

associated with low-grade fever and mild local reactions at the site of injection, which resolve rapidly.

Unlike the inactivated antigens, live attenuated virus vaccines such as MMR and MMRV multiply for days or weeks, and unfavorable reactions such as fever and rash and vaccine-associated disorders can occur up to 30 to 60 days later. These reactions are usually mild, although reactions to rubella tend to be more troublesome in older children and adults.

Contraindications and Precautions

Nurses need to be aware of the reasons for withholding immunizations—both for the child's safety in terms of avoiding reactions and for the child's maximum benefit from receiving the vaccine. Unfounded fears and lack of knowledge regarding contraindications can needlessly prevent a child from having protection from life-threatening diseases. Issues that have surfaced regarding vaccines include the misconception that administering combination vaccines may overload the child's immune system; the combined vaccines have undergone rigorous study in relation to side effects and immunogenicity rates following administration. Others may express concern that vaccines are not a part of the individual's natural immunity and that administering too many vaccines may decrease the child's immunity to such diseases. Parents may also voice concerns that vaccines may cause diseases, such as asthma, multiple sclerosis, or diabetes mellitus (Kimmel, Burns, Wolfe, et al, 2007). Another concern of parents is the number of vaccines or “shots” given to infants at any given time and the pain and discomfort this may cause.

A *contraindication* is considered as a condition in an individual that increases the risk for a serious adverse reaction (e.g., not administering a live virus vaccine to a severely immune compromised child). Thus one would not administer a vaccine when a contraindication is present. A *precaution* is a condition in a recipient that might increase the risk for a serious adverse reaction or that might compromise the ability of the vaccine to produce immunity. If conditions are such that the benefit of receiving the vaccine would outweigh the risk of an adverse event or incomplete response, a precaution would not prevent vaccine administration (American Academy of Pediatrics, 2015).