

RESEARCH

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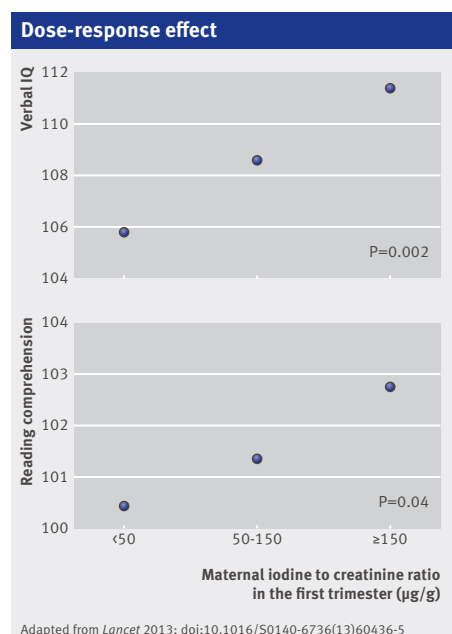
RESEARCH NEWS All you need to read in the other general medical journals Alison Tonks, associate editor, *BMJ* atonks@bmj.com

Maternal iodine deficiency may threaten children's IQ

Researchers have urged public health authorities in the UK to develop a more coherent policy on iodine deficiency in pregnancy. Their cohort study found that the children of mothers with low urinary concentrations of iodine in early pregnancy had significantly worse verbal IQ and reading ability than children of mothers with adequate concentrations. In analyses adjusted for more than 20 confounders, urinary ratios of iodine to creatinine less than 150 µg/g were associated with significantly higher odds of poor performance in one of three measures of IQ (odds ratio for verbal IQ 1.58, 95% CI 1.09 to 2.3) and three of four measures of reading ability. The researchers also noticed a dose-response effect. Children were 8 or 9 years old when tested.

Two thirds of the 1040 women in these analyses had mild or moderate iodine deficiency. They were pregnant in the early 1990s, but the authors are confident that little has changed since then. Iodine deficiency has been overlooked in the UK, and we may be taking risks with the nation's IQ, they write. Iodine is a key component of thyroid hormone and essential to the developing brain.

Moderate iodine deficiency is re-emerging in other developed countries too, says a linked comment ([doi:10.1016/S0140-6736\(13\)60717-5](https://doi.org/10.1016/S0140-6736(13)60717-5)).



Falling consumption of dairy products, patchy use of iodised salt, and no guidance from government are all contributory factors.

Lancet [doi:10.1016/S0140-6736\(13\)60436-5](https://doi.org/10.1016/S0140-6736(13)60436-5)

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CT screening for lung cancer finds more cancers, after more investigations

We know that screening for lung cancer with computed tomography (CT) prevents more deaths from lung cancer than screening with a chest radiograph, but what happens to adults screened by one or other modality? A descriptive account of the first round from a landmark screening trial reports that a quarter of high risk adults screened with CT had some kind of abnormality (27.3% (7191/26309)), compared with a 10th of controls screened with chest radiography (9.2% (2387/26035)). More positive CT scans meant more follow-up imaging (5717 v 2010), biopsies (155 v 83), bronchoscopies (306 v 107), and surgery (297 v 121). Ultimately, more cancers were diagnosed in adults screened with CT (1.1% (292) v 0.7% (190)). The extra cancers were mainly stage 1A.

One round of CT screening was more sensitive than radiography (93.8% v 73.5%) but less specific (73.4% v 91.3%). The positive predictive value was low for both tests (3.8% v 5.7%). All participants were screened for the first time between 2002 and 2004, at age 55-74 years. About half were former smokers. The rest were still smoking when recruited. All had a history of at least 30 pack years, the equivalent of smoking 20 cigarettes a day for 30 years.

N Engl J Med 2013;368:1980-91

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Five days of corticosteroid for exacerbations of COPD

Five days of oral prednisolone is enough for most people with an acute exacerbation of chronic obstructive pulmonary disease (COPD), according to a head to head trial from Switzerland. Patients given 40 mg daily for five days or 14 days had almost identical outcomes during the next six months. Just over a third of each group had another exacerbation (37.2% v 38.4%; difference -1.2%, 95% CI -12.2% to 9.8%) and 8% of each group died (7.7% (12/156) v 8.4% (13/155);

hazard ratio 0.93, 0.4 to 2.2). Lung function and symptoms improved at the same speed and to the same extent in both groups, and patients had comparable quality of life. Overall, those treated for five days had 65% less corticosteroid than controls (200 v 560 mg).

These heavy smokers and ex-smokers had severe COPD. They received other recommended treatments alongside their assigned course of prednisolone, including antibiotics, inhaled glucocorticoids and β2 agonists, and tiotropium. The trial had a non-inferiority design and was powerful enough to rule out any clinically meaningful difference between treatment groups.

Most guidelines recommend 10-14 days of corticosteroids for people with exacerbations, says a linked editorial ([doi:10.1001/jama.2013.5644](https://doi.org/10.1001/jama.2013.5644)). This trial provides convincing evidence that a five day course works just as well and limits exposure to a drug with serious and cumulative side effects.

JAMA 2013; [doi:10.1001/jama.2013.5023](https://doi.org/10.1001/jama.2013.5023)

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Another trial challenges fluid and salt restriction in acute heart failure

Adults admitted with acute decompensated heart failure are often put on diets that restrict their intake of salt and fluids, but there is mounting evidence that such diets don't work. The latest trial was small, but it found that tight control of salt and water intake didn't help relieve congestion, promote weight loss, or prevent readmission within a month. Patients allowed just 800 mL a day of fluid and 800 mg a day of salt were significantly thirstier than controls given an unrestricted hospital diet.

Researchers at one hospital in Brazil recruited 75 patients shortly after they were admitted with acute heart failure. They were mostly men, with a history of chronic heart failure and a left ventricular ejection fraction below 30%. Patients in both groups lost more than 4 kg in weight during the first three days of treatment (which almost always included intravenous diuretics), and congestion scores improved by 3 or 4 points on a scale running from 1 to 22. There was a non-significant half a point difference in score between the groups.

Aggressive restriction of salt and fluids looks unnecessary at best, say the researchers.

JAMA Intern Med 2013; [doi:10.1001/jamainternmed.2013.552](https://doi.org/10.1001/jamainternmed.2013.552)

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