

# Treatment guided by fractional exhaled nitric oxide in addition to standard care in 6- to 15-year-olds with asthma: the RAACENO RCT

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## Plain English summary

### The RAACENO RCT

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## Plain English summary

**W**e wanted to find out whether or not a simple breath test (to measure how much nitric oxide is breathed out) might help doctors to decide the best treatment for children with asthma. Better treatment might reduce the chance of children having an asthma attack.

In total, 509 children aged 6–15 years took part in the study. They either had their asthma treatment guided by their symptoms in the usual way or had their asthma treatment guided by their asthma symptoms plus their nitric oxide result. Information about symptoms and nitric oxide was entered into a computer system that made a recommendation about treatment (to keep treatment the same, or to increase or decrease the treatment). The doctors could follow this recommendation or make a different decision about treatment. Children were in the study for 12 months and had a treatment recommendation when they joined the study and then every 3 months. While they were in the study, we collected information about any asthma attacks that they had. The average age of the children in the study was 10 years and 60% were boys.

There was no difference in the proportion of children who had an asthma attack when comparing those who had their asthma treatment guided by symptoms alone with those who had their asthma treatment guided by symptoms plus their nitric oxide result. We looked at several other asthma outcomes (e.g. asthma symptoms, emergency visits and breathing tests) and none of these was different between treatment groups.

This means that adding the breath test to measure nitric oxide did not help doctors to decide the best treatment for children with asthma.

We interviewed some families and staff involved in the RAACENO (Reducing Asthma Attacks in Children using Exhaled Nitric Oxide) trial. They told us that taking part in RAACENO was a positive experience and that having treatment guided by a breath test and computer was broadly acceptable.



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