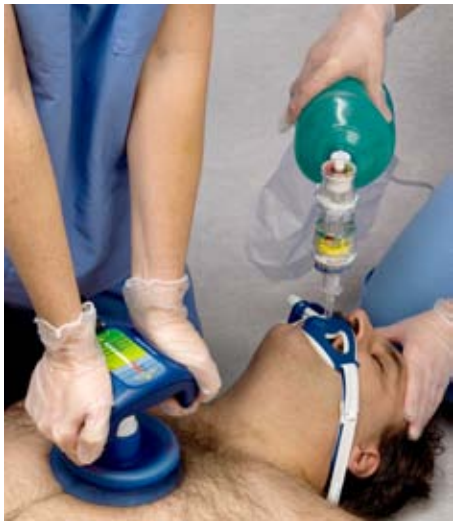
SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

Alison Tonks, associate editor, *BMJ* atonks@bmj.com

"It's a well-known fact that perimenopausal American women flash, while English ladies prefer to flush"

Richard Lehman's journal blog at www.bmj.com/blogs



ADVANCED CIRCULATORY SYSTEMS

Augmented CPR improves survival after cardiac arrest outside hospital

Measures to improve the efficiency of cardiopulmonary resuscitation include a suction cup attached to the patient's chest that enables the rescuer to pull up as well as push down, and an impedance valve placed between the bag and mask (or advanced airway) to limit passive entry of air during chest recoil and keep intrathoracic pressure down. Both measures encourage venous return and boost blood flow to vital organs. But do they save lives?

In a large trial from the US, use of both devices together significantly improved the odds of surviving an out of hospital cardiac arrest with no more than moderate disability (9% (75/840) *v* 6% (47/ 813); odds ratio 1.58, 95% CI 1.07 to 2.36). Controls had standard cardiopulmonary resuscitation. The survival benefits emerged at hospital discharge and lasted for at least one year, despite a significant excess of pulmonary oedema in patients resuscitated with the new devices (11% (94/840) *v* 7% (62/813); P=0.015).

One commentator (doi:10.1016/S0140-6736(10)62309-4) described these results as striking but warned professional bodies and rescue services to wait for independent confirmation before launching wholesale reform of CPR protocols. This trial was paid for by the manufacturer of both devices, and even they ran out of money before researchers could determine which device was responsible for improving survival. A third arm testing the impedance valve alone had to be abandoned because recruitment was so slow.

Lancet 2011; doi:10.1016/S0140-6736(10)62103-4

Researchers characterise risky coronary artery lesions using intraluminal ultrasound

Around a fifth (135/697) of a cohort of patients treated successfully for acute coronary syndrome had another event within three years. Worsening or unstable angina was the most common problem, although a minority (31/697) had a myocardial infarction, a cardiac arrest, or a cardiac death. An estimated 12.9% of the cohort had an event caused by their original coronary artery lesion. An estimated 11.6% had events caused by a different lesion, untreated during their previous percutaneous coronary intervention.

The 106 "non-culprit" lesions looked fairly benign angiographically, but intraluminal ultrasound showed that they had a high plaque burden of at least 70%, a small luminal area, and the presence of a fibroatheroma with a thin cap. All three characteristics, measured at baseline, were significantly associated with clinical events during the three years of follow-up (hazard ratios 5.03 (95% CI 2.51 to 10.11), 3.21 (1.61 to 6.42), and 3.35 (1.77 to 6.36). Insulin dependent diabetes was also associated with a high risk of events caused by previously untreated lesions (3.32; 1.43 to 7.72).

The ultimate goal is to find and treat risky atheromatous lesions before they cause trouble. These findings are a start, say researchers. But the associations reported here weren't powerful enough to be useful clinically; for example, they found 595 thin capped fibroatheromas in total and only 26 of them went on to cause cardiac events. More importantly, 1.6% of the cohort (11/697) had serious complications after intravascular ultrasound, including 10 dissections and a perforation.

N Engl J Med 2011;364:226-35

Sophisticated initiative improves quality in intensive care units

A complex initiative to improve quality and safety in intensive care units had a measurable impact on key processes in a randomised trial from Canada. The initiative targeted six separate practices thought to improve outcomes for patients. It included education audit and feedback delivered during video conferencing forums; checklists, alogorithms, and easy to read guidance on pocket cards and posters (and even lapel badges); local champions to keep up the pressure between conferences; and a bibliography of relevant literature.

Overall, quality of care improved significantly (summary ratio of odds ratios for improvement 2.79, 95% CI 1.00 to 7.74), driven by large increases in the use of semi-recumbent positioning—which helps prevent pneumonia—and sterile precautions during insertion of central venous catheters. The other four practices changed little, possibly because adherence was already high in many units before the trial.

Researchers were inventive with their cluster randomised design. All 15 units received the intervention, one target at a time. During sequential four month periods, they simultaneously acted as an intervention unit for one practice—early enteral feeding, say—and a control unit for another practice, such as regular checks for pressure sores.

Did better processes translate into fewer pneumonias, fewer bloodstream infections, or fewer deaths? We may never know, says a linked editorial (doi:10.1001/jama.2011.8). Even this large state of the art trial wasn't powerful enough to look for an effect on patients.

JAMA 2011; doi:10.1001/jama.2010.2000

People with insomnia need better access to talking treatments

We know that cognitive and behavioural treatments can help people with insomnia to sleep better and feel better. After 30 years of positive research these treatments are still unavailable to most people who need them, writes one observer (doi:10.1001/archinternmed.2010.526). Few cognitive and behavioural treatments have penetrated far into primary care, possibly because they are seen as intensive, prolonged, complex, and specialised.

They don't need to be, he writes. Briefer interventions delivered by nurse practitioners can also work. The latest trial reported success with a low intensity behavioural therapy delivered in a primary care setting to older adults with insomnia and a mean of five other chronic health problems each. A trained nurse practitioner gave advice about sleep related behaviour in an hour or so of face to face therapy, followed by one shorter follow-up visit and two telephone calls over four weeks. Two thirds of these patients responded (67%) compared with a quarter of controls given written information and a 10

minute telephone call (25%, P<0.001). The intervention improved sleep efficiency, sleep quality, and self reported measures of general health.

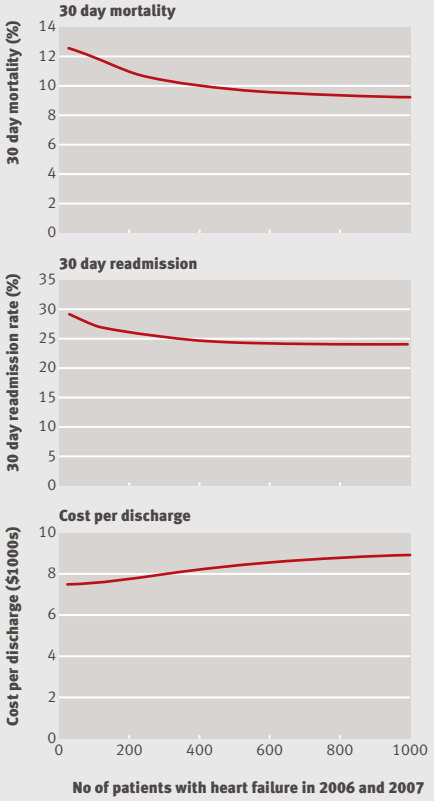
The trial was small (n=79) and follow-up was short. But these adults were older and sicker than adults in previous trials, says the observer. Dissemination of talking treatments for insomnia is long overdue, and clinics specialising in the care of older people might be a good place to start.

Arch Intern Med 2011; doi:10.1001/archinternmed.2010.535

Patients with heart failure do better in high volume hospitals

We know that patients needing surgery or cardiovascular procedures tend to do better in hospitals that perform large numbers of those operations or procedures. There may also be a link between volume and outcomes for older people with heart failure, according to a large observational analysis from the US. High volume hospitals recorded significantly lower mortality (8.6% *v* 10.2%; P<0.001) than low volume hospitals. They were better at process measures such as discharge instructions and prescribing the right drugs. High volume hospitals also had lower readmission rates than low volume hospitals in some but not all analyses.

ASSOCIATION BETWEEN VOLUME, OUTCOMES, AND COSTS



Adapted from *Ann Intern Med* 2011;154:94-102

The authors were expecting economies of scale and were surprised to find that care cost more in high volume hospitals.

They examined data from 4095 hospitals across the US, which between them discharged more than a million patients with heart failure in 2006 and 2007, all aged 65 or more and funded by the state. The association between volume and outcome was strongest for those hospitals treating less than 200 patients during the two year study (2133 hospitals). There is little to be gained above this threshold, say the authors, who warn against concentrating care in "super centres."

These analyses were adjusted for case mix and hospital characteristics as far as possible, although the authors had no data on severity of heart failure. They think it unlikely that sicker patients went to lower volume hospitals.

Ann Intern Med 2011;154:94-102

Occult metastases in sentinel nodes have a limited effect on survival

Standard pathological examination of sentinel lymph nodes from women with breast cancer can miss tiny micrometastases and clusters of abnormal cells. In one cohort study, 15.9% (95% CI 14.7 to 17.1) of 3887 women with "negative" sentinel nodes actually had occult metastases when pathologists examined the nodes more closely. They took thinner slices, deeper into the tissue sample, and used more sophisticated staining techniques to show these new abnormalities, most of which were isolated clusters of tumour cells.

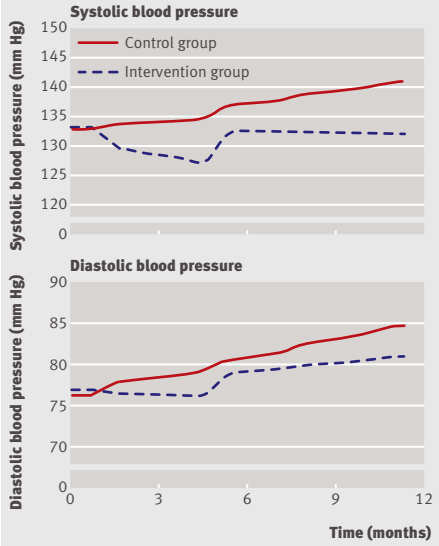
The presence of new abnormalities was a risk factor for disease recurrence and death (adjusted hazard ratio for death 1.4, 95% CI 1.05 to 1.86), but their effect on five year survival was small (94.6% for women with new abnormalities *v* 95.8% for women without). The authors argue against routinely looking for micrometastases in sentinel lymph nodes and suggest that pathologists stick to their standard techniques for now. They plan longer follow-up to find out if outcomes diverge any further. The current analyses were done after a median follow-up of eight years (95.3 months).

The women in this study came from an earlier randomised trial comparing sentinel node biopsy alone with sentinel node biopsy plus axillary dissection for primary breast cancer. Only node negative women were included in the secondary analysis. Nodes were examined retrospectively, by pathologists who did not know women's clinical details or the trial arm they had been allocated to. Their findings did not inform treatment.

N Engl J Med doi:10.1056/NEJMoa1008108

Storytelling for hypertension?

MODELLED BLOOD PRESSURE IN STORY TELLING AND CONTROL GROUPS



Adapted from *Ann Intern Med* 2011;154:77-84

People don't always do what doctors tell them, particularly when it comes to losing weight, exercising more, or taking tablets for a dangerous but symptom-free disease such as hypertension. Encouragement from other patients may be a better way to get the message across, so researchers from Alabama shot carefully crafted footage of people with hypertension telling their own stories. The stories included advice on how to talk to doctors, manage drugs, and improve lifestyles. The 14 storytellers were from the same communities as the patients with hypertension who these researchers were trying to reach. They had the same medical and social problems, and the same cultural background. All were African-American.

Researchers put their footage onto a series of three DVDs and mailed them to half the participants in a randomised trial (n=299). These participants had better controlled blood pressure over the next six months than controls sent DVDs on general health instead. Storytelling seemed to work best for a subgroup of patients with uncontrolled hypertension at the start of the trial. Their systolic and diastolic blood pressures fell by 11.2 mm Hg (95% CI 2.5 to 19.9) and 6.43 mm Hg (1.49 to 11.45) more than controls. Both differences were significant.

The study had its problems—the benefits of storytelling looked relatively brief and may only apply to African-Americans on low incomes (the profile of these participants). But there is enough here to justify further research, says an editorial (p 129). Storytelling on Twitter, Facebook, or YouTube could be next.

Ann Intern Med 2011;154:77-84

Cite this as: *BMJ* 2011;342:d429