EpiVac Pink Book Web-on-Demand Series

Rotavirus and Hepatitis A–2020

Immunization Services Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
Atlanta, GA
Learning Objectives

- For each vaccine-preventable disease, identify those for whom routine immunization is recommended.
- For each vaccine-preventable disease, describe characteristics of the vaccine used to prevent the disease.
- Describe an emerging immunization issue.
- Locate current immunization resources to increase knowledge of team’s role in program implementation for improved team performance.
- Implement disease detection and prevention health care services (e.g., smoking cessation, weight reduction, diabetes screening, blood pressure screening, immunization services) to prevent health problems and maintain health.
Today’s Agenda

EpiVac Pink Book Web-on-Demand Series: Rotavirus and Hepatitis A–2020

Andrew Kroger, MD, MPH, Medical Officer, CDC/NCIRD
Continuing Education Information

- CE credit, go to: www.cdc.gov/GetCE

- Search course number: WD4344-081220

- CE credit expires: July 1, 2022

- CE instructions are available on the EpiVac Pink Book Web-on-Demand Series web page

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Disclosure Statements

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CDC does not accept any commercial support.
Rotavirus and Hepatitis A

Pink Book Web-on-Demand Series 2020

Andrew Kroger, MD, MPH
Medical Officer/Medical Health Educator
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Rotavirus Disease
Rotavirus

- First identified as a cause of diarrhea in 1973
- Leading cause of severe gastroenteritis among U.S. children before introduction of vaccine in 2006
- Nearly universal infection by age 5 years
- Responsible for up to 500,000 diarrheal deaths each year worldwide
Rotavirus

- Two important outer shell proteins—VP7, or G-protein, and VP4, or P-protein define the serotype of the virus
- From 1996–2005, five predominate strains in the U.S. (G1–G4, G9) accounted for 90% of the isolates
- G1 strain accounts for 75% of infections
- Very stable and may remain viable for weeks or months if not disinfected
Rotavirus Immunity

- Antibody against VP7 and VP4 probably important for protection
  - Cell-mediated immunity probably plays a role in recovery and immunity

- First infection usually does not lead to permanent immunity

- Reinfection can occur at any age

- Subsequent infections generally less severe
Rotavirus Clinical Features

- Short incubation period
- First infection after 3 months of age generally most severe
- May be asymptomatic or result in severe, dehydrating diarrhea with fever and vomiting
- Gastrointestinal symptoms generally resolve in 3–7 days
Rotavirus Complications

- Infection can lead to severe diarrhea, dehydration, electrolyte imbalance, and metabolic acidosis
- Immunocompromised children may experience severe prolonged gastroenteritis
- May have abnormalities in multiple organ systems, especially the kidney and liver
Rotavirus Epidemiology

- **World-wide distribution**
  - Similar in developed and developing countries

- **Reservoir**
  - Human–GI tract and stool

- **Transmission**
  - Fecal–oral, fomites

- **Temporal pattern**
  - Fall and winter (temperate areas)

- **Communicability**
  - 2 days before to 10 days after onset of symptoms
Rotavirus Disease in the United States
Prevaccine Era

- Annually responsible for:
  - 3 million infections
  - More than 400,000 physician visits
  - 200,000 emergency dept. visits
  - 55,000–70,000 hospitalizations
  - 20–60 deaths

- $1 billion in direct and indirect costs
Impact of Rotavirus Vaccine Introduction

FIGURE 1. Total number of rotavirus tests and positive rotavirus tests (A) and percent positivity (B) among the 23 continuously reporting National Respiratory and Enteric Virus Surveillance System (NREVSS) laboratories* — NREVSS, United States, 2000–2018

https://www.cdc.gov/mmwr/volumes/68/wr/mm6824a2.htm?s_cid=mm6824a2_w#F1_down
## Rotavirus: What You Should Know

**Q&A**

**Volume 3, Winter 2015**

The Children’s Hospital of Philadelphia Vaccine Education Center

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### Rotavirus: What you should know

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is rotavirus?</td>
<td>Rotavirus is a virus that infects the lining of the intestines. Typically, the virus infects children between 3 and 19 months of age, although it can infect infants as young as two months and adults as well. It is spread primarily through the feces of infected individuals.</td>
</tr>
<tr>
<td>What is my child’s risk of getting infected with rotavirus?</td>
<td>Almost everyone in the world is infected with rotavirus by 5 years of age. Before the vaccine, every year in the United States, rotavirus caused 160,000 children in 5 to 14 years of age. The risk also caused 300,000 doctors’ visits, 55,000 to 78,000 hospitalizations, and 20 to 40 deaths. About one of every 5 children born in the U.S. was hospitalized with dehydration caused by rotavirus. Since the rotavirus vaccine became widely used, about 90% of children have been infected with rotavirus. Throughout the world, rotavirus kills about 500,000 children every year, more than any other single infectious disease. About 1 in 5 children die every day from rotavirus.</td>
</tr>
<tr>
<td>Why do so many children in the developing world die from rotavirus?</td>
<td>Most people think rotavirus deaths are more common in developing countries, but that is not true. About one of every five children born in the world is infected with rotavirus. The mortality rate is higher in developing countries because they lack access to clean water and sanitation.</td>
</tr>
<tr>
<td>Is there a vaccine to prevent rotavirus?</td>
<td>Yes. Two vaccines are available. Both vaccines are given orally. The Rotarix vaccine is administered between 6 and 12 months of age. Gastrointestinal illness after administration of the Rotarix vaccine is more likely to occur in children with risk factors such as low birth weight, age younger than 6 months, or protein–energy malnutrition. The RotaTeq vaccine is administered between 2 and 4 months of age. Gastrointestinal illness after administration of the RotaTeq vaccine is more likely to occur in children with risk factors such as history of symptoms of gastroenteritis, age younger than 6 months, or protein–energy malnutrition.</td>
</tr>
<tr>
<td>Which immunization schedule is recommended in the United States?</td>
<td>The rotavirus vaccine is given by mouth as infants at 2, 4, and 6 months of age, depending upon which vaccine is used.</td>
</tr>
<tr>
<td>Is there a rotavirus vaccine that protects against rotavirus infections?</td>
<td>Yes. The Rotarix vaccine protects against rotavirus infections at 2 and 4 months of age and at 5, 6, and 8 months of age.</td>
</tr>
<tr>
<td>Does the rotavirus vaccine work?</td>
<td>Yes. About 90% of children receive the rotavirus vaccine and remain protected against rotavirus disease.</td>
</tr>
</tbody>
</table>

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Throughout the world, rotavirus kills about 500,000 infants and young children every year, more than any other single infectious disease. About 1,400 children die every day from rotavirus.

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[Link to original document](http://media.chop.edu/data/files/pdfs/vaccine-education-center-rotavirus.pdf)
Rotavirus Vaccine
# Rotavirus Vaccines

<table>
<thead>
<tr>
<th>Vaccine product</th>
<th>Age indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-component vaccines</td>
<td></td>
</tr>
<tr>
<td>RotaTeq (RV5)</td>
<td>6 weeks to 32 weeks of age</td>
</tr>
<tr>
<td>Rotarix (RV1)</td>
<td>6 weeks to 24 weeks of age</td>
</tr>
</tbody>
</table>
Rotavirus Vaccine Efficacy

- Any rotavirus gastroenteritis
  - 74—87%

- Severe gastroenteritis
  - 85—98%

- Both vaccines have significantly reduced physician visits for diarrhea and reduced rotavirus-related hospitalizations

- No ACIP preference for one product (RV5 vs. RV1) over the other
Rotavirus Clinical Considerations
- 2 RV1 or 3 RV5 oral doses beginning at 2 months of age
  - May be started as early as 6 weeks of age

- For both rotavirus vaccines:
  - Maximum age for first dose is 14 weeks, 6 days*
  - Minimum interval between doses is 4 weeks
  - Maximum age for any dose is 8 months, 0 days

*ACIP off-label recommendation for both vaccines because the labeled maximum age for the first dose of RV5 is 12 weeks
Rotavirus Vaccination Schedule

- ACIP did not define a maximum interval between doses
- Doses of rotavirus vaccine should be separated by at least 4 weeks
- No rotavirus vaccine should be administered to infants older than 8 months, 0 days*
- It is not necessary to restart the series or add doses because of a prolonged interval between doses

*ACIP off-label recommendation for both vaccine products because the labeled maximum age for RV1 is 24 weeks, and the labeled maximum age for RV5 is 32 weeks
Rotavirus Vaccine Recommendations

- ACIP recommends that providers do not repeat the dose if the infant spits out or regurgitates the vaccine.

- Any remaining doses should be administered on schedule:
  - Doses of rotavirus vaccine should be separated by at least 4 weeks.

- Complete the series with the same vaccine product whenever possible.
Rotavirus Vaccine Recommendations

- If product used for a prior dose or doses is not available or not known, continue or complete the series with the product that is available.

- If any dose in the series was RV5 (RotaTeq) or the vaccine brand used for any prior dose is not known, a total of 3 doses of rotavirus vaccine should be administered.

- Infants documented to have had rotavirus gastroenteritis before receiving the full course of rotavirus vaccinations should still begin or complete the 2- or 3-dose schedule.
Rotavirus Vaccine Administration

- **Preparation:**
  - RV5: None
  - RV1: Must be reconstituted BEFORE administering

- **Route/Site:** Administer ORALLY (PO)
  - The infant may eat or drink immediately following vaccine administration

- May be administered during the same clinical visit as other vaccines
Vaccine Administration Errors

- **Route:**
  - RV1 inadvertently injected
    - The dose does NOT count. Re-administer the vaccine ORALLY ASAP

- **Schedule errors:**
  - 1st dose was inadvertently given after 14 weeks, 6 days (maximum age)
    - The dose counts
    - Administer the remaining doses of the series at the routinely recommended intervals
    - Timing of the first dose should not affect the safety and efficacy of the remaining doses
  - Any dose after 8 months, 0 days (maximum age)
    - Rotavirus vaccine should not be given after age 8 months, 0 days even if the series is incomplete
Rotavirus Vaccine Contraindications

- Severe allergic reaction to a vaccine component (including latex) or following a prior dose of vaccine
  - RV1 (Rotarix) oral applicator contains latex rubber
- History of intussusception
- Severe combined immunodeficiency (SCID)
Rotavirus Vaccine Precautions*

- Altered immunocompetence (except SCID, which is a contraindication)
  - Limited data do not indicate a different safety profile in HIV-infected versus HIV-uninfected infants
  - HIV diagnosis not established in infants due for rotavirus vaccine
  - Vaccine strains of rotavirus are attenuated
  - These considerations support rotavirus vaccination of HIV-exposed or infected infants

*The decision to vaccinate if a precaution is present should be made on a case-by-case risk and benefit basis.
Rotavirus Vaccine Precautions

- Acute, moderate, or severe gastroenteritis or other acute illness

- The decision to vaccinate if a precaution is present should be made on a case-by-case risk and benefit basis
Rotavirus Vaccine Adverse Events

- **Intussusception**
  - RV1 postlicensure evaluation—1 to 3 excess cases per 100,000 first doses, possible risk for RV5 cases too small to confirm
  - Vaccine Adverse Event Reporting System (VAERS) reports show event clusters in 3–6 days following RV5
  - Vaccine Safety Datalink (VSD) shows no increased risk of intussusception (unable to assess RV1)
Rotavirus Vaccine Adverse Reactions

- **RV5 (RotaTeq)**
  - Diarrhea 18.1%
  - Vomiting 11.6%
  - Also greater rates of otitis media, nasopharyngitis, and bronchospasm

- **RV1 (Rotarix)**
  - Irritability 11.4%
  - Cough or runny nose 3.6%
  - Flatulence 2.2%
Vaccine Storage and Handling

- Store rotavirus vaccines in a refrigerator between 2°C–8°C (36°F–46°F)
- Store in the original packaging with the lids closed in a clearly labeled bin and/or area of the storage unit
  - Protect the vaccine from light
- Store RV1 (Rotarix) diluent in the refrigerator with the vaccine or at room temperature up to 25°C (77°F)
- Do not freeze vaccine or diluent
True or false: if a child is older than 14 weeks, 6 days, and has never received a dose of rotavirus vaccine, they should not receive vaccine

A) True
B) False
Answer

- A) True
Rotavirus Resources
• Ask the Experts–Rotavirus FAQs: www.immunize.org/askexperts/experts_rota.asp
• CDC Rotavirus Disease and Vaccination: www.cdc.gov/rotavirus/index.html
• Standing Orders for Administering Rotavirus Vaccine: www.immunize.org/catg.d/p3087.pdf
Rotavirus Vaccine Standing Orders

Standing Orders for Administering Rotavirus Vaccine to Infants

Purpose: To reduce morbidity and mortality from rotavirus disease by vaccinating all infants who meet the criteria established by the Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices.

Policy: Under these standing orders, eligible nurses and other healthcare professionals (e.g., pharmacists), where allowed by state law, may vaccinate infants who meet the criteria below.

Procedure
1. Identify infants ages 6 weeks through 7 months (not for 8 months or older) who have not completed a rotavirus (RV) vaccination series.
2. Screen all patients for contraindications and precautions to rotavirus vaccine.
   a. Contraindications:
      - History of a severe allergic reaction (e.g., anaphylaxis) after a previous dose of RV vaccine or to an RV vaccine component (Note: latex rubber is contained in the Rotarix oral applicator. For information on vaccine components, refer to the manufacturer’s package insert (www.immunizationaction.org/packageinserts) or go to www.cdc.gov/vaccines/pubs/recguides/hvaappz/rotavirusstandards-2.pdf).
      - Diagnosis of severe combined immunodeficiency (SCID)
      - History of intussusception
   b. Precautions:
      - Altered immunity status
      - Chronic gastrointestinal disease
      - Sepsis or other bacteremia
      - Moderate or severe acute illness with or without fever
3. Provide all patients (parent/legal representative) with a copy of the most current Federal Vaccine Information Statement (VIS). You must document, in the patient’s medical record or office log, the date of the VIS and the date it was given to the patient (parent/legal representative). Provide non-English speaking patients a copy of the VIS in their native language. If available, these can be found at www.immunize.org.
4. Provide routine vaccination with Rotarix, at ages 2 and 4 months OR provide routine vaccination with Rotavirus at ages 2, 4, and 8 months. Administer the first dose (1 ml for Rotarix; 2 ml for Rotavirus) of vaccine by administering the entire contents of the dosing syringe into the infant’s mouth until empty. Note that Rotarix needs to be reconstituted before administration; Rotavirus does not.
5. For infants who have not received RV vaccine by age 2 months, give the first dose at the earliest opportunity but no later than age 14 weeks 6 days. Then schedule subsequent doses by observing minimum intervals of 4 weeks between the remaining one (if Rotarix) or two (if Rotavirus) doses such that the final dose can be administered by age 8 months 0 days. Do not administer any RV vaccine beyond the age of 8 months 0 days.
6. Document each patient’s vaccine administration information and follow up in the following phases:
   a. Medical chart: Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).
   b. Personal Immunization record card: Record the date of vaccination and the name/location of the administering clinic.
7. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications.

This policy and procedure shall remain in effect for all patients of the , until vacinated or until (date).

Medical Director’s signature: Effective date:
Hepatitis A Disease
Hepatitis A

- Epidemic jaundice described by Hippocrates
- Differentiated from hepatitis B in 1940s
- Serologic tests developed in 1970s
- Vaccines licensed in 1995 and 1996
- Until 2004, hepatitis A was the most frequently reported type of hepatitis in the U.S.
Hepatitis A Clinical Features

- Incubation period 28 days (range 15–50 days)
- Illness not specific for hepatitis A
- Likelihood of symptomatic illness directly related to age
- Children generally asymptomatic, adults symptomatic
Hepatitis A Epidemiology

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission</td>
<td>Fecal–oral</td>
</tr>
<tr>
<td>Temporal pattern</td>
<td>None</td>
</tr>
<tr>
<td>Communicability</td>
<td>1 to 2 weeks before to 1 week after onset of jaundice</td>
</tr>
</tbody>
</table>
Hepatitis A outbreaks in 10 states have occurred primarily among persons who:

- Use injection and noninjection drugs
- Are homeless
- Are their close, direct contacts

Hepatitis A Vaccine
# Hepatitis A-Containing Vaccines

<table>
<thead>
<tr>
<th>Vaccine product</th>
<th>Age indications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Havrix</strong></td>
<td></td>
</tr>
<tr>
<td>Pediatric formulation</td>
<td>Birth – 18 years</td>
</tr>
<tr>
<td>Adult formulation</td>
<td>19 years and older</td>
</tr>
<tr>
<td><strong>Vaqta</strong></td>
<td></td>
</tr>
<tr>
<td>Pediatric formulation</td>
<td>Birth – 18 years</td>
</tr>
<tr>
<td>Adult formulation</td>
<td>19 years and older</td>
</tr>
<tr>
<td><strong>Twinrix</strong></td>
<td></td>
</tr>
<tr>
<td>Adult formulation</td>
<td>18 years and older</td>
</tr>
</tbody>
</table>

Administer the appropriate formulation based on the patient’s age.
Twinrix (HepA-HepB) combination vaccine contains:
- Hepatitis A 720 EL.U. (pediatric dose)
- Hepatitis B 20 mcg (adult dose)

Approved for persons 18 years of age and older

Schedules
- 3-dose: 0, 1, 6 months
  or
- 4-dose: 0, 7, 21–30 days and booster dose at 12 months after first dose
Vaccine Supply

- Large outbreaks of Hepatitis A among adults in several US cities resulted in increased demand for vaccine and constrained vaccine supply.

- In response, CDC has:
  - Collaborated with manufacturers to understand options for managing supplies in the public and private sector and increasing national supply.
  - Increased vaccine availability on CDC’s adult vaccine contracts.

- Available vaccine supplies have increased and progress has been made regarding ongoing outbreaks.

- Manufacturers have supply to meet current demand.

- CDC and vaccine manufacturers are monitoring the demand and need for adult Hepatitis A vaccine.

- Note, supply constraints do not apply to the pediatric Hepatitis A vaccine supply.

Hepatitis A Vaccine Efficacy

- **HAVRIX (GSK)**
  - 40,000 Thai children 1 to 16 years of age
  - Vaccine efficacy 94%

- **VAQTA (Merck)**
  - 1,000 New York children 2 to 16 years of age
  - Vaccine efficacy 100%

- **Twinrix (GSK)**
  - 1,551 healthy adults 17 to 70 years of age
  - Vaccine efficacy HepA 99.9% and HepB 98.5%
Hepatitis A Clinical Considerations
ACIP Hepatitis A Vaccine Recommendations: Pediatric

- All children should receive vaccine at 12 through 23 months of age
- Vaccination should be integrated into the routine vaccination schedule
- Catch-up all unvaccinated children between 2 and 18 years
- Vaccination of all children 12 months and older with a high-risk condition

*Newly voted on recommendations by ACIP. New recommendations will be published soon in MMWR once approved by CDC director*
ACIP Hepatitis A Vaccine Recommendations: Adult

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A (HepA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ACIP HepA Vaccine Recommendations: Adult

- Administer vaccine to adults at increased risk, including:
  - Travel to or work in areas with high or intermediate endemicity
  - Close, personal contact with international adoptee (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee’s arrival)
  - Men who have sex with men
  - Injection or noninjection drug use
  - Work with nonhuman primates or in a hepatitis A research laboratory setting
  - Chronic liver disease
  - Adults who report homelessness
  - Healthy adults who have recently been exposed to hepatitis A
  - Persons living with HIV
  - Persons in settings for exposure, including health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)
Hepatitis A and International Travel

http://gamapserver.who.int/mapLibrary/Files/Maps/Global_HepA_ITHRiskMap.png?ua=1.
Hepatitis A Vaccine for International Travelers: Infants

- Administer a single dose of HepA vaccine to infants 6–11 months of age*

- Infants should restart the 2-dose series of HepA vaccine at 12 months of age or older as recommended

https://www.cdc.gov/mmwr/volumes/67/wr/mm6743a5.htm
Hepatitis A Vaccination for International Travelers: Children and Adults

- One dose of a monovalent hepatitis A vaccine protects most healthy people 1–40 years of age
- Administer HepA vaccine to persons 1 year of age and older
  - Start the series as soon as travel is being considered to an area outside the U.S. where protection against hepatitis A is recommended
  - The series should be completed for lifelong protection – even if the trip is over
  - Postvaccination testing is not recommended
### Summary: Hepatitis A Vaccine Recommendations and International Travel

<table>
<thead>
<tr>
<th>Age</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants less than 6 months of age</td>
<td>Immunoglobulin (IG)</td>
</tr>
<tr>
<td>Infants 6 through 11 months of age</td>
<td>Vaccine(^1)</td>
</tr>
<tr>
<td>Healthy persons 1 year of age or older</td>
<td>Vaccine</td>
</tr>
</tbody>
</table>

#### Special Populations

<table>
<thead>
<tr>
<th>Special Populations</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons with a vaccine contraindication</td>
<td>IG</td>
</tr>
<tr>
<td>Immunocompromised persons</td>
<td>Vaccine with addition of IG(^2)</td>
</tr>
<tr>
<td>Persons with chronic liver disease</td>
<td>Vaccine</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Vaccine</td>
</tr>
</tbody>
</table>

\(^1\)The does does not count toward the routine series.

\(^2\)Based on provider guidance risk assessment and availability of vaccine or IG
Which is NOT a risk factor for Hepatitis A?

A) Clotting Factor Disorders
B) Close, personal contact with an international adoptee (e.g., household or regular babysitting) in first 60 days after arrival from a country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee’s arrival)
C) Work with nonhuman primates or in a research laboratory setting
D) Chronic liver disease
E) Men who have sex with men
Answer

- A) Clotting factor disorders
**Twinrix and Single-Component Hepatitis A Vaccine**

- Adult formulation hepatitis A vaccine may be used to complete a schedule begun with Twinrix and vice versa*

- **Acceptable schedules**
  - 2 Twinrix and 1 hepatitis A (adult formulation)
  - 1 Twinrix and 2 hepatitis A (adult formulation)

- Maintain spacing recommended for Twinrix

*Use the pediatric formulation of single-component vaccine for persons 18 years of age and younger.
Use the adult formulation of single-component vaccine for persons 19 years of age or older.
Hepatitis A Vaccination Additional Recommendations

- **Not routinely recommended for:**
  - Health care personnel
  - Child care center staff
  - Sewer workers or plumbers

- **Food handlers may be considered based on local circumstances**
Hepatitis A Serologic Testing

- **Prevaccination serologic testing is not indicated for children**
  - Older adolescents: Testing may be cost-effective for certain populations

- **Postvaccination**
  - Not indicated
Hepatitis A Vaccine Administration

- **Route**: IM injection
  - Needle gauge: 22 – 25 gauge
  - Needle length*: 1 – 1.5 inch depending on the patient’s age and/or weight

- **Site***:
  - 1-2 years: Vastus lateralis muscle is preferred; deltoid muscle may be used if the muscle mass is adequate
  - 3 years and older: Deltoid muscle is preferred; vastus lateralis muscle may be used

*Professional judgement should be used to determine the proper needle length and site. Influencing factors include injection technique, local reaction, number of vaccines to be administered, patient age, size and muscle mass
Hepatitis A Vaccine
Contraindications and Precautions

- Severe allergic reaction to a vaccine component or following a prior dose

- Moderate or severe acute illness
Hepatitis A Vaccine
Adverse Reactions

- Local reaction: 20% - 50%
- Systemic reactions (malaise, fatigue): Less than 10%
- No serious adverse reactions reported
Vaccine Storage and Handling

- Store hepatitis A vaccine in a refrigerator between 2°C-8°C (36°F-46°F)

- Store pediatric and adult formulations:
  - In the original packaging with the lids closed
  - In a clearly labeled bin and/or area of the storage unit-not next to each other

Vaccine storage label example
Available at www.cdc.gov/vaccines/hcp/admin/storage/guide/vaccine-storage-labels.pdf
Hepatitis A Resources
Child Resources

- Ask the Experts–Hepatitis A FAQs: [www.immunize.org/askexperts/experts_hepa.asp](http://www.immunize.org/askexperts/experts_hepa.asp)
- CDC Hepatitis A Disease: [www.cdc.gov/hepatitis/hav/index.htm](http://www.cdc.gov/hepatitis/hav/index.htm)
- CDC Hepatitis A Vaccination: [www.cdc.gov/vaccines/vpd/hepa/hcp/index.html](http://www.cdc.gov/vaccines/vpd/hepa/hcp/index.html)
Hepatitis A Vaccine Standing Orders for Children and Adults

STANDING ORDERS FOR Administering Hepatitis A Vaccine to Children and Teens

Purpose
To reduce morbidity and mortality from Hepatitis A virus (HAV) by vaccinating all children and teens who meet the criteria established by the Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices (ACIP).

Policy
Where allowed by state law, standing order enables eligible nurses and other healthcare professionals (e.g., pharmacists) to assess the need for and vaccinate children and teens who meet any of the criteria below.

Procedure
1. Assess Children and Teens in Need of Vaccination against HAV infection based on the following criteria:
   - Age 2-19 months and having documented history of at least 1 dose of hepatitis A vaccine (Havrix).
   - Age 12-19 years and having attended a community, group, or state where routine vaccination is recommended (contact your health department for recommendations).
   - Age 12 months and older with anticipated travel to a country with intermediate or high endemicity for hepatitis A, i.e., all except Canada, Japan, Australia, New Zealand, and Western Europe.
   - Anticipated close personal contact with an individual from a country with high or intermediate endemicity during the 60 days before or after the arrival of the adoptee in the United States.
   - A child who has not had nor another willing to receive hepatitis A vaccine.
   - A child with a disability who is unable to receive hepatitis A vaccine.
   - Any other child who meets the criteria outlined above.

2. Screen for contradictions and precautions
   - Contraindications:
     - Do not give Hepatitis A vaccine to children or teens who have experienced a serious reaction (e.g., anaphylaxis) to a prior dose of the vaccine or to any of its components. For information on vaccine components, refer to the manufacturers’ package insert (www.immunize.org/catg.d/p3077.pdf).
     - Avoid vaccinating a child who has had an allergic reaction to a previous dose of the vaccine.
     - Avoid vaccinating a child who has had an allergic reaction to a previous dose of the vaccine.
   - Precautions:
     - Moderate or severe acute illnesses with or without fever.

3. Provide Vaccination Statements
   - Provide patients (or in the case of minors, their parent or legal representative) with a copy of the most current National Vaccine Information Statement (NVIS). Provide non-English speaking patients with a copy of the NVIS in their native language. A copy is available and downloadable from www.immunize.org/nvis. (For information about how to document that the NVIS was given, see section 6 titled “Document Vaccinations”.

Immunization Action Coalition

Continuing Education Information

- CE credit, go to: [www.cdc.gov/GetCE](http://www.cdc.gov/GetCE)
- Search course number: WD4344-081220
- CE credit expires: July 1, 2022
- CE instructions are available on the EpiVac Pink Book Web-on-Demand Series web page
- Questions and additional help with the online CE system, e-mail [CE@cdc.gov](mailto:CE@cdc.gov)
E-mail Your Immunization Questions to Us

NIPINFO@cdc.gov

Write “Web-on-Demand–Rota-HepA” in the subject line
Comprehensive list of resources for ALL sessions

Located on the web page for this web-on-demand session at www.cdc.gov/vaccines/ed/webinar-epv/index.html

Additional materials located on this webpage include:

- Principles of Vaccination slide set
- Web-on-demand questions and answers
- Transcript of this session
- Continuing education instructions
Thank You From Atlanta!