

CLINICAL INQUIRIES

From the Family Practice Inquiries Network

What illnesses contraindicate immunization?

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EVIDENCE-BASED ANSWER

The Advisory Council on Immunization Practices (ACIP) reports that the only contraindication for all vaccines is a history of severe allergic reaction to a previous vaccine or vaccine constituent (strength of recommendations: **C**, based predominantly on case series, case reports, and expert opinion).

Vaccination is safe and efficacious in the following situations: during a mild illness (eg, diarrhea, otitis media or other mild upper respiratory infection whether or not the patient has a fever), during antimicrobial therapy, during

the convalescent phase of an acute illness, when breastfeeding, and after mild to moderate reactions to a previous dose of vaccine.

Live vaccines (varicella, MMR) should not be used for pregnant women or significantly immunocompromised patients, and may not be effective for patients receiving immunoglobulin therapy. They can be administered to HIV-positive patients who are asymptomatic or not severely immunosuppressed, as determined by age-specific CD4 counts.

CLINICAL COMMENTARY

Know true contraindications; provide clear, factual information to concerned parents

Immunizations are among the safest and most cost-effective interventions available in modern medicine. Offices should be organized to assist in assuring delivery of immunizations during preventive, sick, and follow-up visits, and to follow recommended and catch-up schedules to reduce the time patients are susceptible to preventable infectious diseases. Failure to vaccinate due to inappropriate contraindications, particularly mild illness, is a missed opportunity and significant

contributor to under-immunization. Know and observe true contraindications and provide clear, factual information to parents concerned about vaccine risks. When temporarily delaying vaccination is prudent—eg, with evolving neurologic conditions and moderate to severe illness—scheduling a return visit for immunizations and documenting the intention to vaccinate at the next visit are strategies to reduce the risk that catch-up immunization will be forgotten.

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■ Evidence summary

Public misperceptions and provider uncertainty about contraindications create missed opportunities for immunization.¹⁻³ The Centers for Disease Control and

Prevention (CDC) defines contraindications as conditions that increase the risk of a serious reaction to vaccination. Precautions are conditions that might increase the risk of a serious reaction, or that diminish vaccine

TABLE

Contraindications and precautions for vaccine administration

SITUATION	COMMENTS
Mild acute illness (with or without fever) (otitis media, diarrhea, etc)	No contraindication
Breastfeeding	No contraindication
Serious allergic reaction to vaccine or component (anaphylaxis)	Absolute contraindication
Pregnancy	Tetanus and influenza should be kept current No contraindication to give indicated inactivated immunizations Live vaccines are contraindicated, although no reports of adverse reactions reported
Moderate to severe illness	Temporary precaution—hold until patient improved
Encephalopathy <1 week after DTP or DtaP	Pertussis immunization contraindicated
Fever >40.5° C or Hypotonic, hyporesponsive episode or Persistent, inconsolable crying >3 hours <48 hours after DTP or DTaP or seizure <3 days after DTP or DTaP	Avoid pertussis, but vaccination may be appropriate during an outbreak
Recipients of blood, IVIG, and other antibody-containing products	Hold live vaccines for variable timing depending on dose (see CDC Recommendations) Oral typhoid and yellow fever OK
Chemotherapy or radiotherapy	Give influenza Avoid others (decreased immune response)
Antibacterials	Should not be taken with oral (live) typhoid vaccine (decreased effectiveness)
Antivirals against herpes spp	Should not be taken with live varicella vaccine (decreased effectiveness)
Postpartum anti-Rho(D)	Simultaneous rubella vaccination effective
Hematopoietic Stem Cell transplant recipients	See separate CDC Recommendations*
Altered immune status (HIV, solid organ transplant recipients, etc)	See separate CDC Recommendations† Inactivated immunizations are safe, may be less effective

Table based on general recommendations on immunization, *MMWR Recomm Rep* 2002.⁴
 * Available at: www.cdc.gov/mmwr/preview/mmwrhtml/rr4910a1.htm
 † For HIV, www.cdc.gov/mmwr/preview/mmwrhtml/rr5108a1.htm; for others, www.cdc.gov/mmwr/preview/mmwrhtml/00023141.htm.

FAST TRACK

The only contraindication for all vaccines is a history of severe allergic reaction to a previous vaccine

efficiency.⁴ Recommendations about contraindications and precautions for vaccine administration are partially based on studies of adverse effects (see the **TABLE** for common situations). Complete information on the contraindications and precautions for all common vaccinations can be accessed at www.cdc.gov/mmwr/preview/mmwrhtml/rr5102a1.htm#tab5.⁴

Data on vaccination risks are limited by a relative lack of experimental studies. Initial recommendations of the Advisory Council on Immunization Practices have been based on the findings of a 14-member Institute of Medicine (IOM) expert committee and are updated regularly.⁵⁻⁷ The IOM committee reported that because vaccine-related adverse events occur infrequently,

available randomized controlled trials were too small to detect differences in incidence.⁶ Much of the data come from adverse effect surveillance systems, such as the Vaccine Adverse Event Reporting System (VAERS), to which health care providers report possible adverse effects of vaccinations.

Updated contraindications by ACIP to the initial IOM recommendations have also been based on observational reports and studies.⁴ A recent Cochrane review on acellular pertussis vaccines concluded that the acellular vaccine had fewer adverse effects than the whole-cell version, but did not support any changes in contraindications or precautions.⁸

Recommendations from others

The ACIP recommendations serve as national standards and have been adopted by American Academy of Pediatrics and the American Academy of Family Physicians and are included in most standard reference texts.^{4,9}

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