

# SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

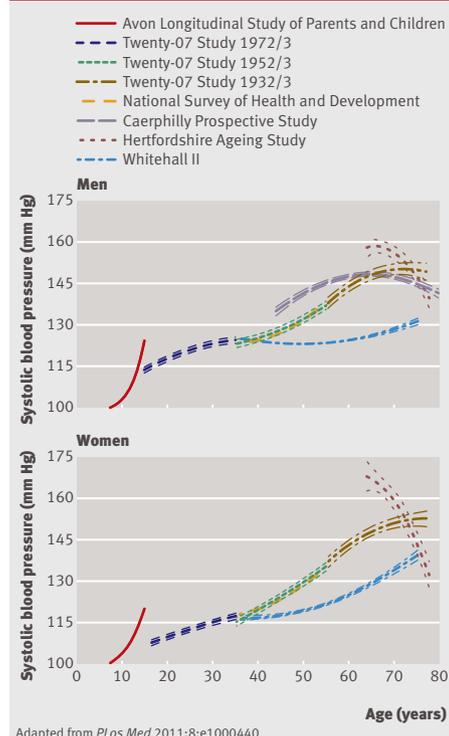
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## The rise and fall of blood pressure from puberty to old age

Blood pressure rises with age, but how fast, and when? Researchers combined eight cohorts from the UK and identified four distinct phases, starting with a rapid increase in systolic blood pressure around the time of puberty. In the second phase, systolic blood pressure rises slowly but steadily to midlife, when a further acceleration takes place, which peaks at an increase of 1.5 mm Hg a year. The pace of changes slows again between 55 and 65 and sooner or later (depending on the cohort) systolic blood pressure begins to fall.

Men and women had slightly different trajectories, most noticeably in late middle age, when women's systolic blood pressure rose more steeply than men's. The authors suspect increasing sensitivity to salt associated with the menopause. They also noticed a clear difference between the population based cohorts and a cohort made up exclusively of working (mostly white, mostly male) civil servants. The civil servants' blood pressure was consistently lower and their midlife acceleration consistently slower

### PREDICTED SYSTOLIC BLOOD PRESSURE TRAJECTORIES



Adapted from *PLoS Med* 2011;8:e1000440

than participants in other cohorts. Possibly because London based civil servants had the healthier lifestyles associated with affluence and employment.

People get fatter as they get older too, although changes in body mass index didn't completely explain trends in systolic blood pressure for either men or women. Antihypertensive drugs may have had something to do with the final phase of deceleration and decline. This late life pattern was blunted or absent in analyses confined to untreated adults.

*PLoS Med* 2011;8:e1000440

## Rotavirus vaccine linked to rare cases of intussusception, again

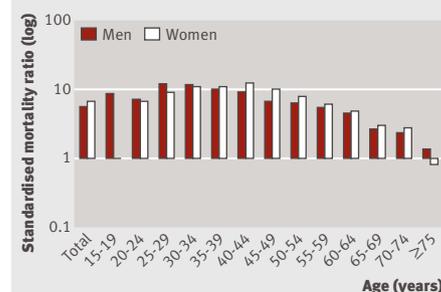
The first rotavirus vaccine was withdrawn from the market after researchers noticed extra cases of intussusception in vaccinated infants. Second generation vaccines are now in use in many countries, including Brazil and Mexico, where researchers recently reported a small but significant excess risk of intussusceptions in infants given RV1, a live attenuated oral vaccine. Extra cases peaked in the week after the first dose in Mexico, and in the week after the second dose in Brazil. RV1 vaccination caused one extra intussusception for every 51 000 infants vaccinated in Mexico, one extra case for every 68 000 infants vaccinated in Brazil, and five extra deaths a year across both countries. Because the vaccine also prevents 1303 deaths from rotavirus diarrhoea each year in Mexico and Brazil combined, the researchers and a linked comment (p 2354) agree emphatically that rotavirus vaccination must continue. The risks are dwarfed by the benefits.

Rotavirus infection is the most important cause of serious diarrhoea in young children worldwide, says the comment. Vaccination is very effective, and both deaths and hospital admissions have dropped substantially since the new vaccines were licensed four years ago. The link with intussusception looks rare but real and may apply to all oral rotavirus vaccines. Healthcare workers and parents need to know, but should be reassured. Other evidence hints that vaccination might actually reduce intussusceptions in the longer term, by preventing cases (again rare) caused by wild-type rotavirus infections.

*N Engl J Med* 2011;364:2283-92

## Homeless adults die young

### STANDARDISED MORTALITY RATIOS FOR HOMELESS MEN AND WOMEN



Adapted from *Lancet* 2011; doi:10.1016/S0140-6736(11)60747-2

More than 30 000 adults were registered homeless in Denmark between 1999 and 2009. They had a mean age under 40 years, but, by the end of the 10 years, one in six of the men (16.7%) and one in 10 (9.8%) of the women had died. The mean age at death was 50. Young homeless men in this cohort study could expect to die 22 years before their peers who were not registered homeless. For young women, homelessness truncated life expectancy by 17 years.

Well over half the cohort had at least one psychiatric diagnosis (62.4% of men and 58.2% of women). Substance misuse was the most common and the most lethal, accounting for a quarter of the deaths in men (2021/8784; 23%) and a fifth of the deaths in women (551/2856; 19.3%). In fully adjusted analyses, men and women with substance misuse disorders were significantly more likely to die than homeless people with no record of mental illness.

This study was possible because Danish authorities keep accurate records of all contacts with homeless shelters and can link people who use them to national registers of psychiatric illnesses and deaths. The picture may be worse still for homeless people who sleep rough, says a linked comment (doi:10.1016/S0140-6736(11)60885-4), and for those who find themselves homeless in countries without Denmark's well organised social safety net.

*Lancet* 2011; doi:10.1016/S0140-6736(11)60747-2

## Screening tool flags up risk of adverse drug events in older people

Adverse drug events are a leading cause of hospital admissions and deaths in older people. In one study, more than a quarter of 600 older people



**“For many years, I tried to ban wart treatment discussions at our regular practice meetings, but invariably someone would whisper ‘I know we’re not supposed to discuss warts, but . . .’ and it would all start again”**

Read Richard Lehman's journal blog at [bmj.com/blogs](http://bmj.com/blogs)

admitted to a hospital in Ireland were judged to have at least one adverse drug event, perhaps because they were taking an average of seven drugs each (interquartile range 5 to 10).

The authors designed their study to test a relatively new tool for alerting doctors to potentially inappropriate prescriptions in older adults. Called STOPP, the new tool lists red flag combinations such as opiates in older people with recurrent falls. Patients in this cohort who took a potentially inappropriate drug listed by STOPP had significantly increased odds of a serious avoidable adverse drug event (odds ratio 1.85, 95% CI 1.51 to 2.26). The older and much criticised Beers criteria performed poorly in comparison, and didn't seem associated with the risk of actual events. The authors think their newer tool is better. They suggest that trials are needed to see whether the use of STOPP at the prescription ordering stage can protect older people from serious drug related harm.

A linked comment (p 1019) agrees that much more needs to be done, starting with smarter and more widespread use of the tools we already have. These include full electronic health records that feature the key elements of order entry and decision support.

*Arch Intern Med* 2011;171:1013-9

## Can some antirheumatic drugs help prevent diabetes?

Adults with chronic inflammatory diseases such as rheumatoid arthritis and psoriasis have an increased risk of type 2 diabetes. This risk seemed lower for adults treated with a tumour necrosis factor (TNF) inhibitor or hydroxychloroquine in a recent study that compared biological agents with non-biological disease modifying drugs, such as sulfasalazine, leflunomide, ciclosporin, azathioprine, penicillamine, and gold (adjusted hazard ratio 0.62, 95% CI 0.42 to 0.91 for TNF inhibitors and 0.54, 0.36 to 0.80 for hydroxychloroquine).

The authors had data from 13 905 adults who were starting treatment for rheumatoid arthritis or psoriasis and were covered by two large insurance plans—one each from Canada and the US. During a mean follow-up of six months, 267 participants developed type 2 diabetes. The link between TNF inhibitors or hydroxychloroquine and a lower risk of diabetes remained significant through a series of adjustments and sensitivity analyses. The authors found no association between methotrexate and diabetes risk in this cohort.

Retrospective observations from databases can't establish cause and effect, says an editorial (p 2573). But these findings are still intriguing and point in the same direction as other strands of evidence. Specific anti-inflammatory agents may well have antidiabetic fringe benefits for people with psoriasis or rheumatoid arthritis. Trials are needed to find out which patients would benefit most and exactly what these drugs can do.

*JAMA* 2011;305:2525-31

## Bivalirudin and a drug eluting stent for adults having a PCI for myocardial infarction

In 2005, researchers launched a landmark trial to find the safest and most effective antithrombotic treatment and stent type for adults having a percutaneous intervention (PCI) for acute myocardial infarction. The trial compared bivalirudin alone with a combination of heparin and a glycoprotein 11b/111a inhibitor (GPI) in 3602 adults. It also compared bare metal stents with paclitaxel eluting stents in 3006 of these adults.

After three years of follow-up, bivalirudin looked both safer and more effective than the heparin combination. The direct thrombin inhibitor was associated with fewer deaths (5.9% v 7.7%; hazard ratio 0.75, 95% CI 0.58 to 0.97), fewer reinfarctions (6.2% v 8.2%; 0.76, 0.59 to 0.99), and fewer serious bleeds (6.9% v 10.5%;

0.64, 0.51 to 0.80). Adults given a paclitaxel eluting stent were less likely than controls to need revascularisation of the target lesion (9.4% v 15.1%, 0.60, 0.48 to 0.76). The authors reported no difference between the two stent types in deaths, further infarctions, or strokes. They also found no difference in stent thromboses over three years (4.8% v 4.3%, P=0.63). Risk was higher than expected after both types of stent.

These are the final results, say the authors. The money has run out and a planned five year follow-up won't be possible. Even so, these results are strong enough to support a switch to bivalirudin for these patients, says a linked comment (doi:10.1016/S0140-6736(11)60707-1). The newer agent prevents bleeds and saves lives, compared with heparin and a glycoprotein 11b/111a inhibitor. The stent comparison confirms that drug eluting stents have important advantages over bare metal ones. But we need to improve the technology still further, and perhaps target it better, says the comment. Stent thromboses remain a worry for patients given stents after acute infarctions.

*Lancet* 2011; doi:10.1016/S0140-6736(11)60764-2

## Diabetic kidney disease rises steadily in the US

National surveys done between 1988 and 1994 showed that 2.2% (95% CI 1.8% to 2.6%) of all US adults had diabetic kidney disease. Similar surveys done between 2005 and 2008 reported a prevalence of 3.3% (2.8% to 3.7%). Diabetic kidney disease is increasing at the same rate as diabetes, say researchers, despite more widespread use of drugs that inhibit the renin-angiotensin-aldosterone system and tighter control of hyperglycaemia, hypertension, and lipids. Around a third of adults with diabetes had kidney disease in 1988, and the same proportion had kidney disease in surveys done 20 years later. The researchers defined diabetic kidney disease as persistent albuminuria, impaired glomerular filtration rate, or both.

Diabetes is already the leading cause of kidney disease in the US, and diabetic kidney disease is the leading cause of end stage renal failure. These patterns look set to continue for the foreseeable future, say the researchers, with obvious implications for mortality and health care costs. Five year survival for adults with end stage renal disease is currently less than 40%.

*JAMA* 2011;305:2532-9

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