Several mumps virus vaccines are used throughout the world; in the United States, only the live attenuated Jeryl Lynn strain is used. Current recommendations are that mumps vaccine be administered as part of the combined trivalent measles-mumps-rubella vaccine (M-M-R® II) or the quadrivalent measles-mumps-rubella-varicella vaccine (ProQuad®). Monovalent vaccine is no longer produced for the U.S. market but is available in other countries.

Before administering mumps-containing vaccine, physicians should always consult the latest recommendations from the Advisory Committee on Immunization Practices (ACIP). Current recommendations for children specify two doses of mumps-containing vaccine: the first dose given on or after the first birthday and the second dose administered no earlier than 28 days after the first. In the United States, children often receive the second dose between the ages of 4 and 6 years.

In 2009, the ACIP revised its recommendations for evidence of mumps immunity in health care personnel to include (1) documented administration of two doses of a preparation containing live mumps vaccine, (2) laboratory evidence of immunity or laboratory confirmation of disease, or (3) birth date before 1957. For unvaccinated health care personnel born before 1957 who lack laboratory evidence of mumps immunity or laboratory confirmation of mumps, health care facilities should consider two doses of MMR vaccine separated by the appropriate interval; during a mumps outbreak, vaccination of these individuals is recommended.

Mumps vaccine contains live attenuated virus. It is not recommended for pregnant women, for individuals who have had a life-threatening allergic reaction to components of the vaccine, or for people in settings of clinically significant primary or secondary immunosuppression. (For details, see the ACIP guidelines on the CDC's website [*www.cdc.gov/vaccines/pubs/acip-list.htm*].) Occasionally, febrile reactions and parotitis have been reported soon after mumps vaccination. Allergic reactions after vaccination (e.g., rash and pruritus) are uncommon and are usually mild and self-limited. More serious complications, such as aseptic meningitis, have been causally associated with certain vaccine strains but not with the Jeryl Lynn strain.

Immunity to mumps is associated with the development of neutralizing antibody, although a specific correlate of protection has not been established. Seroconversion occurs in ~95% of recipients of the Jeryl Lynn strain; however, vaccine efficacy is ~80% for one dose and 90% for two doses. Recent data indicate declining seropositivity rates with time since vaccination. Studies are under way to assess the value of including a third dose in the immunization schedule. Although it is generally accepted that mumps virus is serologically monotypic, antigenic differences between virus isolates have been detected. It is unclear whether such differences can lead to immune escape. The role of the cellular arm of the immune response is unclear, but there is evidence that it may help limit virus spread and complications.

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