UTAH PREVENTIVE CARE RECOMMENDATIONS
PEDIATRIC AGES 0-10

IMMUNIZATIONS

CONTENTS

GENERAL INSTRUCTIONS

Refer to the CDC's National Immunization Program website for Advisory Committee on Immunization Practices (ACIP) guidelines, the child vaccine schedule and resources. A corresponding Vaccine Information Sheet (VIS) should be provided to parent/guardian, by federal law, for each immunization administered at every visit in which the child receives immunizations. The most recent editions of VIS forms are available at the CDC website. VIS forms in various languages are available from the Immunization Action Coalition.

Immunization registry systems are used to enhance immunization documentation and consolidate records electronically from multiple sites of care. The Utah Statewide Immunization Information System (USIIS) provides a web-based immunization documentation system with forecasting technology based on CDC guidelines. Enroll in USIIS.

USIIS forecasts of children's immunization needs should be printed and reviewed from birth through the adolescent years for all visits, sick or well.

Intermountain Healthcare provides information for the community regarding immunizations at Intermountainhealthcare.org/vaccines.

COMBINATION VACCINES

Combination vaccines are preferred over single antigen vaccines and should be used when available due to fewer deferred vaccines and higher rates of immunization. The exception is MMR-V (ProQuad) which has a demonstrated a higher incidence of febrile seizures in infants ages 12 -23 months than when MMR and Varicella are administered as separate injections.

VACCINE HESITANCY

A helpful resource for answering questions of parents who are opposed to immunizations or are non-immunizers is the website of the Vaccine Education Center at Children's Hospital of Philadelphia.

DTaP

Series of 5 doses, beginning at 2 months
Dose 1: 2 months
Dose 2: 4 months
Dose 3: 6 months
Dose 4: 12-18 months (at least 6 months after Dose 3)
Dose 5: 4-6 years (Dose 5 not needed if Dose 4 is given on or after 4th birthday).

It is preferred to use the same brand of DTaP through the complete series.

HEPATITIS A

Series of 2 doses.
Dose 1: Give to patients 12 months of age or older
Dose 2: 6 months after dose 1
Catch up: Ages 2 and above

One dose is 720 EL.U per 0.5 ml (HAVRIX-GSK) or 25 U per 0.5 ml (VAQTA-Merck)

One dose Hepatitis A should be given to infants traveling internationally to countries where Hepatitis A is endemic ages 6 thru 11 months, to protect the infant who may be exposed during travel. This dose or any dose given prior to age 12 months is not considered a valid dose for the two-dose series and must be repeated after age 12 months.

HEPATITIS B

Series of 3
Dose 1: Give within 24 hours after birth as long as mother is Hep B surface antigen negative [$HB_SAg(-)$].
Dose 2: 4 weeks after first dose
Dose 3: At least 16 weeks after first dose and 8 weeks after second dose.

The last dose of Hep B should be given no earlier than 24 weeks of age.

After Dose 1, the series may be completed with single-antigen vaccine or with 3 doses of PEDIARIX (2 months, 4 months and 6 months of age). It is appropriate to provide 4 doses of Hep B when combination vaccines are used in addition to the birth dose.

Infants born to known Hep B surface antigen positive mothers should receive 0.5 ml of hepatitis B immune globulin (HBIG) and first dose of Hep B immunization within 12 hours of birth, and series should be completed at 6 months of age.

Infants born to mothers with unknown HBsAg status, within 12 hours of birth, should receive Hep B vaccine plus HBIG if they weigh less than 2000gms, or if the weight greater than 2000gms, they can receive only Hep B vaccine, and then HBIG within one week if it is determined that the mother is HBsAg positive.

H. INFLUENZA TYPE B

Series of 4, beginning at 2 months
Dose 1: 2 months
Dose 2: 4 months
Dose 3: 6 months (This dose can be skipped if using PedvaxHIB (PRP-OMP) for **all** doses)
Dose 4: 12-15 months

Series should be completed prior to age 60 months.

American Indian/Alaska Native infants are at higher risk of Hib infection and should be given PRP-OMP (PedvaxHIB) when available.

HUMAN PAPILLOMA VIRUS 9-Valent (9vHPV)

Series of two doses administered to healthy girls and boys starting at age 9 years. The vaccine is approved to give in a 2-dose series as long as the first dose of the series is provided prior to age 15 years. When the series of vaccines is initiated from 15 through 26 years or to immunocompromised persons, the vaccine should be administered in a 3-dose series.

Ages 9 through 14 years, and healthy
Dose 1: Girls and boys
Dose 2: 6 to 12 months after 1st

Ages 15 through 26 years, or immunocompromised girls or boys ages 9 through 26 years
Dose 1: Females and males
Dose 2: 2 months after first dose
Dose 3: 6 months after 1st dose (at least 12 weeks after Dose 2 and at least 24 weeks after Dose 1)

The number of doses is determined by the age of the person when the series is initiated.

Persons who have started the series with HPV-4 valent vaccine (4vHPV) should finish the series using 9vHPV.

If adequately vaccinated with 4vHPV, no need to have additional doses of 9vHPV.

Patient should remain seated for 15 minutes after receipt of vaccine due to reports of syncope.

INFLUENZA

All children ages 6 months to 18 years should be vaccinated annually any time after delivery of vaccine to the provider. Vaccine may be administered as soon as it is delivered to the provider in order not to miss opportunities, especially in children needing two doses, but administering vaccine in

the autumn months, closer to the influenza season, tends to provide best protection. Influenza vaccine should continue to be given as long as influenza virus is circulating and vaccine has not expired.

If the child receives the influenza vaccine from January through June, they should also receive the next season's influenza vaccine when it becomes available the following autumn, even though it is in the same calendar year.

Shedule during infleunza season:
Administer one dose to children 9 years and older.

For children ages 6 months through 8 years, administer 2 doses, at least one month apart, unless the child meets the criteria for requiring only one dose.

Criteria for one dose only:

- The child has received two or more doses of influenza vaccine prior to this season.
- The two doses need not have been received during the same season or consecutive seasons

Dosing injectible:

- Ages 6 to 35 months, dose is 0.25 ml or 0.5 ml, depending on product.
- Ages 3 years and above, dose is 0.5 ml.

Allergy to ingested egg is not a contraindication to either IIV or LAIV. As with all vaccines, influenza vaccine should be administered in a setting where personnel and equipment for rapid recognition and treatment of anaphylaxis are available.

MMR

Series of 2 doses, starting at age 12 months
Dose 1: 12-15 months
Dose 2: Prior to preschool or kindergarten. May be given as early as one month after Dose 1

Doses given prior to 1st birthday are not accepted for school entry requirements.

One dose MMR should be given to infants traveling internationally ages 6 thru 11 months, to protect the infant who may be exposed during travel. This dose or any dose given prior to age 12 months is not considered a valid dose for the two dose series and must be repeated after age 12 months.

MENINGOCOCCAL ACWY (MCV4)

For high-risk children, use quadrivalent meningococcal conjugate vaccine (MCV4). There are two brands of MCV4: MCV4-CRM (Menveo) is approved for ages 2 months to 55 years and MCV4-D (Menactra) is approved for ages 9 months to 55 years.

High-risk children ages 2 through 18 months, give 4 doses of MCV4-CRM (Menveo) at ages 2, 4, 6 and 12-15 months of age. High-risk includes persistent complement component deficiency, anatomic or functional asplenia, sickle cell disease, or travel to countries with endemic disease.

Travelers to countries with endemic disease or children with complement component deficiency who start their vaccinations from ages 7 through 23 months, give 2 doses 3 months apart of either MCV4-CRM (Menveo) or if at least 9 months of age, MCV4-D (Menactra). The second dose should be after age 12 months

For children with asplenia or sickle cell who start their vaccinations ages 19-23 months, give 2 doses 3 months apart of MCV4-CRM (Menveo)

For unvaccinated children ages 2 years and above with complement component deficiency, asplenia or sickle cell, give 2 doses 2 months apart of either product of MCV4.

Note that for those with asplenia or sickle cell disease, PCV13 (Prevnar®) and Menactra® should not be given at the same time due to poor immunologic response to the pneumococcal vaccine. Either give Menveo® and PCV13 together, or make sure there is at least a 28-day separation between a dose of PCV13 and Menactra®. When providing the vaccines in sequence, it is preferred to give PCV13 first to make sure that those high risk children are protected against the more common pneumococcal infection first.

Travelers ages 2-10 years need only one primary dose of MCV4.

If child is at continued risk, give one dose MCV4 booster after 3 years if previous dose was given at age younger than 7 years, or after 5 years if previous dose was given at age 7 years or older. Then, continue boosting every 5 years thereafter.

A helpful table outlining recommendations by age and risk factor for meningococcal vaccine is available from the Immunization Action Coalition.

MENINGOCOCCAL B

A series should be given to those ages 10 years and above who are at increased risk due to complement component deficiency, asplenia, or during an outbreak as defined by local public health officials.

A series consists of 2 doses of Bexero given 1 to 6 months apart or a 3 dose series of Trumenba, with dose 2 given 1 to 2 months after the first dose and dose 3 given 6 months after the first dose.

PNEUMOCOCCAL CONJUGATE (PCV13)

If age at 1st dose is ≤ 6 months, series of 4.
Dose 1: 2 months
Dose 2: 4 months
Dose 3: 6 months
Dose 4: 12 – 15 months
In the usual schedule, the minimum interval between doses is 8 weeks.

If age at 1st dose is 7 – 11 months, series of 3.

Dose 1&2: 4 – 8 weeks apart
Dose 3: 12 – 15 months

If age at 1st dose is 12 – 23 months, series of 2.
Dose 1&2: ≥ 8 weeks apart.

If less than 3 doses have been administered prior to age 24 months, give:
- 1 dose to healthy children
- 2 doses 8 weeks apart to children with underlying medical conditions.
- If **high risk,** give 2 doses 8 weeks apart, and
    - 1 dose of PPV23 at least 8 weeks after last dose of PCV13

High risk include:
- Sickle cell
- Asplenia
- HIV
- Immunosuppressed

PPSV23 after PCV13: For children greater than 2 years of age with underlying medical conditions, give one dose of PPSV23 at least 8 weeks after PCV13.

High Risk Older Children: For children between ages 6 through 18 years with asplenia, sickle cell, HIV or immunocompromising conditions who have not been previously vaccinated with PCV13, provide one dose PCV13. This is an ACIP recommendation for an off-label use of PCV13.

PNEUMOCOCCAL POLYSACCHARIDE (PPSV 23)

Children above age 2 who are at **high risk** should be immunized with the 23-valent pneumococcal vaccine.

Dose 1 is given at least 8 weeks after the final dose of Prevnar (PCV 13)

High risk includes those with:
- Chronic illnesses including cardiovascular disease
- Pulmonary disease
- Diabetes mellitus
- Anatomic or functional asplenia (including sickle cell disease)
- Nephrotic syndrome
- Cerebral spinal fluid leaks
- Or other immunosuppressive conditions

One time re-vaccination is recommended provided greater than 5 years have passed since the first dose for those likely to experience rapid decline in pneumococcal-antibody levels such as those who are immunocompromised.

POLIO

Series of 4 doses of **inactivated** polio vaccine, beginning at age 2 months
Dose 1: 2 months
Dose 2: 4 months
Dose 3: 6-18 months (If Dose 3 given at ≥ 4 years of age, Dose 4 is not needed.)
Dose 4: 4-6 years (If all doses are administered prior to 4th birthday, a booster must be given. Eliminate this dose for persons ≥ 7 years of age.) There must be at least a 6 month interval between Dose 3 and Dose 4.

If a person received an oral polio vaccine (OPV), and the dose was given prior to April 1, 2016, it can be counted as a valid OPV dose. If the dose was administered on or after April 1, 2016, it should not be counted as a valid dose for the U.S. polio vaccination schedule because it was not trivalent.

ROTAVIRUS

RotaTeq (RV5): Series of 3 oral doses
Dose 1: 2 months (may be started from age 6 weeks to 14 weeks and 6 days)
Dose 2: 4 months (at least 4 weeks after Dose 1)
Dose 3: 6 months (at least 4 weeks after Dose 2)

ROTARIX (RV4): Series of 2 oral doses
Dose 1: 2 months (may be started from age 6 weeks to 14 weeks and 6 days)
Dose 2: 4 months (at least 4 weeks after Dose 1)

Do not give any doses of either vaccine after age 8 months and 0 days
Do not re-administer doses that are regurgitated

Tdap

One dose in early adolescence, usually at age 11-12 years.

Tdap may be given as early as age 7 years as one dose of the primary series for children who have not received the full DTaP series by age 7 years. It may also be given as early as age 7 years for tetanus prophylaxis as part of wound management.

Tdap given at an age prior to 10 years does not count toward the recommended adolescent Tdap dose.

VARICELLA

Dose 1: Given between ages 12 months – 18 months unless there is evidence of immunity.
Dose 2: Prior to preschool or Kindergarten. May be given anytime >3 months after Dose 1.
Catch up: Give all children over age 6 years a second dose of varicella if they have not had two doses, unless there is evidence of immunity.

Criteria for evidence of immunity to varicella include any of the following:

1. Documentation of two doses of varicella vaccine

2. Laboratory evidence of immunity or laboratory confirmation of disease
3. A healthcare provider diagnosis of varicella or healthcare provider verification of history of varicella disease
4. History of herpes zoster based on healthcare provider diagnosis