All you need to read in the other general medical journals
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**"Ee, it were grim up North in my day; and few places were grimmer than the Chest Clinic at Chesterfield, where a line of wheezing men would sit in a dim corridor with peeling paint awaiting the attentions of the local chest physician"**
Richard Lehman's blog at www.bmj.com/blogs

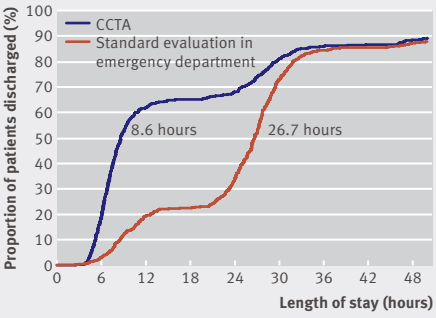
## Early treatment for HIV linked to lower risk of tuberculosis

HIV is driving a resurgence of tuberculosis worldwide, particularly in sub-Saharan Africa, where 40% of new cases of tuberculosis in 2010 were related to HIV infection. The World Health Organization recommends prophylaxis with isoniazid for adults with HIV, but uptake is poor, particularly where need is greatest. Initiation of antiretroviral therapy (ART) was also associated with a lower risk of new tuberculosis in a systematic review of 11 studies from sub-Saharan Africa, South America, Asia, and the Caribbean. The overall association was powerful (hazard ratio for tuberculosis 0.35, 95% CI 0.28 to 0.44) and seemed consistent in adults with higher and lower CD4 counts at the start of treatment.

Eight of the studies in the review were observational, so it is hard to say for certain whether the association between HIV treatment and a lower risk of tuberculosis is causal or the result of fundamental differences between adults given ART and those who miss out. The authors weren't able to explore the confounding effects of isoniazid prophylaxis, for example. Randomised trials that overcome these problems are on the way. Meanwhile, these authors were particularly encouraged that ART seems to be linked to a lower incidence of tuberculosis even in adults who started treatment early—when their CD4 counts were still above $350\times10^6$ cells/L. They would not be eligible for ART under current recommendations, and policy makers weighing up the pros and cons of earlier treatment for HIV may want to add this new finding to their deliberations, say the authors.

*PLoS Med* 2012;9:e1001270

**Length of stay**




Adapted from *N Engl J Med* 2012;367:299-308

## Triaging patients with suspicious chest pain

Coronary computed tomographic angiography (CCTA) is one option for patients with suspicious chest pain who have no ischaemic changes on an electrocardiogram and a negative troponin test. CCTA is good at ruling out acute coronary syndromes in these patients and worked faster than more traditional strategies in a recent trial. Adults who had CCTA went home 7.6 hours earlier on average than controls who had a mix of tests (or none), including stress echocardiography and single photon emission computed tomography. The authors recruited 1000 patients from nine US emergency departments. Just 75 had an acute coronary syndrome diagnosed at the index visit. Eight more cases emerged in the month after discharge—six of them after standard evaluation at the index visit.

So, CCTA helps rule out acute coronary syndromes faster than standard triage. But it does have drawbacks, including more radiation, more tests, and more interventions downstream, says an editorial (p 375). Do patients with no history, a non-ischaemic electrocardiogram, and a negative troponin test need any further testing at all? They have a low risk of major cardiovascular events, and there is no evidence that more tests reduce that risk any further. An assessment based on age, sex, and history of cardiovascular disease should be enough if followed by an outpatient appointment a few weeks later. The patients in this study had a mean age of 54 years and about half were women.

*N Engl J Med* 2012;367:299-308

## High risk of myocardial infarction after joint replacement surgery

A large Danish study has confirmed that major joint replacement surgery is associated with an increased risk of myocardial infarction in the postoperative period. Adults having a total hip replacement were 25 times more likely to have a myocardial infarction in the first two weeks after surgery than matched controls who had no surgery (adjusted hazard ratio 25.5, 95% CI 17.1 to 37.9). Risk took six weeks to return to normal. The relative risk after a total knee replacement was of similar size, but seemed to fall faster. Overall, 0.51% of adults having hip replacement and 0.21% of adults having a knee replacement had a myocardial infarction within six weeks of surgery.

The authors linked Denmark's national registers to model the association between joint replacement and myocardial infarction. They had data on more than 95 227 adults who had surgery between 1998 and 2007 and more than 25 000 controls. Relative risks were highest for those over 80 years, men, and anyone with a previous heart attack, particularly if it was recent.

The link between myocardial ischaemia and major surgery of all kinds is now well established, says a linked editorial (doi:10.1001/archinternmed.2012.3776). The editorialist suggests that clinicians should probably move on from a purely observational approach to something more proactive. Strategies to protect the myocardium include preoperative β blockers, statins, and aspirin. Careful perioperative management of the patient's own anti-ischaemic drugs is also important and often overlooked. Unnecessary breaks in treatment are known to cause substantial cardiac morbidity.

*Arch Intern Med* 2012; doi:10.1001/archinternmed.2012.2713

## Exercise for depression in adults with heart failure?

A moderate amount of exercise may help control depression in people with heart failure. About 90 minutes of exercise a week was associated with a slight but significant drop in symptom scores in a recent trial that compared exercise with standard care (mean scores after 12 months 8.86 *v* 9.54; difference −0.68, 95% CI −1.20 to −0.16). This is an encouraging sign, say the authors, although the effect may have been too modest to be clinically noticeable. Exercise, in groups initially then at home, was also associated with slightly but significantly fewer deaths and admissions to hospital over 30 months (combined outcome 66% (759/1158) *v* 68% (789/1164); hazard ratio 0.89, 0.81 to 0.99).

These were secondary analyses from a previously published trial, and there were limitations, including relatively poor adherence to prescribed exercise and a population with a low prevalence of clinical depression. Only a quarter of the 2322 adults taking part had a symptom score above the threshold for depression and the

median symptom score was just 8 out of a possible 63. All participants were willing and able to exercise, had a ventricular ejection fraction of 35% or less, and New York Heart Association class I-IV symptoms despite optimal medical management.

*JAMA* 2012;308:465-74

## Drug resistant HIV rises in eastern and southern Africa

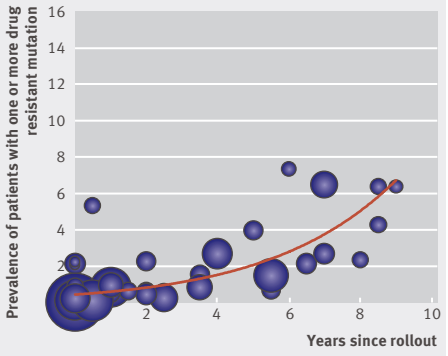
The prevalence of drug resistant HIV-1 is rising fast in some parts of sub-Saharan Africa, according to a global study of more than 26 000 untreated adults. The prevalence of resistant mutations rose fastest in eastern countries, from an estimated 1.0% before the scale-up of antiretroviral treatment to an estimated 7.4% eight years later. Rates of resistance rose more slowly, but still significantly, in southern Africa. In both regions this rise was driven by soaring rates of resistance to non-nucleoside reverse transcriptase inhibitors (NNRTIs). The relative increase was 36% a year (95% CI 21% to 52%) in eastern countries and 23% a year (7% to 42%) in the south.

The authors found no evidence of worsening drug resistance in western or central Africa, or in Latin America. They analysed data from 162 study reports and another 27 datasets from the WHO surveillance programme for HIV drug resistance.

The trends in vulnerable parts of Africa are worrying, say the authors, and a side effect of the rapid expansion of antiretroviral treatment during the past decade. But we haven't yet reached the point where the only option is to rewrite guidelines and change first line treatments. These countries need better surveillance, stronger supply chains, improved adherence, a faster response to treatment failures (including better monitoring of viral loads), and easier access to effective second line options first, says a linked comment (doi:10.1016/S0140-6736(12)61188-X). The World Health Organization and the Joint United Nations Programme on HIV/AIDS are already working on some of these strategic measures, with the aim of saving 10 million lives by 2025.

*Lancet* 2012; doi:10.1016/S0140-6736(12)61038-1

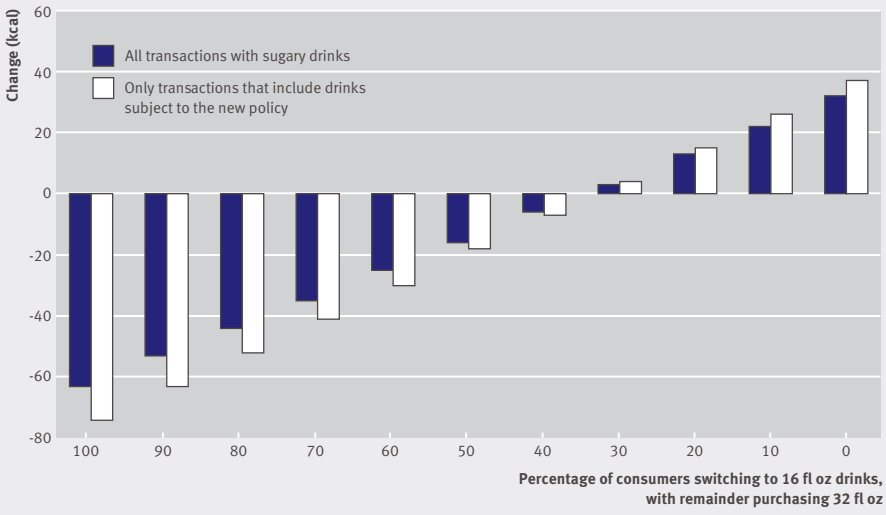
**Prevalence of resistance to NNRTIs in east Africa**




The size of each circle is proportional to the precision of the estimate in that study

Adapted from *Lancet* 2012;doi:10.1016/S0140-6736(12)61038-1

**Changes in calories from sugary drinks**




Adapted from *N Engl J Med* 2012;doi:10.1056/NEJMc1208

## Calorie consumption is likely to fall after a ban on supersized drinks

Public health authorities in New York are considering limiting the size of sugary drinks served in restaurants to no more than 16 fl oz (0.45 L). Supersized drinks are thought to contribute to the city's substantial obesity problem, and a ban could help reduce calorie consumption. Almost two thirds (62%) of sugary drinks were too big for the new policy in an analysis of receipts from fast food chains in four US cities. The authors estimate that sugary drinks add an average of 197 kcal (824 kJ) to each fast food meal, or 230 kcal to meals containing a drink big enough to be banned by the new policy.

They also estimate that if all consumers swapped their banned supersized drink for a 16 fl oz drink calorie consumption at each fast food meal would fall by between 63 kcal (95% CI 61 to 66) and 74 kcal (78 to 71) per consumer. Fewer calories would be saved if consumers switched from one large drink to two smaller ones (total 32 fl oz). Further simulated analyses suggested that calorie savings would be wiped out only if at least 70% of consumers responded to the new policy by buying two 16 oz drinks instead. Calorie consumption would increase only if at least 80% of consumers responded this way. All analyses excluded milk shakes.

*N Engl J Med* 2012; doi:10.1056/NEJMc1208

## Lower odds of fracture after cataract surgery

US researchers have found a clear link between surgery for cataracts and a lower risk of fractures in people over 65 years. Their state of the art analysis used national Medicare data on more than one million adults with cataract to compare the third (410 809; 36.9%) who had surgery with the two thirds who did not. After extensive adjustments to iron out the many clinical and demographic differences between the two groups, the odds of hip fracture were significantly lower for those who had surgery (adjusted odds ratio 0.84, 95% CI 0.81 to 0.87). Odds of any fracture were also reduced after surgery (0.95, 0.93 to 0.97).

The strongest analyses used propensity scoring to compare two groups with similar profiles and a roughly equal chance of being offered surgery. Surgery had the biggest impact on the highest scorers. So in the top tenth of propensity scores, 6.52% of those who did have surgery and 7.52% of those who did not had a fracture during one year of follow-up (odds ratio 0.86, 0.81 to 0.91). Rates of hip fracture were 1.58% and 2.32% (0.68, 0.61 to 0.75).

Older sicker adults with more severe cataracts had the lowest odds of fracture after surgery in this study. A direct effect can't be guaranteed but looks plausible, say the authors. Poor vision is a powerful risk factor for falls and fractures in this age group.

*JAMA* 2012;308:493-501

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