

# SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

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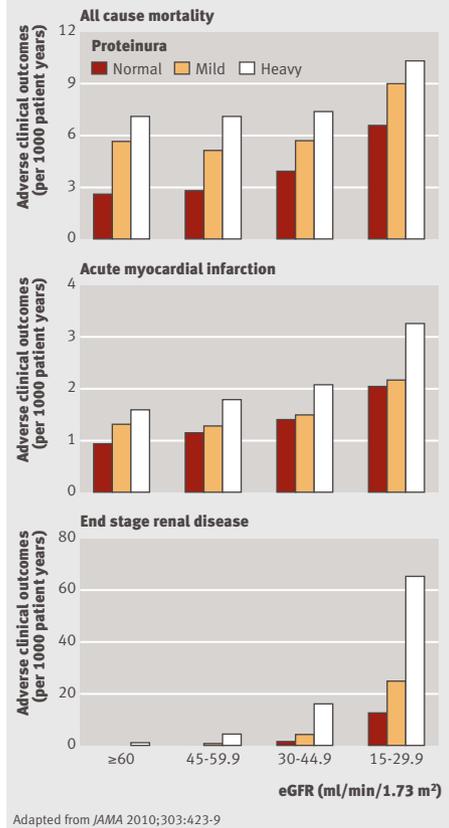


**“I read this article on jet lag with purely academic interest. I shall buy my own melatonin and try to follow the excellent advice summarised in table 2 of this paper”**

Richard Lehman's journal blog, [doc2doc.bmj.com](http://doc2doc.bmj.com)

## Proteinuria predicts outcome at all stages of chronic kidney disease

### OUTCOME ACCORDING TO eGFR AND DIPSTICK TEST FOR PROTEINURIA



Chronic kidney disease is currently classified and staged using an estimate of the glomerular filtration rate (eGFR). Proteinuria matters too, according to a large observational study from Canada.

The authors had data on nearly one million adults, classified by the eGFR into four strata. Within each one, heavier proteinuria was associated with a significantly higher risk of death, heart attack, or progression to renal failure after adjustments for multiple demographic and clinical characteristics. They measured proteinuria by dipstick in the main analysis and by albumin creatinine ratio in a smaller sensitivity analysis. The results were similar. Testing for proteinuria adds substantial and independent prognostic information to eGFR and should probably be incorporated into risk assessments for people with chronic kidney disease, say the authors.

Protocols that use eGFR alone classify

chronic kidney disease into five stages. In this study, adults with stage 3 disease (30-59.9 ml/min/1.73 m<sup>2</sup>) and no proteinuria had a significantly better prognosis than adults with stage 1 or stage 2 disease who had heavy proteinuria.

This cohort included adults living in Alberta who had at least one serum creatinine measurement and one urine dipstick test for proteinuria between 2002 and the end of 2006. The authors weren't able to adjust their analyses for smoking, drinking, or use of antihypertensive drugs. Follow-up was relatively short—a median of 35 months.

*JAMA* 2010;303:423-9

## MRI reveals potentially conscious brain activity in unresponsive patients

An international team of researchers used functional brain imaging to look for residual consciousness in unresponsive patients with severe brain injury. Five of the 54 patients tested seemed able to “think” on demand, producing brain images that matched those of healthy controls given the same instruction. Four of them were in a persistent vegetative state after traumatic brain injury. The fifth was in a minimally conscious state—a label given to patients with minimal and inconsistent signs of awareness.

During magnetic resonance imaging (MRI), they were able to imagine a motor task (playing tennis) or a spatial task (navigating around their home or familiar streets) apparently at will, producing characteristic changes in the supplementary motor area of the brain or in the parahippocampal gyrus.

One of the five patients also seemed able to answer simple yes or no questions, by imagining one or other of the images during scanning—tennis for yes, and navigation for no. His doctors were unable to establish any kind of consistent communication at the bedside, although they upgraded his clinical diagnosis to minimally conscious (from persistently vegetative) after the scans and further behavioural testing.

The authors hope their technique will help evaluate people who are unresponsive after severe brain injuries and cut the risk of misdiagnosis. A linked comment (doi:10.1056/NEJMe0909667) hopes so too, but it cautions against giving false hope to relatives and friends. Cortical activation was rare, even

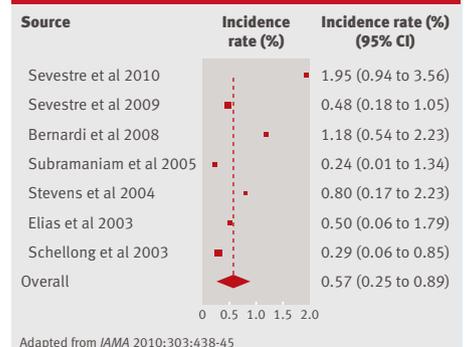
in these handpicked patients. We still have little idea what kind of consciousness, if any, it signified.

*N Engl J Med* 2010; doi:10.1056/NEJMa0905370

## A single test to rule out deep vein thrombosis?

A single compression ultrasound of the whole leg is one way to investigate a suspected deep vein thrombosis. But is it safe to withhold anticoagulation if the test is negative? Researchers recently looked at what happened to 4731 patients who had not been given anticoagulant drugs after a single negative ultrasound of the whole leg. Thirty four of 4731 developed objectively confirmed venous thromboembolism (0.7%) over the next three months. Nine of them died. After adjustments, the overall risk of clinically relevant thromboembolism in the three months after a negative test result was 0.57% (95% CI 0.25% to 0.89%). The authors think that's low, and that whole leg ultrasound deserves further study.

### INCIDENCE RATES FOR VENOUS THROMBOEMBOLISM



Perhaps, says a linked editorial (p 454). But doctors would be unwise to take these figures too literally. They come from a pooled analysis of six cohort studies and one randomised trial, so it is hard to know what the results mean for individuals with widely varying risks. Most of the studies didn't stratify patients according to clinical risk, relatively few participants had cancer, and less than 2% were pregnant or postpartum. The biggest study looked at only outpatients. When the authors did their own pretest probabilities using the Wells score, the incidence rate for low risk patients was 0.29% (0% to 0.7%) rising to 2.49% (0% to 7.11%) for those at highest risk.

*JAMA* 2010;303:438-45

## Diclofenac fails to shrink postoperative pericardial effusions

Non-steroidal anti-inflammatory drugs may not be the best treatment for postoperative pericardial effusions. In the first randomised trial, 100 mg a day of diclofenac failed to shrink effusions faster than a placebo in 196 French patients. All had persistent moderate or large effusions for more than a week after cardiac surgery—usually coronary artery bypass grafting or a valve replacement. After 14 days of treatment, the effusions had shrunk by just over one grade in both groups of patients (−1.08 grades for the placebo group v −1.36 for the diclofenac group; mean difference −0.28 grade, 95% CI −0.63 to 0.06 grade). A comparable proportion of patients in each group developed cardiac tamponade, a feared complication of persistent pericardial effusion (11.2% in the placebo group v 9.2% in the diclofenac group,  $P=0.49$ ).

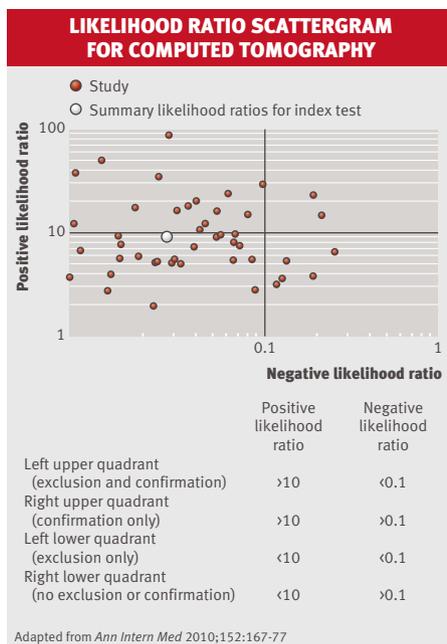
Non-steroidal anti-inflammatory drugs are commonly given to patients who develop pericardial effusions more than a week or so after cardiac surgery. Their precise aetiology is unknown, but inflammation is thought to be a contributory factor, so anti-inflammatory drugs are a logical treatment. This logic should be revisited, say the authors. An editorial (p 186) advises doctors to avoid these drugs in patients without evidence of inflammation. Careful monitoring of the effusion remains essential.

*Ann Intern Med* 2010;152:137-43

## CT looks better than MRI at ruling out coronary artery disease

Computed tomography (CT) of the coronary arteries looked like a more accurate diagnostic test for coronary artery disease than magnetic resonance imaging (MRI) in a recent meta-analysis. In pooled analyses comparing both imaging tests with invasive coronary angiography, CT had a sensitivity of 97.2% (95% CI 96.2% to 98.0%), a specificity of 87.4% (84.5% to 89.8%), and a negative likelihood ratio of 0.03 (0.02 to 0.04). For MRI the corresponding figures were 87.1% (83.0% to 90.3%), 70.3% (58.8% to 79.7%), and 0.18 (0.14 to 0.25). The authors conclude that CT is a better test, particularly for ruling out coronary artery disease.

After a systematic search (limited to papers written in English or German), the authors included 89 prospective studies evaluating CT angiography and 20 evaluating MRI for patients with known or suspected coronary



artery disease. Only five studies compared the two tests head to head. Again, CT looked more sensitive, although the difference wasn't significant. This analysis may have been underpowered. The five head to head studies comprised just 325 patients in total.

Firm conclusions were hampered by the moderate to poor quality of the studies, and by heterogeneous results. But the authors think their findings provide circumstantial evidence that CT angiography outperforms MRI as a non-invasive alternative to coronary angiography.

Further exploration suggested CT angiography worked best in patients with a low or intermediate risk (pretest probability) of clinically relevant disease.

*Ann Intern Med* 2010;152:167-77

## Survey finds high prevalence of HIV among teenagers in Harare

HIV infection is now the most common cause of hospital admission for adolescents in Harare, Zimbabwe, a survey has found. Researchers tested 301 children and teenagers aged between 10 and 18 who were admitted to two public health hospitals in the capital during an eight month period. Nearly a half were HIV positive (139, 46%), and those who were infected had a mean age of 13. Most (83%) had stage 3 or stage 4 disease, as defined by the World Health Organization. A quarter (32/139, 23%) died in hospital.

Tuberculosis, pneumonia, and opportunistic fungal infections were common in HIV positive adolescents. Although 86 of 139

knew they were HIV positive before admission, only 44 had ever received antiretroviral drugs.

The researchers suspect most of the infected adolescents in this study acquired HIV from their mothers, at birth or soon after. Three quarters of them were maternal orphans and few were sexually active. Prevalence of sexually acquired herpes simplex virus 2 was low.

Infants and children with untreated HIV seem to be surviving longer than previously thought, say the authors. Infection is often unrecognised, so survivors present late with serious opportunistic infections and a poor outlook. Chronic illness stunts their growth and often delays puberty. More should be done to identify these children so they can be tested, diagnosed, and treated much earlier.

*PLoS Med* 2010; doi:10.1371/journal.pmed.1000178

## Trust your instincts

How can parents and doctors tell if a child is seriously ill? By trusting their instincts, according to a systematic review. Parental concern, and doctors' instincts were among the best indicators of serious infection in an analysis of 30 studies looking at diverse clinical features and prediction rules. Presence or absence of a high temperature (>40°C) was better at ruling in than ruling out serious infection, and it worked best in settings where the prevalence of serious infection was low. Cyanosis, rapid breathing, shortness of breath, and poor peripheral circulation were other useful red flags for doctors, alongside more obvious signs such as unconsciousness, meningeal irritation, and petechial rash. Only one of the studies was done in primary care, however, where even red flag symptoms and signs may not raise the probability of serious disease above 5%, say the authors.

No single clinical feature was good enough to rule out serious infections with confidence, although some combinations worked reasonably well—for example, children with a normal respiratory rate and relaxed parents were unlikely to have pneumonia. Overall, diagnosing serious illness in children remains challenging, says a linked comment (doi:10.1016/S0140-6736(09)62166-8). We simply don't have the right tools to do it with certainty, particularly in primary care. "We are failing to do the right research in the right people in the right setting," it concludes.

*Lancet* 2010; doi:10.1016/S0140-6736(09)62000-6

Cite this as: *BMJ* 2010;340:c754