SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

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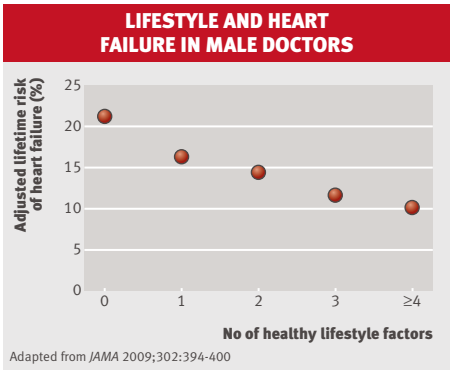
Lifestyle linked to hypertension and heart failure



Adapted from *JAMA* 2009;302:394-400

The latest analyses from two well established cohorts underline once again the powerful link between lifestyle and cardiovascular health. The first, a study of 83 882 US nurses, found that an estimated 78% (95% CI 49% to 90%) of incident hypertension would be prevented if all women ate a healthy diet, maintained a normal body mass index, exercised daily, drank moderately, took folic acid supplements, and used analgesics less than once a week. Only 0.3% of the cohort reported all six lifestyle characteristics. Body mass index dominated the overall picture. Overweight and obesity together accounted for an estimated 40% of incident hypertension in this population (population attributable risk 40%, 38% to 41%).

In the second study, lifestyle habits were associated with incident heart failure in 20 900 US male doctors who were tracked for 22 years. Eating plenty of fruit and vegetables, having cereal for breakfast, exercising regularly, drinking moderately, and maintaining normal weight were all linked to a lower risk of heart failure. Lifetime risks were 10.1% (7.9% to 12.3%) in men reporting at least four healthy characteristics, compared with 21.2% (16.8 to 25.6%) in men reporting none.

Both studies have their limitations, including the usual doubts about bias and residual confounding. They are also confined to white, affluent health professionals, says an editorial (p 437). Even so, their findings support the simple and powerful message that healthy lifestyles are associated with lower risks of hypertension and heart failure. Both are common and cause widespread premature disability and death. The costs of treatment are high and unsustainable. Prevention is urgent and should start with policies that create healthier environments for everyone.

JAMA 2009;302:394-400
JAMA 2009;302:401-11

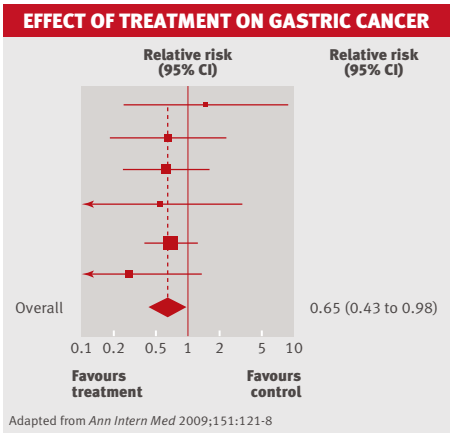
Treating *Helicobacter pylori* can reduce risk of gastric cancer

Helicobacter pylori is associated with gastric cancer. Does treating the infection reduce the risk? In the latest meta-analysis on this matter, 1.1% (37/3388) of treated adults developed cancer, compared with 1.7% (56/3307) of untreated controls. The relative risk over a follow-up of four to 10 years was 0.65 (95% CI 0.43 to 0.98).

Six of the seven included trials were done in Asian countries with a high incidence of gastric cancer. Most participants already had gastric pathology at baseline, usually gastric atrophy or metaplasia, and five of the trials looked primarily at progression of premalignant pathology. Eradication of *H pylori* reduced the risk of gastric cancer by 54% (relative risk 0.46, 0.26 to 0.82) in a subgroup analysis of the two trials looking at incidence.

All eradication regimens lasted one or two weeks and included amoxicillin, a proton pump inhibitor, and either clarithromycin or metronidazole. Eradication rates were between 73% and 89% in treated adults and between 5% and 15% in untreated or placebo treated controls.

The authors say their findings may not be generalisable outside China and Japan, where guidelines already recommend screening for *H pylori* as part of a strategy to prevent gastric cancer.



Adapted from *Ann Intern Med* 2009;151:121-8

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Injectable vaccine prevents 61% of typhoid fever in India's poor

Typhoid is endemic in Kolkata. Researchers chose a registered slum in the city where few residents have flushing toilets and sanitation is poor to evaluate a simple, cheap, and widely available vaccine in a cluster randomised trial. It was 61% effective (95% CI 41% to 75%). The incidence of typhoid fever was 0.26 per 100 000 person days in vaccinated residents of the 40 intervention clusters, and 0.73 per 100 000 person days in residents of control clusters who were given hepatitis A vaccine instead.

The Vi typhoid vaccine, which contains a capsular polysaccharide from *Salmonella enterica* subtype *typhi* (*S typhi*), worked best for children aged 2-5 years. A single dose was 80% (53% to 91%) effective in this age group.

Around 60% of eligible residents in the 40 intervention clusters received their Vi vaccine. Even those who missed out had a 44% (2% to 69%) lower incidence of typhoid fever than controls. This is new evidence of important herd immunity, says an editorial (p 403).

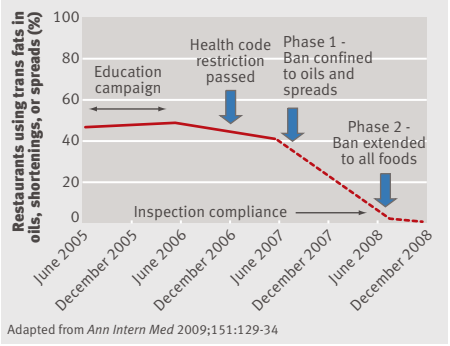
Typhoid vaccines have been around for years, and they have a good track record elsewhere, says the editorial. It is time to start mass vaccinations in endemic areas of developing countries, and to monitor the results. The authorities have to choose from a single dose of the injectable Vi vaccine or three doses of a live oral variety Ty21a.

N Engl J Med 2009;361:335-44

US unprepared for a national ban on trans fats, despite success in New York

In December 2006, the New York City Department of Health and Mental Hygiene began a two phase operation to ban artificial trans fats from the city's restaurants. By November 2008, compliance was around 98%, despite complaints from restaurants and their

USE OF TRANS FATS BEFORE AND AFTER THE RESTRICTIONS



Adapted from *Ann Intern Med* 2009;151:129-34

suppliers. Trans fats have not been replaced with saturated fat, say officials from the department, and New York's successful regulation of trans fats has inspired 13 other jurisdictions—including the state of California—to follow suit. Around 50 restaurant chains have taken trans fats off their menus nationally, and even global corporations such as Disney are doing the same. A legal amendment that seemed radical at the time has now settled unnoticed into the life of the city, with no discernible effects on its economy, they write.

Gram for gram, trans fats are a greater threat to human health than saturated fats, says a linked comment (p 137). The evidence that we all benefit from reduced exposure is "rock solid." But it is probably too early for the US federal government to weigh in with a nationwide ban. Trans fats are so ubiquitous in the US food chain that total elimination won't be practical until supplies of healthier alternatives can be scaled up. Many Americans still don't like the idea of the federal government controlling what they eat. A lighter touch that stops short of changes to federal law is probably the best way forward for now, says the author.

Ann Intern Med 2009;151:129-34

Intensive glucose control doesn't prolong survival in type 2 diabetes

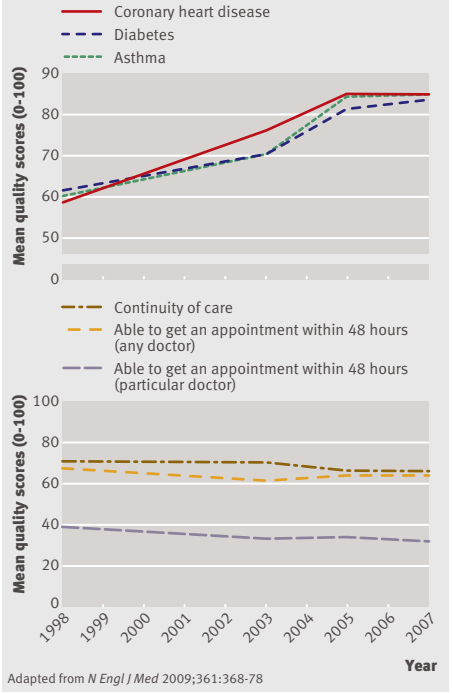
Intensive control of blood glucose helps prevent the microvascular complications of type 2 diabetes. But large trials have so far failed to establish whether intensive treatment saves lives or prevents serious cardiovascular events. A pooled analysis of five trials also reported mixed results—intensive glucose control had no significant effect on mortality, but it did reduce the risk of a non-fatal heart attack by 16% (relative risk 0.84, 95% CI 0.75 to 0.94). The intensive regimens tested in the trial did not prevent heart failure, stroke, or peripheral arterial disease and were associated with a doubling in the risk of serious hypoglycaemia, or an extra 54 events for every 1000 patients treated intensively for five years (2.03, 1.46 to 2.81).

These trials used various combinations of diet, oral drugs, and insulin to achieve higher or lower targets for glycated haemoglobin. They included a total of 27 802 adults with type 2 diabetes who were treated with a more or less intensive regimen for between three and 11 years. Subgroup analyses found that early trials tended to report a benefit on mortality, whereas later trials suggested the opposite. Controlling blood pressure, serum lipids, and risky lifestyles are better ways to protect patients from cardiovascular disease, say the authors.

Ann Intern Med 2009;151; published online 21 July

Pay for performance associated with early improvements in some aspects of primary care

MEAN SCORES FOR QUALITY OF CARE



Adapted from *N Engl J Med* 2009;361:368-78

In 2004, the UK government introduced financial incentives for general practitioners to help improve quality of care. A before and after study suggests that incentives to improve the care of people with diabetes and asthma worked for about a year, accelerating an already improving trend. Care of people with heart disease was also improving before the changes and carried on improving at around the same rate afterwards.

From 2005 onwards, quality of care continued to improve in all three clinical areas, but more slowly. Between 2005 and 2007, the rate of improvement for diabetes care and asthma care had returned to the rate seen before pay for performance was introduced. The authors computed quality scores from medical records at 42 general practices. They also sent questionnaires to a random sample of 200 patients from each practice. Response rates for the four surveys (two before and two after pay for performance) were generally low (38-47%). Respondents reported no change in speed of access to a doctor, and a small but significant decline in continuity of care after the changes.

Aspects of care not linked to incentives had consistently lower quality scores than aspects of care included in the pay for performance deal. This gap widened between 2005 and 2007 for both heart disease and asthma.

N Engl J Med 2009;361:368-78

Predictive test for Alzheimer's disease isn't ready for the clinic

An international team of researchers has developed a test to help predict which patients with mild cognitive impairment will develop Alzheimer's disease. The test combines three biomarkers in the cerebrospinal fluid—two tau proteins and the β amyloid Aβ42. The researchers used cross sectional data from 529 patients with Alzheimer's disease and 304 healthy controls to calculate cut offs for a positive and negative test result. They then applied the cut offs to a cohort of 750 patients with mild cognitive impairment who were followed up for at least two years.

The test was reasonably accurate, predicting Alzheimer's disease with a sensitivity of 83% (95% CI 78% to 88%) and a specificity of 72% (68% to 76%). But it is not yet ready for the memory clinic, says an editorial (p 436). Clinical and laboratory procedures have yet to be standardised, and assay results varied widely from one centre to another in this study. The trio of biomarkers could eventually be useful for screening people with mild cognitive impairment, but what would they do with the results? It is impossible to prevent Alzheimer's disease, and no disease modifying treatments exist once it is diagnosed. A positive screening test could be distressing for patients and their relatives, and like all screening tests the result could be wrong. The study's authors agree that for now, these biomarkers remain an experimental tool for researchers, not clinicians.

JAMA 2009;302:385-93

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