Bariatric surgery for type 2 diabetes
A study in the USA randomized 150 obese patients (body mass index 27–43 kg/m²) with uncontrolled type 2 diabetes to intensive medical therapy or a combination of intensive medical therapy with either Roux-en-Y gastric bypass or sleeve gastrectomy. At the end of 1 year, the primary end-point of a glycated haemoglobin <6% was met in 12% of patients in the medical therapy group, 42% in the gastric bypass group (p=0.002) and 37% in the sleeve gastrectomy group (p=0.008). Insulin resistance decreased significantly in patients who underwent bariatric surgery as did the use of lipid, glucose and blood pressure-lowering drugs (N Engl J Med 2012;366:1567–76).

Lung protective ventilation in acute lung injury
A multicentre, prospective cohort study from Baltimore, USA, evaluated the effect of lung protective mechanical ventilation (volume and pressure limited) on long-term survival in 485 patients with acute lung injury. Ventilator settings were recorded twice a day with settings adherent to lung protective ventilation defined as those with a tidal volume ≤6.5 ml/kg and a plateau airway pressure of ≤30 cm H₂O. At the end of 2 years, 311 (64%) of the patients had died. The median duration of mechanical ventilation was 9 days. Complete adherence to lung protective ventilation settings led to a significant 7.8% absolute decline in 2-year mortality. There was an 18% relative increase in mortality for each 1 ml/kg increase in tidal volume (BMJ 2012;344:e2124 doi: 10.1136/bmj.e2124).

Initiating antiretroviral treatment in HIV-positive patients
In a major departure from previous guidelines, the US Department of Health and Human Services has issued new guidelines suggesting that antiretroviral therapy (ART) should be initiated in all patients with HIV infection. This recommendation is based on evidence that ongoing, untreated HIV replication adversely affects the course of the disease and effective ART prevents transmission. ART is strongly recommended for asymptomatic patients with a CD4 count of <500 cells/μm³ and moderately strongly for those with a CD4 count >500 cells/μm³. Regardless of CD4 counts, ART should be started in patients who are pregnant, have an AIDS-defining illness, co-infection with hepatitis B or HIV-associated nephropathy (available at http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf accessed on 27 Apr 2012).

Avoid red meat
Results from two large prospective cohort studies suggest that consumption of red meat increases mortality. The Health Professionals Follow-up Study (1986–2008) observed 37 644 women who had no cardiovascular disease or malignancy at baseline. A food frequency questionnaire was used to assess diet and all deaths were recorded. During 2.96 million person-years of follow-up, there were 29 926 deaths (5910 from cardiovascular disease and 9464 from cancer). Pooled hazard ratios for a one serving per day increase in red meat consumption were 1.13 for unprocessed and 1.20 for processed red meat. Substituting one serving per day of red meat with fish, poultry, nuts, legumes, low-fat dairy or whole grains was estimated to lead to a 7% to 19% lower mortality rate. Time to pass up red meat (Arch Intern Med 2012;172:555–63).

Coronary artery bypass grafting or percutaneous coronary intervention?
The American College of Cardiology Foundation (ACCF) and the Society of Thoracic Surgeons (STS) worked together to assess the efficacy of coronary artery bypass grafting (CABG) versus percutaneous coronary intervention (PCI). Linking data from the ACCF National Cardiovascular Data Registry and the STS Adult Cardiac Surgery Database, the two procedures were compared over a period of 4 years among patients 65 years or older who had double- or triple-vessel disease. Of these, 86 244 underwent CABG and 103 549 underwent PCI. Mortality at 1 year was similar in the two groups—6.24% in the CABG group and 6.55% in the PCI group. At 4 years, the mortality was lower in the CABG group (16.4%) than in the PCI group (20.8%) (N Engl J Med 2012;366:1467–76).

Mortality among liver donors
In a prospective study in the USA, 4111 liver donors were followed up for a mean of 7.6 years. Seven donors had early deaths (1.7 per 1000). The risk of death was not affected by the age of the recipients or by the portion of liver donated. The combined end-point of early deaths or liver failure occurred in 11 patients (2.9 per 1000). Long-term mortality in liver donors was comparable to that in live kidney donors and healthy participants chosen from National Health and Nutrition Examination Survey (NHANES III) (1.2%, 1.2% and 1.4% at 11 years, respectively). These results are reassuring for potential liver donors (Gastroenterology 2012;142:273–80).

Low-dose CT in the diagnosis of appendicitis
CT of the abdomen is commonly used in patients with suspected appendicitis. To address concerns about radiation exposure during the procedure, researchers in South Korea randomly assigned 891 patients aged 15 to 44 years to either low-dose (n=444) or standard-dose (n=447) CT of the abdomen. In the low-dose CT group, 172 patients underwent appendectomies and 249 were discharged without surgery. These figures were 186 and 246, respectively, in the standard-dose CT group. The negative (unnecessary) appendectomy rates were 3.5% (6 of 172 patients) and 3.2% (6 of 186 patients) in the low-dose and standard-dose CT groups. Appendiceal perforations occurred in 26.5% and 23.3% of patients in the two groups, respectively (p=0.46). Low-dose CT of the abdomen was found to be non-inferior to standard-dose CT (N Engl J Med 2012;366:1596–605).

Open versus endovascular repair of abdominal aortic aneurysms
A retrospective study among Medicare beneficiaries in the USA evaluated 4529 patients 65 years of age or older who underwent endovascular (n=3826) or open (n=703) repair for an abdominal aortic aneurysm. Mean follow-up duration was 2.6 years. Both all-cause mortality (89 v. 76 per 1000 person-years for open and endovascular repair, respectively) and aneurysm-specific mortality were higher in patients who underwent open repair. The average duration of stay in hospital was 6.5 days longer following open repair. Endovascular repair seems to be the procedure of choice for abdominal aortic aneurysms (JAMA 2012;307:1621–8).

VIVEK ARYA