted. The data here would suggest that active suppression of the Takayasu disease process at the time of therapy with immunosuppression should be strongly considered with the benefits of improved reconstruction patency outweighing the adverse effects of the immunosuppression in the perioperative period.

Introduction of Surgical Safety Checklists in Ontario, Canada

Urbach DR, Govindarajan A, Saskin R, et al. *N Engl J Med* 2014;370:1029-38.

Conclusions: Implementation of surgical safety checklists in Ontario, Canada did not result in significant reductions of operative mortality or complications.

Summary: In 2009, a study was published that suggested the implementation of a 19-item World Health Organization (WHO) Surgical Safety Checklist substantially reduces the rate of surgical complications, from 11.0% to 7.0% in that study, and reduced the rate of in-hospital deaths from 1.5% to 0.8% (Haynes AB et al, *N Engl J Med* 2009;360:491-9). Largely as a direct result of that study surgical safety checklists were implemented in thousands of hospitals world-wide in an effort to reduce in-hospital complications and mortality. However, studies of the effects of implementations of these checklists have been observational and limited to small numbers of centers, and frequently have not evaluated patient outcomes and have not showed the magnitude of effectiveness found in the WHO study. Only studies including team training, and more comprehensive safety systems that included multiple checklists have shown effectiveness similar to those seen in the WHO study (Young-Xu Y et al, *Arch Surg* 2011;146:1368-73, and de Vries EN et al, *N Engl J Med* 2010;363:1928-37). In Ontario, Canada the Ministry of Health and Long-Term Care mandated public reporting of adherence to surgical safety checklists for hospitals beginning in July 2010. The authors felt this rapid implementation of surgical safety checklists in Ontario was a natural experiment to evaluate the effectiveness of checklist implementation at the population level in typical practice settings. They surveyed all acute care hospitals in Ontario to determine when surgical safety checklists were adopted. Using administrative health data they then compared operative mortality and rates of surgical complications linked to hospital stay and rates of hospital readmission and urgent or emergency department visits within 30 days after discharge among patients undergoing a variety of surgical procedures, before and after adoption of the checklists. During the 3-month period before and after adoption of the surgical safety checklists a total of 101 hospitals performed 109,341 and 106,370 procedures, respectively. Adjusted risk of death during a hospital stay within 30 days after surgery was 0.71% (95% CI, 0.66-0.76) before implementation of a surgical checklist and 0.65% (95% CI, 0.60-0.70) afterward (odds ratio, 0.91; 95% CI, 0.80-1.03; $P = .13$). Adjusted risk of surgical complications was 3.86% (95% CI, 3.76-3.96) before implementation and 3.82% (95% CI, 3.71-3.92) afterward (odds ratio, 0.97; 95% CI, 0.90-1.03; $P = .29$).

Comment: The absence of effect of checklist implementation in this study may reflect many possibilities. Perhaps published evidence on the efficacy of implementing checklists within hospitals that participate in safety research is not generalizable to all hospitals. Surgical safety checklists may also be less effective in practice than suggested by existing literature. Perhaps, as the authors point out, there is a Hawthorne Effect with a tendency to perform better when work is under scrutiny that may explain the strong effect of surgical safety checklists in studies in which hospitals where workers were aware of the intervention under study. There may also be publication bias in that hospital based studies showing improvements in outcomes after checklist implementation are more likely to be published than negative studies. Also, as noted above, there may also be a greater effect of surgical safety checklists when intensive team training is utilized along with implementation of the checklists, and where there is better monitoring compliance. Nevertheless, it does appear that the effectiveness of surgical safety checklists, which have never been evaluated in a randomized control trial, perhaps should undergo greater scrutiny.

Mortality From Ruptured Abdominal Aortic Aneurysms: Clinical Lessons From a Comparison of Outcomes in England and the USA

Karthikesalingam A, Holt PJ, Vidal-Diez A, et al. *Lancet* 2014;383:963-9.

Conclusions: In-hospital survival from ruptured abdominal aortic aneurysm (rAAA), intervention rates, and use of endovascular repair are lower in England than in the USA. In England and the USA, lowest mortality for rAAA is seen in teaching hospitals with larger bed capacities and doing a greater proportion of cases with endovascular repair.

Summary: Outcomes of patients with rAAA vary by country. There are likely modifiable technical, organizational and hospital related factors that play important roles in patient care and outcomes of rAAA. Such variables merit further study to help optimize service delivery and improve patient outcomes for care of what is otherwise a fatal disease. In this paper, the authors compare data from the Hospital Episode Statistics for England and the Nationwide Inpatient Sample for the USA for patients admitted to hospital with rAAA from 2005 to 2010. Primary outcomes were in-hospital mortality, mortality after intervention, and decision to follow noncorrective treatment. In-hospital mortality and the rates of non-corrective treatment