

# Bug busting (wet combing) was less effective than malathion lotion for eliminating head lice in children

Roberts RJ, Casey D, Morgan DA, Petrovic M. Comparison of wet combing with malathion for treatment of head lice in the UK: a pragmatic randomised controlled trial. *Lancet*. 2000 Aug 12; 356:540-4.

## QUESTION

Is bug busting (wet combing with a fine-toothed comb) as effective as malathion lotion for removing head lice in children?

## DESIGN

Randomized (allocation not concealed\*), blinded (outcome assessors),\* controlled trial with follow-up at 7 days after completing treatment.

## SETTING

24 randomly selected primary schools in an area previously identified to have lice with intermediate resistance to malathion, in North Wales, United Kingdom.

## PARTICIPANTS

81 children who were 3 to 14 years of age and were identified by school nurses as having live, moving head lice; had not used insecticide lotion in the previous 2 weeks; and had no broken skin on the scalp. The sample included children from the participating schools and siblings at home who met the selection criteria. 72 children (89%) (mean age 7.7 y, 71% girls) were included in the analyses.

## INTERVENTION

37 children were allocated to bug busting. During a home visit, parents were given a bug-buster kit, which included instructions, 2 fine-toothed nit combs, 1 normal comb, a

plastic cape, and stickers. Parents were to wash the hair, apply lots of conditioner, comb the hair straight, and then use the nit comb to comb out lice until none were found. This process was to be repeated every 3 to 4 days for 2 weeks; if an adult louse was found after the first session, the treatment course was to be extended by 3 further sessions. 44 children were allocated to 0.5% malathion lotion (Suleo M [SSL International plc, Oldham, United Kingdom]; Derbac M [SSL International] for asthmatic children). During a home visit, parents were given 1 or more 50-mL bottles of the lotion and were asked to follow the instructions on the box: that is, wet hair thoroughly down to the roots with lotion, allow it to dry naturally and leave it for 8 to 10 hours, and repeat the application 7 days later. They were not to use a nit comb.

## MAIN OUTCOME MEASURE

Presence of live head lice determined by using detection combs and direct observation on dry hair.

## MAIN RESULTS

Analysis was by intention to treat. The mean duration of the bug-busting treatment was 17.7 days. At 7 days after completing treatment, more children who received the bug-busting treatment had live lice than did those who received malathion lotion ( $P < 0.001$ ) (Table).

## CONCLUSION

In children with head lice, bug busting was not as effective as malathion lotion.

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\*See Glossary.

## Malathion lotion vs bug busting for treatment of head lice in children†

Outcome	Malathion	Bug busting	RRR (95% CI)	NNT (CI)
Live lice at 7 d after treatment	23%	63%	64% (34 to 81)	2 (2 to 6)

†Abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.

## COMMENTARY

This real-world study by Roberts and colleagues examines a fairly common problem in children. Although the researchers were not blinded to which children received wet combing and which were treated with malathion, the clinical outcome assessors were blinded to treatment assignment.

Not all families were completely compliant with the treatments, but the authors were more interested in the effectiveness of the 2 treatments rather than in the efficacy. The approach was methodologically sound.

Malathion was twice as effective as wet combing. Nevertheless, I cannot agree with the authors' conclusion that U.K. policy should

change because of the study's results. Because almost 40% of children were cured without malathion, I would try the noninsecticide wet-combing approach first, reserving malathion for nonresponders. Such an approach would be less costly and might slow down the rate at which head lice are becoming resistant to malathion and other insecticides commonly used in treatment.

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