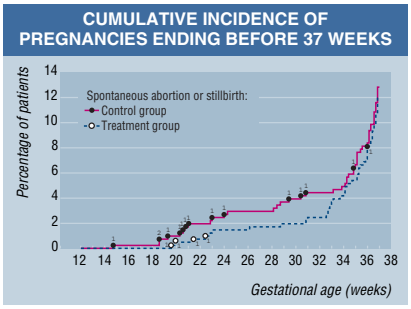
Short cuts

What's new in the other general journals

Improved oral hygiene doesn't prevent preterm birth



There's some evidence from observational studies that bad teeth and gums are associated with a higher risk of preterm birth, a serious complication that currently affects more than 12% of pregnancies in the US. Plaque removal and cleaning did not help prevent preterm birth in a randomised trial, however. The women who had scaling and root planing in the second trimester, followed by a monthly polish and some general advice about oral hygiene, were just as likely to deliver before 37 weeks as controls who had the same treatment after delivery (12% (49/407) *v* 13% (52/405)). The dental treatment had no impact on birth weight either, although there was a trend towards a lower incidence of spontaneous abortions or stillbirths (5/407 *v* 14/405, P = 0.08), which the authors say should be interpreted with caution.

The women in this trial were selected because they had mild or moderate periodontal disease, and it's still possible that treating them earlier in pregnancy or even between pregnancies would have had a more positive effect. Other trials will tell. Another explanation is that periodontal disease does not cause preterm birth. The observed link could simply be an artefact of confounding. Genital infections, low income, and smoking are all associated with both bad teeth and preterm birth.

N Engl J Med 2006;355:1885-94

Doctors must wait for decent evidence on treatments for renal artery stenosis

Renal artery stenosis caused by atheroma is an increasingly common problem among the ageing citizens of developed countries. The result is even more hypertension, poor renal function and cardiovascular disease. Aggressive medical treatment with a cocktail of antihypertensive agents and other cardiovascular drugs is one option. The other is a renal artery angioplasty and stent to relieve the stenosis. But there is little decent evidence to help doctors and patients choose between them.

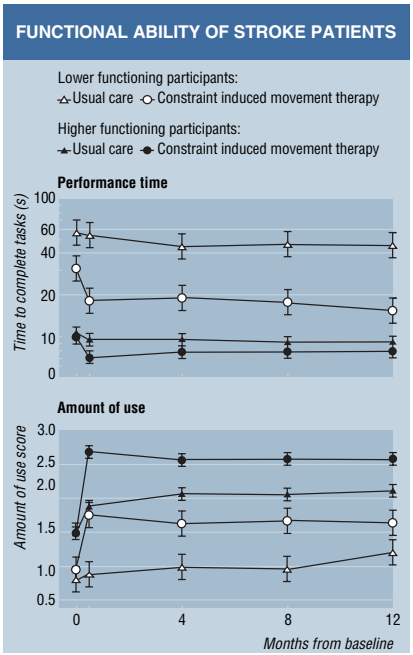
A thorough systematic review commissioned by the US Agency for Healthcare Research and Quality found 55 relevant studies. The authors rated none of them as "good" and two thirds of them as "poor." Only two were randomised trials comparing the two treatments directly, and both were too old to be useful. The authors found no studies comparing modern drug treatments with modern angioplasty techniques including a stent. There were few long term safety data on either type of treatment and even fewer to help define the patient characteristics most likely to result in a good outcome. The only thing the authors could say with any certainty was that poor renal function or cardiovascular disease was associated with a worse outcome after any kind of angioplasty. Doctors will have to wait until at least 2010, and the results of a large head to head trial, for anything better.

Ann Intern Med 2006: www.annals.org/cgi/content/full/0000605-200612190-00143v1

"Forced use" helps stroke patients regain function in their weak arm

Constraint induced therapy forces patients recovering from stroke to use their weak arm and hand by means of an immobilising mitt placed on the other one. When it is combined with intensive training of the paretic limb (constraint induced movement therapy), patients can regain lost function up to nine months after a stroke, according to a randomised trial. Patients wore the mitt for most of their waking hours for two weeks and attended a training programme for six hours each working day for the same two weeks, where they were encouraged to do frequent repetitions of simple movements. They made statistically and clinically relevant improvements in functional ability, most of which endured for at least a year, compared with controls who had usual care.

Patients in this trial could already extend their wrists and fingers by at least 10° and stand up from sitting, so the results may not apply to those with denser strokes, but the results are exciting, says an editorial (pp 2141-3), because they are the first to show a clear benefit from any rehabilitation intervention three to nine months after a stroke. They suggest that meaningful gains can be made even after the end of the traditional "recovery period," giving motivated patients much needed hope after a devastating event.

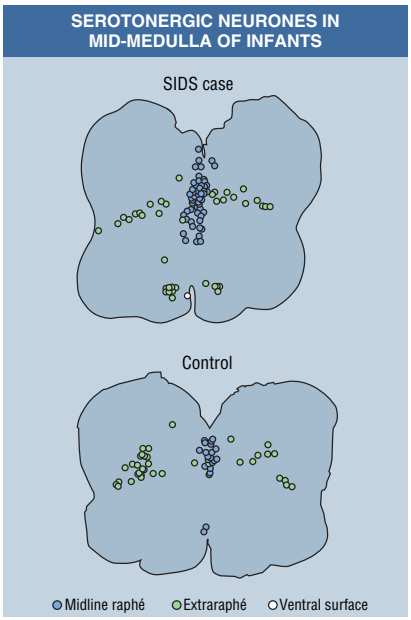


JAMA 2006;296:2095-104

Central serotonin pathways implicated in sudden infant deaths

The exact cause of sudden infant death syndrome (SIDS) is unknown. But evidence is mounting that the defect lies somewhere within the serotonergic pathways of the medulla oblongata. The latest neurological study found clear and significant differences in serotonin neuropathology between 31 SIDS cases and 10 control infants who had died from accidents, infections, or congenital disease. Medullary samples from the cases had more serotonergic neurones, a lower density of one type of serotonin receptor, and a relative lack of the serotonin transporter compared with similar samples from controls, suggesting fairly extensive defects in synthesis, release, and clearance of serotonin, and therefore neurone firing, associated with SIDS.

The authors suspect that these defects are developmental and could interfere with the usual autonomic mechanisms regulating breathing and other functions during sleep. A child with defective central serotonin pathways may not respond properly to transient hypoxia or hypercarbia when face down for example, or when sharing a bed with an adult.



The study was small, and the controls were less than ideal—pre-existing disease might have unknown effects on markers of serotonin function—but a linked editorial says the weight of evidence now favours a role for serotonin in the pathogenesis of at least some cases of SIDS (pp 2143-4).

JAMA. 2006;296:2124-32

End stage heart failure may be reversible

End stage heart failure is a point of no return for most patients, but researchers from the UK now report preliminary success with intensive drug treatment combined with a ventricular assist device to offload the left ventricle. They treated 15 patients, and 11 recovered well enough to have their device removed after a mean of 320 days. One patient died almost immediately from intractable arrhythmias, but the other 10 survived for more than two years, and nine of them survived for four. Of the nine who survived for four years, eight had no recurrence of their heart failure. They had a mean left ventricular ejection fraction at five years of 64%.

Most of the 15 patients in this series had non-ischaemic dilated cardiomyopathy, and none had active myocarditis. The carefully controlled drug regimen was designed specifically to reverse the damaging remodelling that occurs in the failing heart and included lisinopril, carvedilol, spironolactone, losartan, and clenbuterol.

Ten of the patients in this series recovered better and for longer than patients in other anecdotal reports, but it's still early days, warns a linked editorial (pp 1922-5). This study had no controls, and the authors treated only a small number of hand picked patients, some of whom did not respond.

N Engl J Med 2006;355:1873-84

Social influences conspire against safe sex

"Unsafe sex is the second most important risk factor leading to disability or death in the [world's] poorest communities and the ninth most important in developed countries," according to experts from the World Health Organization and elsewhere (pp 1595-607). Why is it so hard to change people's behaviour? A thorough systematic review of qualitative research concludes that young people have risky sex because a series of powerful social and cultural forces conspire to make them, not just because they don't know how to use condoms.

These forces seem remarkably consistent around the world and include the generally accepted principle that young men should look for sex and enjoy it, while young women should say no until they secure a long term partner. If women are meant to be chaste, carrying condoms or even knowing what they are can be stigmatising. For both men and women, they imply a lack of trust. Because of these and other social complications, men and women cannot talk openly to each other about the possibility of sex, or how they are going to keep it safe. Men in particular tend to fall back on an "internal radar" to decide whether a partner is likely to be "clean." This radar is notoriously unreliable.

Safe sex programmes must take better account of social influences if they are to succeed, say the authors.

Lancet 2006;368:1581-6

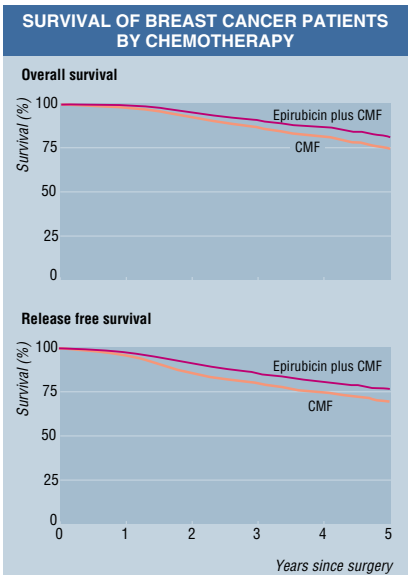
Statins are associated with a lower risk of death in people with heart failure

In a large cohort of Californians with chronic heart failure, those who started taking statins had a lower risk of death (adjusted hazard ratio 0.76 (95% CI 0.72 to 0.80)) or hospitalisation for heart failure (0.79 (0.74 to 0.85)) than those who did not. Although patients weren't randomised, the authors controlled as carefully as they could for any baseline differences between these two groups, including adjusting for age, sex, other cardiovascular drugs, presence or absence of heart disease, and each patient's propensity to get a statin. Everyone in the cohort (n = 24 598) was eligible according to national guidelines.

Many of the large clinical trials of statins excluded people with heart failure, so most of the evidence for this group comes from observational studies such as this one. Although they tend to overestimate the benefit, the observational work to date has at least been consistent: patients with heart failure who take statins seem to do better than similar patients who don't. Benefits are biologically plausible: statins lower serum concentrations of low density lipoprotein cholesterol, but they may also induce angiogenesis, reduce inflammation, and stabilise coronary plaques. All of which could be useful for patients with heart failure. Two clinical trials are under way to find out.

JAMA 2006;296:2105-11

Epirubicin improves classic chemotherapy for early breast cancer



Adjuvant chemotherapy reduces the risk of cancer recurrence and prolongs survival in women with early breast cancer. Traditional regimens of cyclophosphamide, methotrexate, and fluorouracil (CMF) have been around since the 1970s, but it's now clear that regimens including an anthracycline such as epirubicin work better. Two UK trials confirm this generally accepted view, reporting that four cycles of epirubicin followed by four cycles of traditional CMF resulted in longer relapse-free survival and longer overall survival than six or eight cycles of CMF alone (hazard ratio for relapse 0.69 (95% CI 0.58 to 0.82), hazard ratio for death 0.67 (0.55 to 0.82)).

In an unusual step, the authors designed and conducted the two trials in parallel, one in England and one in Scotland, before combining the results in a single paper. The bulk of the data came from the English trial, which included more than 2000 women. In both trials the anthracycline regimen was associated with worse side effects, particularly hair loss, nausea, and vomiting. Women treated with epirubicin had a worse quality of life during treatment. Critically, the current follow-up period of four years isn't long enough to assess the risk of myeloid leukaemia, thought to be about 2% over eight years in women treated with epirubicin. Three quarters of the women in both groups developed amenorrhoea.

N Engl J Med 2006;355:1851-62

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