

# RESEARCH

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**RESEARCH NEWS** All you need to read in the other general medical journals Alison Tonks, associate editor, *BMJ* [atonks@bmj.com](mailto:atonks@bmj.com)

## Study challenges standard airway management

Clearing and maintaining an airway is one of the first priorities for emergency personnel called to an out of hospital cardiac arrest, and many are trained to intubate or place supraglottic devices such as a laryngeal mask airway. Evidence has begun to emerge that these advanced techniques may do more harm than good in the prehospital setting. The latest study comes from Japan, where a national register recorded more than 600 000 out of hospital arrests between 2005 and 2010. The odds of a good neurological outcome were 62% lower for adults managed with an endotracheal tube or a supraglottic airway than for comparable adults managed with a bag and mask (1.1% v 2.9%; odds ratio 0.38, 95% CI 0.37 to 0.4). Intubation and supraglottic airways were both implicated in poor outcomes in a series of extensively adjusted observational analyses.

The new findings look secure and compelling, says a linked editorial (p 285). Adults managed with advanced airway techniques clearly do worse than others and a direct effect is plausible. Placing an airway might interrupt chest compressions, tubes can be placed wrongly or dislodge on the move, and overenthusiastic ventilation can reduce coronary and cerebral perfusion. The other possibility is that people managed this way have a poorer prognosis to start with because of unmeasured factors that can't be accounted for even in sophisticated statistical models. Prospective randomised trials are the only way to find out.

*JAMA* 2012;309:257-66

Cite this as: *BMJ* 2013;346:f253

## Patients with coughs don't need antibiotics—pass it on

When US researchers tested a complex intervention to discourage inappropriate antibiotic prescribing for uncomplicated bronchitis, they were rewarded with a significant drop in primary care prescriptions over one winter season. Printed leaflets, posters, and algorithms seemed to work, as well as similar materials incorporated into computerised decision support. Prescriptions for antibiotics fell from 80% to 67% among patients with bronchitis in the print strategy group and from 74% to 61% in the computerised strategy group. Prescriptions went up slightly in control practices.

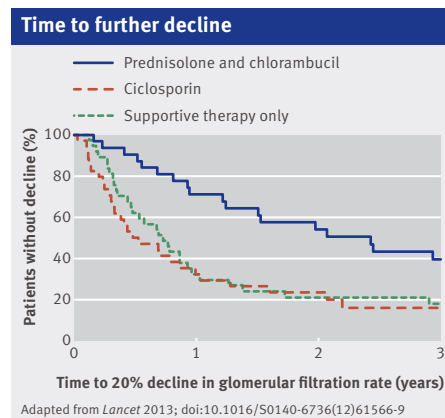
Could this be another effective way to change doctors' behaviour? Not really, says a linked editorial (doi:10.1001/jamainternmed.2013.1984). Healthy people with uncomplicated bronchitis should never be given antibiotics. We have known this for 40 years and should be aiming for prescribing rates below 10%.

Efforts to change have been well made and well evaluated. We know what works, but nothing seems to work well enough. Traditional medical interventions have failed, and it may be time to look further afield to business leaders, behavioural economists, and psychologists for inspiration. We might also be clearer with patients about just what they can expect from antibiotics—a few will recover slightly faster, between 5% and 25% will have an adverse reaction, and at least one in every 1000 will present to an emergency department with a serious drug related event.

*JAMA Intern Med* 2013; doi:10.1001/jamainternmed.2013.1589

Cite this as: *BMJ* 2013;346:f254

## A difficult trade off



Immunosuppression is an established but controversial treatment for patients with idiopathic membranous nephropathy. Supporting evidence is patchy, particularly for the minority of patients with worsening renal function. A new trial reports that the combination of chlorambucil and prednisolone does slow the decline more effectively than supportive care alone, but side effects were common and potentially serious.

Recruitment was slow, and the trial relatively small, with just 108 patients randomised over three arms. Patients given six months of chlorambucil and prednisolone did best during three years of follow-up, although 19 of 33 still had further

substantial reductions in glomerular filtration rate. Renal function declined by at least 20% in 29 of the 36 patients given ciclosporin and 31 of 37 patients managed with supportive care alone. Ciclosporin looked ineffective, and the authors suggest that renal physicians avoid it.

Both active treatments caused serious side effects. Haematological problems such as neutropenia were particularly common in participants given chlorambucil and prednisolone (28/33); eight developed glucose intolerance, and two developed cancer.

*Lancet* 2013; doi:10.1016/S0140-6736(12)61566-9

Cite this as: *BMJ* 2013;346:f248

## Smarter use of D-dimer tests

Researchers from Canada have designed and tested a strategy of selective D-dimer testing for adults with suspected first deep vein thrombosis (DVT), in an attempt to improve on the current strategy of testing everyone. The selective strategy used the 9 point Wells rule to identify patients at high, moderate, or low clinical risk of DVT. Those at high risk (including all inpatients) skipped the D-dimer test and had immediate venous ultrasonography of the proximal leg veins. Patients at moderate risk had a D-dimer test with a low threshold for a positive result (0.5 µg/mL); those at low risk had a D-dimer test with a higher threshold for a positive result (1 µg/mL). All patients with a positive D-dimer test result had venous ultrasonography.

In a randomised trial, the new strategy looked just as safe and significantly more efficient than a strategy of universal D-dimer testing with a single threshold for a positive test result (0.5 µg/mL). Among patients who did not have a DVT diagnosed, just 0.5% of both groups developed symptomatic venous thromboembolism within three months (4/798 v 4/798; absolute difference 0.0%, 95% CI -0.8% to 0.8%). Patients managed with the selective strategy had significantly fewer D-dimer tests (668/860 (77.7%) v 859/863 (99.5%); absolute difference -21.8%, -24.8% to -19.1%) and significantly fewer ultrasound examinations than controls (438/860 (50.9%) v 505/863 (58.5%); -7.6%, -12.2% to -2.9%). The two strategies diagnosed a similar proportion of patients with DVT (51/869 (5.9%) of the selective strategy group v 56/863 (6.5%) of controls).

*JAMA Intern Med* 2013;158:84-92

Cite this as: *BMJ* 2013;346:f252