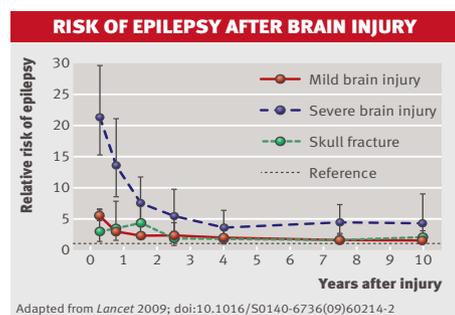


# SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

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## Risk of epilepsy lasts for years after head trauma

People with head injuries have an increased risk of epilepsy that peaks in the first two years after the event but remains significantly higher than normal for up to 10 years, say researchers. In a study of more than 1.6 million Danish children and young adults, the overall relative risk of epilepsy after a mild injury was 2.22 (95% CI 2.07 to 2.38), and after a more severe injury it was 7.4 (6.16 to 8.89). The relative risks were lower but still significant (1.51 and 4.29) after 10 years. Skull fracture was also associated with an enduring risk of later epilepsy (overall risk 2.17, 1.73 to 2.71).

The researchers studied all Danish residents born between 1977 and 2002 and followed them up for the same period in the Danish hospital register. In this the cohort of 1 605 216 people, 78 572 had a traumatic brain injury and 17 470 developed epilepsy. The link was strongest for people over 15 at the time of injury and for people with a family history of epilepsy.

Data from hospital registers are never perfect, says a linked editorial (doi:10.1016/S0140-6736(09)60215-4). But this study is more robust than most and shows that the risk of epilepsy lasts longer than we thought. The pathogenic process is a long one, which at least gives us plenty of time to subvert it.

*Lancet* 2009; doi:10.1016/S0140-6736(09)60214-2

## Cardiovascular guidelines fail their target audience

An analysis of guidelines produced jointly by the American College of Cardiology and the American Heart Association shows that although cardiovascular guidelines are getting longer and more complex, a continuing shortage of good evidence means the recommenda-

tions are even less secure now than they were in the 1980s. The researchers report an overall shift towards class II recommendations—those with caveats warning readers of uncertainty in the evidence.

Expert opinion, case studies, and standard practices are still the most common basis for recommendations, although some clinical areas are worse than others. In the latest guidance on valvular heart disease, 226 of 320 recommendations (71%) were based on this level of evidence.

The current system for generating research is inefficient, inadequate, and driven by industry, say the researchers. Patients, relatives, and doctors still do not have the information they need to make properly informed management decisions.

An editorial (p 868) warns that these findings are part of a wider malaise in the guideline industry in the US, which is plagued by poor funding, a lack of focus, and financial conflicts of interest. Many are simply opinion based marketing tools, write the authors, and tough measures are needed to improve output. Otherwise, doctors might be better off avoiding guidelines altogether.

*JAMA* 2009;301:831-41

## Diabetes is associated with perinatal depression in poor women

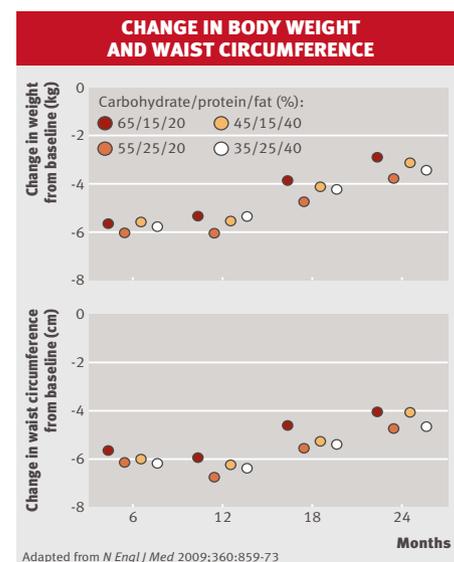
US researchers have found a clear link between diabetes and perinatal depression in 11 024 women in New Jersey. All were on low incomes and qualified for state funded care before and after pregnancy. Women with any kind of diabetes had around double the odds of perinatal depression compared with those without diabetes in an analysis of Medicaid claims data (15% (100/657) v 8.5% (886/10367); odds ratio 1.85, 95% CI 1.45 to 2.36). The association was numerically similar for women with gestational diabetes and pre-existing diabetes, and for women who did and did not need insulin. It survived adjustments for age, ethnic background, year of delivery, preterm birth, and caesarean section, and it is consistent with previous research that showed an association between diabetes and depression in the general adult population.

Diabetes could trigger depression in some women, say the authors, perhaps through

hormonal changes or the stress of managing a potentially risky illness through pregnancy. But these kinds of analyses can never provide definitive answers about which way an association operates. The administrative database the researchers used contained no information about body mass index, for example. The association between diabetes and depression could be confounded by obesity.

*JAMA* 2009;301:842-7

## Any low calorie diet will do



Eat fewer calories and you will lose weight. So should you try to eat less fat or less carbohydrate? More or less protein? It makes no difference in the long run, according to a new trial. Over two years, 811 overweight men and women lost between 3 kg and 4 kg, regardless of the diet they were on. The trial compared four calorie controlled diets containing varying proportions of carbohydrate (high 65%, medium 55%, or low 35%), fat (high 40% or low 20%), and protein (high 25% or average 15%). People assigned to high and low fat diets lost the same amount of weight. People assigned to high and average amounts of protein lost similar amounts of weight. The proportion of carbohydrate in the diet had no discernible effect on weight loss.

Although most of the participants completed the trial, their diets become blurred over time, so in the end the macronutrient differences were not as clear cut as the researchers

originally planned. All groups regained weight between one and two years. Perhaps it makes little difference what sort of diet you choose, because all of them are equally hard to stick to. An editorial (p 923) says it is time to abandon dieting for individuals and look for a more sustainable community wide approach to preventing obesity.

*N Engl J Med* 2009;360:859-73

## *Neisseria meningitidis* resistant to ciprofloxacin emerges in the US

Public health authorities in two US states have isolated a strain of *Neisseria meningitidis* that is resistant to ciprofloxacin, an antibiotic commonly used to prevent and treat meningococcal meningitis. A toddler attending a day care centre in North Dakota and two unconnected adults from western Minnesota developed resistant meningitis in the year between January 2007 and January 2008. One of the adults died. A pragmatic survey of the contacts and social networks of cases found one asymptomatic carrier of the resistant strain. *N meningitidis* DNA from an employee at the toddler's day care centre, who had died in August 2006, also shared similar molecular characteristics.

In a report of the cases and the investigation that followed, researchers describe the gene mutation responsible for emerging ciprofloxacin resistance—a single nucleotide change in the *gyrA* gene. This gene encodes one of the proteins targeted by fluoroquinolone antibiotics. Molecular analysis suggests that the resistant *N meningitidis* in North Dakota and Minnesota acquired the mutation by horizontal gene transfer from *Neisseria lactamica*, a pharyngeal commensal that the researchers isolated from nine of the 530 people surveyed.

The extent of resistance is still unclear. Susceptibility testing of *Neisseria* isolates is not routine in the US. These researchers identified one other resistant isolate from California during their investigation.

*N Engl J Med* 2009;360:886-92

## Vitamin supplements help prevent age related macular degeneration

Age related macular degeneration is a leading cause of visual impairment in developed countries. A new study suggests that supplements combining folic acid and vitamins B6 and B12 may help prevent it.

In a placebo controlled trial of women with a high risk of cardiovascular disease, the supplements reduced the risk of new early eye disease by 34% (55/2607 *v* 82/2598; adjusted relative

risk 0.66, 95% CI 0.47 to 0.93). Participants took the vitamins or a placebo for an average of 7.3 years. Benefits appeared after two to three years and persisted to the end of the trial.

Folic acid and the B vitamins reduce serum concentrations of homocysteine, an amino acid that has been linked to both cardiovascular disease and age related macular degeneration. Although supplements to lower homocysteine concentrations have consistently failed to prevent cardiovascular disease, they do seem to have an effect on macular degeneration, say the authors. Perhaps homocysteine is more damaging to the small vessels of the choroid than the large vessels of the heart.

The study of macular degeneration was embedded in a larger trial of various vitamin supplements for the prevention of cardiovascular disease in high risk women. The encouraging findings for macular degeneration need to be confirmed in dedicated trials, and in other populations, say the authors.

*Arch Intern Med* 2009;169:335-41

## A nudge towards routine antihypertensive drugs for people on dialysis

Nephrologists continue to argue about how best to reduce the death toll from cardiovascular disease in patients on dialysis. Routine use of antihypertensive drugs is one option, and a recent meta-analysis suggests it can work. In a pooled analysis of eight trials, antihypertensive

agents given to people with or without hypertension were associated with longer survival (relative risk of all cause mortality 0.80, 95% CI 0.66 to 0.96) and fewer cardiovascular events (0.71, 0.55 to 0.92) than placebos or standard care. The authors estimate that drugs such as angiotensin receptor blockers or  $\beta$  blockers could help prevent two of the 10 or so deaths that occur in every 100 patients on maintenance dialysis each year.

One commentator (doi:10.1016/S0140-6736(09)60213-0) thinks nephrologists will still be reluctant to prescribe these agents, however. The meta-analysis was small—only 1679 patients in total—and too weak to rule out potentially serious side effects, such as hypotension during dialysis. Control of blood pressure in these patients is complex because of the rapid volume shifts associated with treatment. In theory, patients need their compensatory vasoconstriction to maintain blood pressure. Bigger trials are needed to characterise those who can safely take drugs that interfere with vasoconstriction. Patients with high blood pressure throughout dialysis are likely candidates, he writes.

*Lancet* 2009; doi:10.1016/S0140-6736(09)60212-9

## Tool to predict atrial fibrillation is a “first step” towards prevention

US researchers have developed a predictive tool that gives people their absolute risk of developing atrial fibrillation over the next 10 years. The tool was derived from the Framingham cohorts and assigns numerical scores to seven risk factors—age, body mass index, systolic blood pressure, treatment for hypertension, PR interval, the presence of a heart murmur, and heart failure. The total is then calibrated to a 10 year risk of atrial fibrillation between “1% or less” and “more than 30%.”

Primary prevention in primary care and community settings is the ultimate goal, say the authors. Atrial fibrillation is common and associated with lethal complications such as stroke. Treatment is often unsatisfactory. If we can identify people at high risk we can start to explore potentially prophylactic treatments, such as statins or angiotensin converting enzyme inhibitors.

This tool is an important first step, says a linked comment (p 698). But we still have some way to go. The Framingham cohort was largely white and at least middle aged. This tool may not work for other populations and age groups. Prospective testing in independent cohorts is essential.

*Lancet* 2009;373:739-45

Cite this as: *BMJ* 2009;338:b863

### EFFECT OF TREATMENT ON ALL CAUSE MORTALITY AND CARDIOVASCULAR MORTALITY

