

Advice on intervals between different live vaccines is based on existing specific evidence of interference between vaccines. The current advice is detailed in Table 11.2. Recommended intervals between subsequent doses of the same live vaccine will depend upon the specific incubation period of the vaccine virus, and other factors, such as decline in maternally derived antibody. Please refer to the relevant chapters.

Table 11.2 Recommended time intervals when giving more than one live attenuated vaccine

| Vaccine combinations | Recommendations |
|---|---|
| Yellow Fever and MMR | A four week minimum interval period should be observed between the administration of these two vaccines. Yellow Fever and MMR should not be administered on the same day. ¹ |
| Varicella (and zoster) vaccine and MMR | If these vaccines are not administered on the same day, then a four week minimum interval should be observed between vaccines. ² |
| Tuberculin skin testing (Mantoux) and MMR | MMR vaccination and tuberculin skin testing can be performed on the same day. However, if a tuberculin skin test has already been initiated, then MMR should be delayed until the skin test has been read unless protection against measles is required urgently. If a child has had a recent MMR, and requires a tuberculin test, then a four week interval should be observed. ³ |
| All currently used live vaccines (BCG, rotavirus, live attenuated influenza vaccine (LAIV), oral typhoid vaccine, yellow fever, varicella, zoster and MMR). | Apart from those combinations listed above, these vaccines can be administered at any time before or after each other. This includes tuberculin (Mantoux) skin testing. ⁴ |

1. Co-administration of these two vaccines can lead to sub-optimal antibody responses to yellow fever, mumps and rubella antigens (Nascimento *et. al*, 2011). Where protection is required rapidly then the vaccines should be given at any interval; an additional dose of MMR should be considered.
2. A study in the US (Mullooley & Black, 2001) showed a significant increase in breakthrough infections when varicella vaccine was administered within 30 days of MMR vaccine; suggesting that MMR vaccine caused an attenuation of the response to varicella vaccine. When the vaccines are given on the same day, however, the responses have been shown to be adequate (Plotkin, Orenstein & Offit, 2013.) As the zoster (shingles) vaccine contains the same virus as varicella (chicken pox) vaccine, this recommendation has been extrapolated to MMR and zoster. Where protection from either vaccine is required rapidly then the vaccines can be given at any interval and an additional dose of the vaccine given second should be considered.
3. Administering tuberculin (Mantoux) within 28 days of MMR vaccine may result in decreased reactivity of the tuberculin and the false negative reporting of results. If tuberculin testing has already been initiated, MMR should be delayed until the skin test has been read. If protection against measles is urgently required, then the benefit of protection from the vaccine outweighs the potential interference with the tuberculin test. In this circumstance, the individual interpreting the negative tuberculin test should be aware of the recent MMR vaccination when considering how to manage that individual.
4. Whilst there is no evidence of decreased reactivity or interference from other live vaccines, those interpreting the results of the tuberculin skin test should be aware of any recently administered live injectable vaccines.