

WHO's clinical decision rule misses most cases of streptococcal sore throat in children

Research question Is the World Health Organization's clinical decision rule useful for diagnosing streptococcal sore throat among children in poorer countries?

Answer No. The rule is not sensitive enough to be useful.

Why did the authors do the study? WHO's clinical decision rule is meant to help doctors identify and treat streptococcal pharyngitis in children without the aid of laboratory tests such as culture of throat swabs. According to the rule, doctors should suspect streptococcal pharyngitis in, and treat with penicillin, all children who have a sore throat with pharyngeal exudate and large tender cervical lymph nodes. Penicillin reduces the risk of rheumatic fever and rheumatic heart disease, and the rule was designed for low and middle income countries with a high incidence of these diseases. The clinical decision rule performed poorly in a previous evaluation from Egypt, and the present authors wanted to confirm and extend the evaluation to other, similar countries.

What did they do? They tested the rule's sensitivity and specificity in cohorts of children from Rio de Janeiro (Brazil), Zagreb (Croatia), and Cairo (Egypt). The three cohorts included 1810 children aged 2-12 years presenting to paediatric outpatient clinics with a sore throat. Doctors assessed them clinically and then took throat swabs for culture. Children with throat swabs that grew group A β haemolytic streptococci had streptococcal pharyngitis diagnosed. The authors calculated the diagnostic accuracy of the clinical decision rule, compared with the definitive results from throat swabs. They used sensitivity and specificity as their main measures of accuracy, because these measures are unaffected by the prevalence of streptococcal pharyngitis, which varies from country to country.

What did they find? A quarter of the children from Brazil (47/191), 28% (387/1419) of those from Egypt, and 42% (84/200) from Croatia had streptococcal pharyngitis diagnosed by throat swab. The clinical decision rule was an insensitive test that missed most cases of streptococcal pharyngitis in all three cohorts (sensitivity 4.1-8.5%), and in children aged < 5 years and \geq 5 years. The rule was relatively specific (93.8-97.4%), but the authors say that a high sensitivity is more important in countries where rheumatic heart disease is still a problem and undertreatment of streptococcal sore throat could make it worse.

What does it mean? WHO's clinical decision rule looks like a poor diagnostic test for streptococcal sore throat in the countries that are meant to be using it. If the rule was used in isolation, more than nine out of 10 children with streptococcal sore throat would go untreated. This rule is less sensitive than other similar diagnostic tools and should probably not be used to guide individual treatment or policy in countries with a relatively high incidence of rheumatic disease after streptococcal infection.

Rimoin et al. Evaluation of the WHO clinical decision rule for streptococcal pharyngitis. *Archives of Disease in Childhood* 2005;90:1066-70.

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Editor's choice

One medicine?

The threat of an influenza pandemic in humans and the deaths of millions of birds around the world brings the link between human and animal health sharply into focus. Now is a good time to consider the wider connections between animal and human health and to think about how the medical and veterinary professions might work more closely together for the benefit of patients of all species. This joint issue of the *BMJ* and the *Veterinary Record* is an attempt to do that. You can access all this week's articles—in both the *BMJ* and the *Veterinary Record*—free of charge online. There are cross links between the *Veterinary Record* website (www.bvapublications.com) and the *BMJ* website (www.bmj.com).

When doctors think about the relation between animals and human health, they tend to focus mainly on the hazards animals pose to humans. Those threats are real enough—see for instance Andrew Cunningham's editorial on emerging wildlife diseases from avian influenza to Nipah virus (p 1214), David Warrell's review of the management of bites from adders and exotic venomous snakes (p 1244), and Picozzi and colleagues' concerns about the growing problem of trypanosomiasis in Uganda (p 1238). But humans pose threats to animals too—emerging diseases can do terrible damage to wildlife and domesticated animals. Animals can also benefit human health and wellbeing in many ways—for example, as pets (see McNicholas and colleagues' review of the evidence on page 1252), in therapy for depression (see Antonioli's trial on the use of dolphins in treating depression (p1231)), and even through human involvement in wildlife conservation projects (p1221).

There is some fruitful cross fertilisation of ideas between the two professions on the subject of eradication programmes on page 1261, ethics in clinical practice on page 1227, and the UK government's response to animal and human health issues on page 1216.

The *Veterinary Record* this week looks at the threat from emerging diseases, and the lessons being learnt internationally. It considers steps being taken to improve surveillance and to identify and assess the risks of new diseases as they emerge. Other articles compare approaches to professional training and clinical audit.

The response to the idea of a joint theme issue was positive. Inevitably we haven't been able to take up all the suggestions we received, but we hope that the two issues give a sense of how doctors and vets are working together, and perhaps highlight areas where more could be achieved. We would welcome feedback and hope that readers of both journals will join our one hour web chat at 4 pm local UK time on Thursday 1 December. Go to <http://quest.bmj.com/chat> to register, read the rules of engagement, and suggest themes the webchat might explore.

Graham Easton *assistant editor* (geaston@bmj.com)
Martin Alder *editor, Veterinary Record*
(editorial@bva-edit.co.uk)

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