

# MMR booster vaccine does not appear to worsen disease activity in children with juvenile arthritis

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Among children with juvenile idiopathic arthritis (JIA) who had undergone primary immunization, the use of a measles-mumps-rubella (MMR) booster compared with no booster did not result in worse JIA disease activity, according to a study in the June 19 issue of *JAMA*.

"[Juvenile idiopathic arthritis](#) is the most common childhood [rheumatic disease](#), with a prevalence between 16 and 150 per 100,000. Patients with JIA may be susceptible to infections through the immunosuppressive effect of their disease or its treatment. Preventing infections in patients with JIA requires effective and safe vaccinations that induce protective immune responses, have no severe adverse effects, and do not affect JIA disease activity. The live attenuated MMR [vaccine](#) is administered to children worldwide via national immunization programs. In [immunocompromised patients](#), concern exists about the safety of live attenuated vaccines given the theoretical risk of enhanced replication of the attenuated pathogens in these patients. The safety of MMR vaccination in particular has been questioned in patients with JIA because the rubella component has been linked to the induction of arthritis in small uncontrolled studies," according to background information in the article.

Marloes W. Heijstek, M.D., of the University Medical Center Utrecht, Wilhelmina Children's Hospital, Utrecht, the Netherlands, and colleagues conducted a study to assess whether MMR booster

vaccination affects disease activity in patients with JIA. The [randomized trial](#) included 137 patients with JIA 4 to 9 years of age who were recruited from 5 academic hospitals in the Netherlands between May 2008 and July 2011. Patients were randomly assigned to receive MMR booster vaccination (n=68) or no vaccination ([control group](#); n=69). Disease activity was measured by the [Juvenile Arthritis](#) Disease Activity Score (JADAS-27), ranging from 0 (no activity) to 57 (high activity).

The researchers found that the average JADAS-27 during the total follow-up period did not differ significantly between 63 revaccinated patients (JADAS-27, 2.8) and 68 controls (JADAS-27, 2.4). The average number of flares per patient did not differ significantly between the MMR booster group (0.44) and the control group (0.34), nor did the percentage of patients with 1 or more flares during follow-up.

All revaccinated patients were seroprotected against [measles](#) and rubella after vaccination. At 12 months, seroprotection rates were higher in revaccinated patients vs. controls (measles, 100 percent vs. 92 percent; mumps, 97 percent vs. 81 percent; and rubella, 100 percent vs. 94 percent, respectively), and antibody concentrations were higher compared with controls against measles, mumps, and rubella.

"The safety of MMR vaccination has been questioned because disease flares have been described after MMR vaccination. Our trial does not show an effect of vaccination on disease activity," the authors write.

"Larger studies are needed to assess MMR effects in patients using biologic agents."

**More information:** *JAMA*. 2013;309(23):2449-2456

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