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*These short summaries are from reviews appearing in the Cochrane Database of Systematic Reviews*

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## Preoperative fasting for general anaesthesia in children

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**Brady M, Kinn S, O'Rourke K, Randhawa N, Stuart P.**

*Preoperative fasting for preventing perioperative complications in children. Cochrane Database of Systematic Reviews 2005; Issue 2. Chichester: John Wiley*

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Children, like adults, are required to fast before general anaesthesia with the aim of reducing the volume and acidity of their stomach contents. It is thought that this reduces the risk of regurgitation and aspiration of gastric contents during surgery. Recent developments have encouraged a shift from the standard 'nil-by-mouth-from-midnight' fasting policy to more relaxed regimens. Practice has been slow to change because of questions relating to the duration of a total fast and the type and amount of intake permitted.

This review assessed the effects of different fasting regimens (duration, type and volume of permitted intake) and the impact on perioperative complications and patient wellbeing (aspiration, regurgitation, related morbidity, thirst, hunger, pain, comfort, behaviour, nausea and vomiting) in children.

Forty-three randomised controlled comparisons (from 23 trials) involving 2350 children considered to be at normal risk of regurgitation or aspiration during anaesthesia were included. Only one incident of aspiration and regurgitation was reported. Children permitted fluids up to 120 min preoperatively were not found to have higher gastric volumes or lower gastric pH values than those who fasted. The children who were permitted fluids were also less thirsty and hungry, better-behaved and more comfortable than those who fasted. Clear fluids preoperatively did not result in a clinically important difference in gastric volume or pH. Evidence relating to the preoperative intake of milk was sparse. The volume of fluid permitted during the preoperative period did not appear to impact on children's intraoperative gastric volume or pH contents.

Most children can therefore safely drink clear liquids until 2 h before surgery, although more research is needed for some groups of children. These include obese or diabetic children or those who have stomach disorders who are considered more likely to regurgitate under anaesthetic.

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## Promotion of cycle helmet wearing by children

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**Royal ST, Kendrick D, Coleman T.**

*Non-legislative interventions for the promotion of cycle helmet wearing by children. The Cochrane Database of Systematic Reviews 2005; Issue 2. Chichester: John Wiley*

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Helmets reduce bicycling-related head and facial injuries for cyclists of all ages in all types of crash. This review examined nonlegislative interventions that are effective in promoting helmet use by children, so that future campaigns could be designed from a firm evidence base.

Twenty-two studies were included. The odds of observed helmet-wearing were significantly greater in children who received nonlegislative interventions (odds ratio (OR), 2.30; 95% confidence interval (CI), 1.37–3.85). Subgroup analysis indicated that the effect may be greater for community-based studies (OR, 4.30; 95% CI, 2.24–8.25) and those providing free helmets (OR, 4.35; 95% CI, 2.13–8.89) than for studies that only subsidised helmet purchase (OR, 2.02; 95% CI, 0.98–4.17) and for studies based in schools (OR, 1.82; 95% CI, 0.94–3.52). There was no significant effect of nonlegislative interventions in increasing self-reported helmet ownership, but these interventions were associated with a significant increase in self-reported helmet-wearing (OR 3.90; 95% CI, 1.42–10.69), particularly in school-based interventions (OR, 4.73; 95% CI, 1.09–20.49): there was significant unexplained heterogeneity, however, between effect sizes for these two outcomes.

The campaigns varied widely with regard to where they were carried out, age of the children, type of intervention, etc. The results were also very varied but, overall, after a campaign the children involved in it were more likely to wear helmets than other children. More research is needed but it seems likely that the best schemes are based in the community and involve both education and the provision of free, or possibly subsidised, helmets. Promotion of helmets in schools also seems to be effective. The reviewers could not identify the best way of reaching poorer children. The studies they reviewed did not look at the impact of the campaigns on injury rates, or assess whether the promotion campaigns had any negative effects.

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## Acupuncture for low-back pain

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**Furlan AD, van Tulder MW, Cherkin DC, et al.**

*Acupuncture and dry-needling for low back pain. Cochrane Database of Systematic Reviews 2005; Issue 1.*

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Although low-back pain is usually a self-limiting and benign disease that tends to improve spontaneously over time, a large variety of therapeutic interventions are available for its treatment. This review assessed the effects of acupuncture for the treatment of nonspecific low-back pain and dry-needling for myofascial pain syndrome in the low-back region. Dry-needling involves the insertion of an acupuncture needle or any other injection needle without injecting any liquid. The needles are not left *in situ*, but are removed once the trigger point is inactivated.

Randomised controlled trials (RCT) were included that evaluated acupuncture which involved needling for adults with nonspecific (sub-) acute or chronic low-back pain, or dry-needling at trigger points for myofascial pain syndrome in the low-back region. Two authors independently assessed methodological quality.

Thirty-five RCT were included. The data do not allow firm conclusions about the effectiveness of acupuncture for acute low-back pain. For chronic low-back pain, acupuncture is more effective for pain relief and functional improvement than no treatment or sham treatment but only in the short-term or immediately after treatment. Acupuncture is not more effective than other conventional and 'alternative' treatments. The data suggest that acupuncture and dry-needling may be useful adjuncts to other therapies for chronic low-back pain. Because most of the studies were of low methodological quality, there remains a need for higher quality trials in this area.

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