pertussis vaccine but influenza vaccination should not be delayed in order to administer the two vaccines together. Inactivated influenza vaccines are preferred to the live attenuated vaccine for pregnant women (see Chapter 19).

A temporary programme for the vaccination of pregnant women against pertussis was introduced in October 2012. The purpose of the programme is to boost antibodies in these women so that high levels of passive antibody are transferred from mother to baby. This should protect the infant against pertussis infection until they can be vaccinated at eight weeks of age. Pregnant women should be offered dTaP/IPV vaccine between weeks 16 and 32 of each pregnancy (for operational reasons, vaccination is probably best offered at, or after the foetal anomaly scan at around 20 weeks). Pertussis vaccine can be given at the same time as influenza vaccine but, to avoid compromising the passive protection to the infant, this should not be used as a reason to give pertussis vaccination outside of the recommended period. This temporary programme is described in more detail in Chapter 24 and in the following document: https://www.gov.uk/government/publications/vaccination-against-pertussis-whooping-cough-for-pregnant-women

From 2016, the routine antenatal testing of women for rubella susceptibility ceased. Pregnant women should have their vaccine status checked during or after pregnancy, for example at the post-natal check, and be offered any outstanding doses of MMR soon after delivery. MMR vaccine should not be offered in pregnancy.

Intervals between vaccines

Doses of different inactivated vaccines can be administered at any time before, after, or at the same time as each other. Doses of inactivated vaccines can also be given at any interval before, after, or at the same time as a live vaccine and vice versa.

A minimum four-week interval is normally recommended between successive doses of the same vaccine - for example between each of the three doses of DTaP-containing vaccine in the primary schedule. A better response is made to some vaccines (e.g. PCV) when an eight-week interval is observed between infant doses. Although shorter intervals may be advised to achieve more rapid protection, e.g. for travel or during an outbreak, this may lead to a lower immune response, particularly in infants, and may therefore provide less durable protection. If one of the infant primary immunisation DTaP-containing vaccine doses is inadvertently or deliberately given up to a week early (e.g. for travel) however, the impact on the final response is minimal. If more than one dose in the three-dose schedule is given early, or one of the doses is given at less than a three week interval, then that dose should be repeated at least four weeks after the final dose. Where infant doses of PCV or MenB are inadvertently given at an interval of less than eight weeks, an additional dose should be administered four weeks after the second dose to ensure adequate protection whilst still at a vulnerable age.

For other multiple dose schedules with inactivated vaccines e.g. HPV and hepatitis B, giving subsequent doses at a slightly shorter than the recommended interval is unlikely to be highly detrimental to the overall immune response. However, early vaccination should be avoided unless necessary to ensure rapid protection or to improve compliance, and additional doses may be recommended to ensure longer term protection.