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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

Swimming improves fitness in children with asthma

Swimming is a good way for children with asthma to keep fit, according to a systematic review of eight trials. Swimming was well tolerated by children with stable symptoms and helped improve aerobic fitness and lung function compared with no prescribed exercise or golf (one trial). Swimming training made no difference to quality of life in one small study and little difference to asthma symptoms in two small studies. Trial data on exacerbations were limited and inconclusive.

In combined analyses, swimming several times a week for at least half an hour improved children's FEV₁ (forced expiratory volume in one second) by 100 mL more than usual care (95% CI 0 to 200). The difference was modest but clinically meaningful, say the authors, and comparable to the kind of improvements associated with low dose fluticasone. Swimming had a more noticeable impact on fitness (25% greater improvement than controls in maximal oxygen consumption: an extra 9.67 mL/kg/min, 95% CI 5.84 to 13.51).

The 262 children and adolescents in these trials had stable asthma of varying severity. Trials reported few side effects, although only four of the eight specified whether pools contained chlorine. Bigger, better trials looking at quality of life and asthma control are now needed, say the authors. Parents and children still want to know how swimming compares with other forms of exercise.

Cochrane Database Syst Rev 2013;4:CD009607

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Emerging epidemiology of H7N9 avian flu

Enhanced surveillance for the new H7N9 avian flu identified 82 confirmed cases in six areas of China between 25 March and 17 April 2013. Seventeen infected people died of respiratory complications or multiorgan failure a median of 11 days after the first signs of illness, according to the first epidemiological study of the outbreak. Sixty others were still critically ill on 17 April.

Most of those affected were older (median age 63 years, interquartile range 50-73), men

Geographical distribution of H7N9 cases in China



(60/82), and had a history of recent exposure to live animals (59/77), usually chickens or ducks. Fifty four of the 71 cases with data available had underlying medical conditions, most commonly hypertension, diabetes, or heart disease. Only two patients were under 5 years old and both had mild upper respiratory symptoms only. Researchers identified three clusters of cases within families and can't rule out human to human transmission.

Infected poultry is the most likely source of the outbreak, and public health authorities should consider early control measures, such as disinfecting or even closing live poultry markets, while we wait for further confirmation, say the researchers. A separate study reported close genetic similarities between H7N9 viruses isolated from cases and from local chickens.

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Lancet 2013; doi:10.1016/S0140-6736(13)60903-4

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Slightly higher risk of another cancer after a first non-melanoma skin cancer

White men and women with non-melanoma skin cancers have a slightly increased risk of subsequently developing other cancers. Analyses of two long running cohorts from the US report an overall relative risk of 1.11 (95% CI 1.05 to 1.18) for men and 1.20 (1.15 to 1.25) for women during more than 20 years of follow-up. These figures exclude melanomas from the count of second cancers.

The new study confirms and fine tunes previous work linking non-melanoma skin cancers

with later and more serious disease. The authors did a series of analyses accounting for dozens of confounding factors including smoking and exposure to ultraviolet radiation. They studied 46 237 male health professionals and 107 339 female nurses who developed almost 30 000 new cancers during follow-up.

People with non-melanoma skin cancers still have a low absolute risk of a second primary, say the authors (176/100 000 person years for men; 182/100 000 person years for women), so there's no need for active surveillance yet.

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Biventricular pacing for adults with AV block and heart failure

Patients with atrioventricular (AV) block, heart failure, and left ventricular dysfunction usually need a ventricular pacemaker. Right ventricular pacing restores heart rate but may disturb left ventricular function in the long term. Biventricular pacing is technically harder to achieve but worked better in a head to head trial that tracked patients over three years. A primary outcome combining deaths, emergency visits for heart failure, and worsening heart failure was significantly less common in patients managed with biventricular pacing (45.8% (160/349) v 55.6% (190/342); hazard ratio 0.74, 95% credible interval 0.60 to 0.90). Two secondary composite outcomes—death or hospital admission for heart failure, and death or urgent care visit for heart failure—were also less common in the biventricular pacing group.

The trial began in 2003, and the protocol was adjusted in 2005 to allow implantable cardioverter defibrillators for eligible patients. Primary results were less secure for this subgroup (hazard ratio 0.75, 0.57 to 1.02). All participants were given a device capable of pacing one or both ventricles and were randomised one to two months after a run in period of right ventricular pacing and stabilisation of drug treatments. One in seven participants had a serious adverse event within 30 days of the procedure (14%; 113/809). One in 16 had complications related to the left ventricular lead (6.4%). The trial was funded by Medtronic.

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