

# SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

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## Body checking looks dangerous for young ice hockey players

Many Canadian children and adolescents play ice hockey, and many of them get injured. A drive to make the game safer has focused researchers' attention on the practice of body checking, which knocks an opponent hard against the boards or the ice. Children aged 11-12 are allowed to body check in Alberta but not in Quebec, allowing a comparison of injury rates between the two provinces. During the 2007-8 season, children in Alberta were three times more likely to be injured playing hockey than children in Quebec (incidence rate ratio for game related injuries 3.26, 95% CI 2.31 to 4.60). Body checking was responsible for the greatest proportion of injuries in Alberta, where head injuries, concussions, and contusions were the most common type of injury.

The researchers studied more than 1000 young players from each province and collected data on exposure to game play, injuries, and mechanisms of injury on standardised forms. The main analyses were adjusted for relevant baseline variables including level of play, player position, and team. All injury outcomes, including concussion and severe concussion, were at least three times more common among players in Alberta. Small players were more likely to be injured than bigger players in a subgroup analysis.

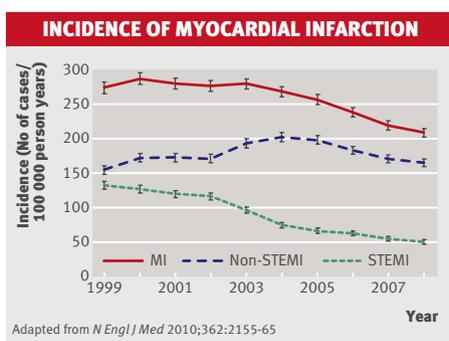
These results have obvious implications for the rules of the game in younger players, say the authors, and they should help researchers design and evaluate strategies to protect these children from serious injury.

*JAMA* 2010;303:2265-72

## Heart attacks fall for a decade in the US

The incidence of myocardial infarction (MI) in northern California in the US has been falling steadily since 2000, according to a population based study. Mortality has also dropped significantly, owing to a combination of fewer myocardial infarctions with ST elevation (STEMI) and improving survival after myocardial infarctions without STEMI. In 1999, mortality in the month after a myocardial infarction was 10.5%. By 2008, mortality had fallen to 7.8% (adjusted odds ratio 0.76, 95% CI 0.65% to 0.89%).

Most of these data came from the files of a large integrated healthcare delivery system called Kaiser Permanente. Data from 46 086



adults admitted to hospital for myocardial infarction between 1999 and 2008 were analysed. The authors believe better control of risk factors such as smoking, serum lipids, and blood pressure are at least partly responsible for the drop in myocardial infarctions.

Maybe so, says a linked comment (p 2150). But diabetes and obesity are working in the opposite direction, and wide variations in death rates persist between different states and different ethnic groups. People living in poverty are still substantially more likely to die from heart disease than those on high incomes. There is plenty of prevention work outstanding.

*N Engl J Med* 2010;362:2155-65

## Six malformations associated with valproic acid in pregnancy

Valproic acid is a well known teratogen, and European researchers recently confirmed the link between exposure in the first trimester of pregnancy and spina bifida (adjusted odds ratio 12.7, 95% CI 7.7 to 20.7). Five other malformations were also associated with sodium valproate in their large case-control study: atrial septal defect (2.5, 1.4 to 4.4), cleft palate (5.2, 2.8 to 9.9), hypospadias (4.8, 2.9 to 8.1), polydactyly (2.2, 1.0 to 4.5), and craniosynostosis (6.8, 1.8 to 18.8). In these analyses, researchers compared exposure to valproate with exposure to no antiepileptic drugs in the first trimester. Valproate also looked significantly riskier than other antiepileptic drugs.

The case-control study was nested within a cohort of more than 3.8 million births in 19 databases from 14 countries. The researchers cross checked their findings using two different control groups. They are fairly certain that the associations are real, although they had no data on severity of epilepsy or other potential

confounders. Case-control studies can never establish cause and effect.

Professional societies already warn doctors to avoid prescribing valproic acid to pregnant women whenever possible. For women who can't do without it, absolute risk of a malformation remains relatively low—0.6% for spina bifida, 0.5% for atrial septal defect, 0.3% for hypospadias, 0.2% for polydactyly, and 0.1% for craniosynostosis.

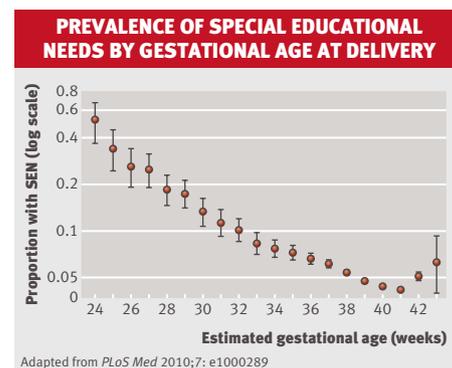
*N Engl J Med* 2010;362:2185-93

## Gestation and future educational needs are linked, even at 37 weeks

Children born early are more likely to have special educational needs (SEN) than children born at term. Even those born between 37 and 39 weeks had a significantly increased risk of educational problems at school in a cohort study from Scotland (adjusted odds ratio relative to children born at 40 weeks 1.16, 95% CI 1.12 to 1.20).

The authors linked educational data from a national school census to birth records for 407 503 children. Just under 5% of those with complete data (17 784/362 688) had special educational needs such as dyslexia, dyspraxia, autism, hearing, motor, or visual impairments. After adjustments, the odds of having special educational needs fell steadily from 24 weeks gestation right through to 40 weeks, with no discernible threshold for term babies born after 37 weeks.

The authors estimate that gestational age at delivery accounts for 10% of the special educational needs in this population. Deliveries between 37 and 39 weeks accounted for a greater proportion of problems (5.5%) than deliveries before 37 weeks (3.6%) because





**“If I saw a surgical centre walking down my road I would turn and flee. Which might be just as well, since according to a survey of such units in the USA, their standards of infection control leave much to be desired.”**

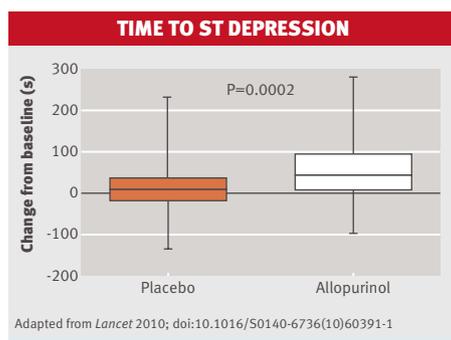
Richard Lehman's journal blog, [doc2doc.bmj.com](http://doc2doc.bmj.com)

more than a third of children are born between 37 and 39 weeks, whereas only one in 20 are born before 37 weeks.

The number of children born slightly early (but still officially at term) has gone up in the past decade or so, as more women opt for elective caesarean sections. These data suggest that women who need an elective section should be delivered as close to 40 weeks as possible, say the authors.

*PLoS Med* 2010;7:e1000289; doi:10.1371/journal.pmed.1000289

## Allopurinol for stable angina?



Allopurinol, a cheap and effective treatment for gout, has attracted the attention of cardiovascular researchers, thanks to a little known effect on myocardial oxygen consumption. Could allopurinol be a new treatment for angina?

The first clinical trial recently reported promising results. Compared with placebo, allopurinol significantly improved several measures of exercise tolerance in adults with chronic stable angina. Sixty five adults took 600 mg a day of allopurinol or a placebo for six weeks in a crossover design. At the end of the six weeks, those taking allopurinol could exercise for significantly longer before getting ST depression (43 seconds longer than after placebo, 95% CI 31 to 58), or chest pain (38 seconds, 17 to 55). Total exercise time also increased more after allopurinol (58 seconds longer than after placebo, 45 to 77).

Allopurinol seems to have effects similar to those previously reported for traditional treatments for angina, such as  $\beta$  blockers, calcium antagonists, and nitrates, say the authors. All improve exercise tolerance, but allopurinol does it differently, acting at the molecular level in myocardium rather than reducing myocardial work. Exactly how allopurinol works for patients with angina remains unknown.

A linked comment welcomes the new findings for an old drug with a good track record on safety (doi:10.1016/S0140-6736(10)60578-8). Stable angina is common, debilitating, and deserves more attention from the research community, it says.

*Lancet* 2010; doi:10.1016/S0140-6736(10)60391-1

## Eating white rice is linked to diabetes so switch to brown

White rice is what's left after brown rice has been stripped of most of its fibre, vitamins, and minerals. White rice has a higher glycaemic index than brown rice and may be associated with type 2 diabetes, even in the US where white rice accounts for just 2% of energy intake.

In a combined analysis of three large cohorts, adults who ate white rice at least five times a week were 17% more likely to develop type 2 diabetes during 14-22 years of follow-up than adults who ate less than one serving a month (relative risk 1.17, 95% CI 1.02 to 1.36). Eating brown rice seemed to be associated with a lower risk of diabetes (relative risk for high v low intake 0.89, 0.81 to 0.97), although intake of brown rice was low in all three cohorts. Both analyses were extensively adjusted in an attempt to isolate the effect of eating rice from other factors associated with risk of diabetes, including unhealthy lifestyles, body mass index, age, and ethnicity. The authors estimate that replacing 50 g of white rice with the same amount of brown rice could reduce diabetes risk by 16% (9% to 21%).

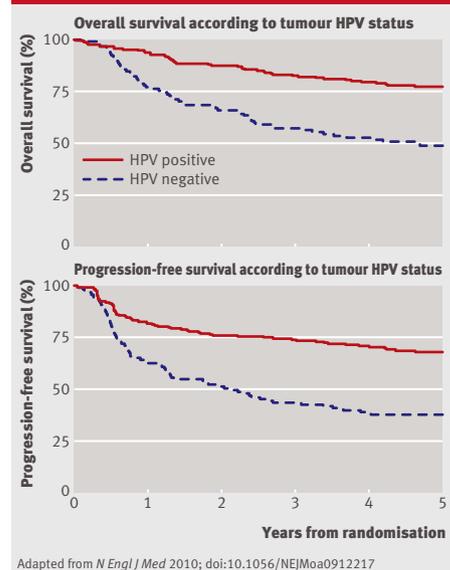
The authors had prospective dietary data from 39 765 male and 157 463 female health professionals who were middle aged and healthy at baseline. Their findings are broadly in line with smaller studies in Asian populations with a higher intake of rice.

*Arch Intern Med* 2010;170:961-9

## HPV predicts survival for patients with oropharyngeal cancer

Human papillomavirus (HPV) is best known as a causative agent for cervical cancer, but it is also found in a substantial proportion of squamous cell oropharyngeal cancers. People with HPV positive oropharyngeal cancers tend to do better than those with HPV negative can-

## EFFECT OF TUMOUR HPV STATUS ON SURVIVAL



cers, and many experts believe the two forms of cancer could be biologically distinct. The latest evidence comes from a reanalysis of data from a randomised controlled trial of more or less aggressive radiotherapy. Regardless of their treatment assignment, the two thirds of patients with HPV positive cancers were significantly more likely than the rest to survive for at least three years (82.4% v 57.1%,  $P < 0.001$ ). They were 58% less likely to die after adjustments for other known prognostic factors (hazard ratio 0.42, 95% CI 0.27 to 0.66).

HPV status was the strongest predictor of outcome in this analysis, followed by smoking habits, then tumour stage. The authors classified patients as high, intermediate, or low risk, using these three factors alone, and suggested that researchers explore the possibility of different treatment strategies for people in different risk categories.

HPV positive and negative tumours have distinct molecular profiles and seem to have a different aetiology, says a linked editorial (doi:10.1056/NEJMe1003607). Positive cancers clearly have a better prognosis, although we don't yet know why. They may be less malignant intrinsically or somehow respond better to treatment. Positive cancers may also trigger a more powerful immune response, because they contain viral proteins.

*N Engl J Med* 2010; doi:10.1056/NEJMoa0912217

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