SHORT CUTS

ALL YOU NEED TO READ IN THE OTHER GENERAL JOURNALS

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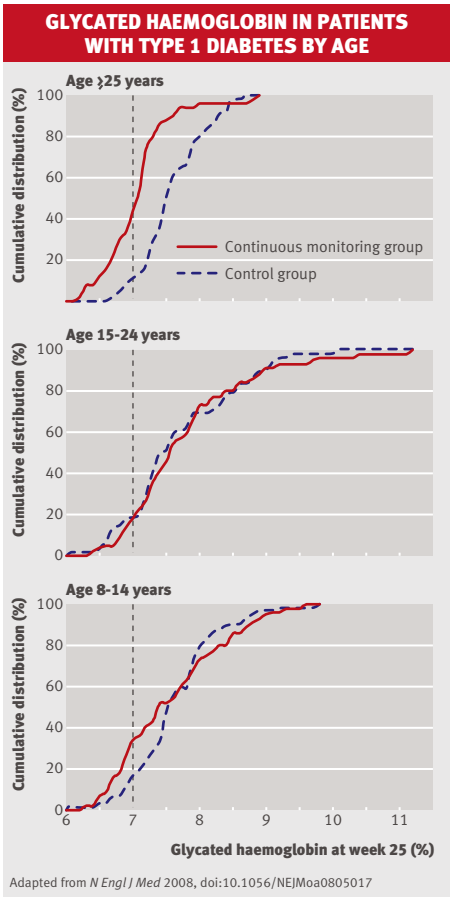
Continuous glucose monitoring works best for adults



Adapted from *N Engl J Med* 2008, doi:10.1056/NEJMoa0805017

Continuous monitoring of interstitial glucose sounds like a good idea for people with type 1 diabetes. The monitoring devices only work if you wear them, however. In the latest trial, continuous monitoring improved glycaemic control over 26 weeks in adults aged over 25, but not in younger age groups—possibly because 83% of the older adults wore their device for at least six days a week, compared with only 30% of 14-24 year olds and 50% of 8-14 years olds ($P<0.001$ for older adults *v* the other two groups). Controls of all ages used traditional glucose meters and did finger prick tests at least four times a day.

Among adults older than 25 years, continuous monitoring with one of three devices reduced glycated haemoglobin (mean difference in change from baseline −0.53%, 95% CI −0.71 to −0.35) and improved other measures of glycaemic control without increasing the risk of symptomatic or biochemical hypoglycaemia.

All trial participants had relatively well controlled diabetes to start with, and most were using insulin pumps. The rest had multiple daily injections. They or their parents were well educated, and all had shown they were able to wear and work a monitor. These findings, particularly the positive ones, may not apply to less well motivated patients with diabetes, say the authors.

N Engl J Med 2008, doi:10.1056/NEJMoa0805017

Patients benefit for years after tight control of type 2 diabetes

In 1998 UK researchers published a key trial showing that tight control of both blood sugar and blood pressure independently improved outcomes for people with type 2 diabetes. When the trial ended and participants changed their treatments, the differences in blood sugar and blood pressure between the randomised groups disappeared relatively quickly. Even so, those originally randomised to tighter glycaemic control were still doing better than controls 10 years later.

Good control of blood sugar seems to leave an enduring legacy that includes a lower risk of microvascular disease, heart attack, and death, say the authors. Participants originally treated with a sulphonylurea or insulin, for example, were 13% less likely to die in the 10 years after the trial than controls originally managed with diet alone (risk ratio 0.87, 95% CI 0.79 to 0.96). There were similar improvements for overweight people treated with metformin.

The benefits of tight blood pressure control seen during the original trial did not last, however. Once the between-group differences in blood pressure disappeared, so did previously evident reductions in risk of microvascular complications, stroke, and diabetes related death. Good blood pressure control must be maintained to have any lasting effect, the authors conclude.

N Engl J Med 2008, doi:10.1056/NEJMoa0806470, doi:10.1056/NEJMoa0806359

US medical schools must promote diversity

US medical schools are doing a poor job of increasing the racial diversity of their students, says an editorial (pp 1203-5). Currently only 10-15% of students come from under-represented minorities despite predictions that those minorities will collectively make up more than half the US population by 2050. Diversity within medical schools matters because doctors from minority backgrounds are more likely to serve minority communities, and because patients from minority backgrounds often prefer doctors who share their culture and language. There's good evidence that a diverse classroom provides a more sympathetic educational experience for everyone, including the racial majority, says the editorial.

The latest research comes from a cross sectional survey of more than 20 000 students graduating from US medical schools in 2003 and 2004 (pp 1135-45). White students who trained alongside a high proportion of students from minorities were more likely to endorse equitable access to health care than students from more culturally uniform schools. They also rated themselves better prepared to care for patients from backgrounds other than their own.

Why are medical schools lagging behind the evidence? Complacency, poor leadership, and a distinct lack of political will on the part of federal government are all barriers to change, says the editorial. The complacency is misplaced. In this survey, fewer than half the respondents (43%) agreed that all US citizens had a right to adequate health care and that access was often a problem.

JAMA 2008;300:1135-45, 1203-5

Community health workers successfully treat perinatal depression in rural Pakistan

Perinatal depression is common in rural Pakistan, and in many areas there are no specialist mental health services. Cognitive behavioural therapy is an effective treatment, but can it be delivered by existing primary health workers?

In a recent trial, three days' training combined with supervision once a month gave local

community health workers enough expertise to deliver an effective cognitive based intervention to depressed pregnant women in their village. The Thinking Healthy Programme was delivered by "lady health workers" with no previous psychiatric training. They visited pregnant mothers with depression every week during the final trimester, three times in the first month after the birth, then once a month for nine months. Women in the programme were significantly less likely to be depressed after one year than control women, who had the same number of visits from untrained health workers (111/412 (27%) *v* 226/386 (59%); adjusted odds ratio 0.23, 95% CI 0.15 to 0.36). They were also functioning better, reported better social support, and had lower scores on a validated scale measuring disability.

The Thinking Healthy Programme had no measurable effect on infants' height or weight, but it did seem to improve uptake of immunisation (339/360 (94%) *v* 294/345 (85%) with completed immunisation at 12 months; adjusted odds ratio 2.5, 1.47 to 4.72) and reduce the risk of diarrhoea. "This intervention should be available as routine to all women who need it," says a linked editorial (pp 868-9).

Lancet 2008;372:902-9

Hormone products associated with reflux in postmenopausal women

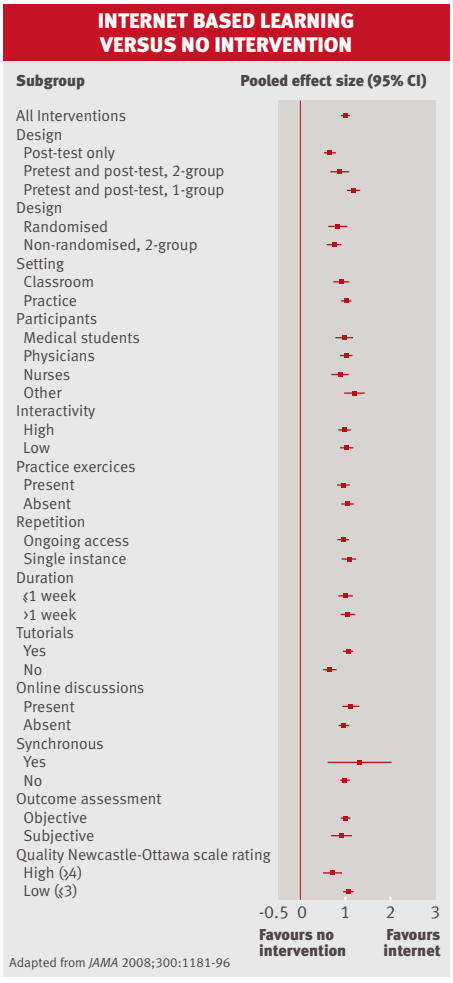
Doctors should warn women that postmenopausal hormone treatments could increase their risk of gastro-oesophageal reflux, say researchers. An analysis of data from the longstanding Nurses Health Study found a clear link between use of hormonally active products and symptoms of reflux in more than 51 000 postmenopausal nurses from the US. Compared with women who had never taken hormonal treatments, the odds of gastro-oesophageal reflux at least once a week were increased among women currently taking oestrogen alone (adjusted odds ratio 1.66, 95% CI 1.54 to 1.79), those taking combinations of oestrogen and progesterone (1.41, 1.29 to 1.54), and former users of either formulation (1.46, 1.36 to 1.56). Current use of oestrogen receptor modulators such as raloxifene and herbal over the counter products such as soy were also associated with symptoms.

These associations were independent of 10 different confounders including body mass index, smoking, exercise, and use of other drugs likely to relax the gastro-oesophageal sphincter. The risk of heartburn or acid regurgitation went up in line with increasing doses of oestrogen, and with increasing length of use, which suggests the link could be causal. The researchers say nitric oxide is one plausible culprit. Women who take oestrogen have increased serum concentrations of nitric oxide, a key neurotransmitter in the relaxation of the lower oesophageal sphincter.

Arch Intern Med 2008;168:1798-804

Online learning improves health professionals' knowledge and skills

Medical students, doctors, nurses, and other health professionals are increasingly learning some of their trade on line, and there are hundreds of published articles evaluating internet based teaching materials. After a systematic search, one team of researchers found 201 controlled studies looking at the effects of online learning on professionals' knowledge, skills, behaviour, and satisfaction. The quality of the studies was generally poor, but the pooled results made it fairly clear that internet based tutorials, exercises, discussions, and other teaching materials are significantly more useful than no teaching at all. Overall, the interventions improved professionals' skills, knowledge, and behaviour. They were even beneficial for patients.



Adapted from *JAMA* 2008;300:1181-96

It's less clear how online learning compares with more traditional methods. Pooled results from 76 studies suggested that learning on line is no more effective than learning on paper or face to face. But again, the studies were relatively weak and very heterogeneous.

Most of the internet based interventions in this review included tutorials and practice exercises. Just under two thirds were interactive.

JAMA 2008;300:1181-96

Arthroscopy is ineffective in isolated osteoarthritis

A randomised trial from Canada has confirmed that arthroscopic surgery is an ineffective treatment for isolated osteoarthritis of the knee (pp 1097-107). All participants had 12 weekly sessions of physiotherapy and optimised medical treatment. Half of them also had an arthroscopy, lavage, and usually debridement of articular cartilage (83/86, 97%) or meniscal lesions (70/86, 81%).

Those treated surgically did no better than controls on validated measures of pain, stiffness, physical function, and quality of life for two years after treatment. Medical treatments included analgesics, glucosamine, and an intra-articular injection of hyaluronic acid. Patients with an established indication for arthroscopy—such as a large meniscal tear—were excluded from this trial.

Arthroscopy remains a popular treatment for osteoarthritis despite at least one earlier trial suggesting it doesn't work, say the authors. This one included 188 men and women with chronic symptoms and a mean age of around 60. It was powerful enough to exclude any clinically relevant benefit, and the results should be generally applicable. Arthroscopy did not improve symptoms even in subgroups with severe disease or mechanical problems such as catching or locking.

Surgeons must take great care when selecting patients for arthroscopy, says a linked editorial (pp 1169-70), not least because meniscal damage is common, can be asymptomatic, and often coexists with osteoarthritis. When researchers used magnetic resonance imaging to survey the right knees of 991 randomly selected older residents of Framingham in the US, they found that 350 (35%, 95% CI 32% to 38%) had some kind of meniscal damage (pp 1108-15). Meniscal tears were commonest among those with osteoarthritis. But many people with tears (180/297, 61%) reported no pain, aching, or stiffness.

N Engl J Med 2008;359:1097-107, 1108-15

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