Hepatitis A & Hepatitis B (Twinrix) Immunization Protocol

NAME AND STRENGTH OF VACCINE TO BE USED

Vaccine Name	Age	Dosage	Number of doses	Schedule	Route/site
Hepatitis A & Hepatitis B [recombinant] vaccine (Twinrix)	≥18 yrs	1 mL	3 (standard schedule)	0, 1, 6 months	IM/deltoid
		1 mL	4 (accelerated schedule)	Days 0, 7, 21-30; booster at month 12	IM/deltoid

INTENDED AUDIENCE AND PATIENT POPULATION

(A) Previously unvaccinated adults who want protection from hepatitis A and hepatitis B

(B) Adults at risk for hepatitis A virus infection:

(1) Chronic liver disease

(2) Human immunodeficiency virus (HIV) infection

(3) Men who have sex with men

(4) Illicit drug use (injection or non-injection)

(5) Homelessness

(6) Work with nonhuman primates or with clinical or nonclinical material containing hepatitis A virus in a research laboratory

(7) Travelers to a country with high or intermediate hepatitis A virus endemicity

(8) Persons who anticipate close personal contact with an international adoptee in first 60 days following arrival of the adoptee in the United States

(C) Adults at risk for hepatitis B virus infection:

(1) Hepatitis C virus infection

(2) Chronic liver disease

(3) HIV infection

(4) Sexual exposure risk

(5) Current or recent injection drug use

(6) Percutaneous or mucosal risk for exposure to blood

(7) Incarcerated persons

(8) Travelers to a country with high or intermediate endemicity for hepatitis B virus

PRECAUTIONS AND CONTRAINDICATIONS

(A) Contraindication: Severe allergic reaction (e.g., anaphylaxis) after a previous dose of any hepatitis A-containing or hepatitis B-containing vaccine, or to any component of the vaccine, including yeast and neomycin.

(B) The tip caps of the prefilled syringes contain natural rubber latex which may cause allergic reactions

(C) Syncope can occur in association with administration of injectable vaccines. Procedures should be in place to avoid falling injury.

(D) Moderate or severe acute illness with or without fever.

(E) Available data do not suggest an increased risk of major birth defects and miscarriage in women who received TWINRIX within 28 days prior to conception or during pregnancy

SIDE EFFECTS AND ADVERSE REACTIONS

(A) Soreness and redness at the injection site, headache, and fatigue have been reported.

(B) Serious allergic reactions are very rare but can occur within a few minutes to a few hours of the injection.

(C) No serious adverse events were reported.

ADMINISTRATION

(A) Schedule—see table on page 1 for standard and accelerated dosing schedules

(B) Procedures

(1) Patient or legal guardian must first sign a consent form before the vaccination is administered.

(2) Provide patient/legal guardian with a copy of the most current federal Vaccine Information Statements (VISs) for hepatitis A vaccine and hepatitis B vaccine.

(3) Inject the appropriate dose of Hepatitis A & Hepatitis B vaccine (Twinrix) **Intramuscularly** into the thickest point of a relaxed **deltoid** muscle. Most patients will receive 25 gauge, 1-inch needle. For patients weighing less than 130 lbs [60 kg], a 5/8-inch needle may be used for injection in the deltoid muscle only if the subcutaneous tissue is not bunched and the injection is made at a 90-degree angle. For obese patients, a 1½ -inch needle will be used.

(4) Give with caution to persons on anticoagulant therapy or with bleeding tendencies. After giving the injection, apply steady pressure to the injection area.

(5) Dispose of all supplies properly.

(6) Record the date of administration, name/manufacturer/strength/dose of the immunization, lot number and expiration date of the immunization, route of administration, location of the injection site, and positive identification of the person administering the vaccine.

(7) Monitor patients in the general vicinity of the administering pharmacist or pharmacy intern for at least **10 minutes** after giving the injection and treat accordingly.

(8) Advise patient to report any adverse reaction to their pharmacist or primary care physician.

(C) Monitoring parameters

(1) Patients who faint should be placed supine. Check their pulse and blood pressure immediately.

(2) Watch for rapidly falling blood pressure, difficulty breathing, sustained unconsciousness. Observe for adequate airway and pulse; administer CPR if needed. Have another member of the pharmacy staff call 911. Follow procedures in next section for treatment of severe allergic/anaphylactic reactions.

(3) Treat externally for shock. Keep patient warm, head low and feet elevated.

(4) Contact protocol physician as soon as possible to report the condition of the patient.

PROTOCOL FOR MANAGEMENT OF SEVERE ALLERGIC/ANAPHYLACTIC REACTIONS

(A) Pre-Vaccination Procedures

(1) Be prepared to call 911.

(2) Take a thorough history for allergies and prior adverse events before any immunization.

(3) Allow adequate physical space for fainting or collapse without injury and to lay patient flat on a hard surface in the event CPR is needed.

(4) Maintain current competency in vaccine administration and in cardiopulmonary resuscitation; observe all vaccinees for at least 10 minutes after immunization; remind vaccinees to report any adverse events to you.

(B) Supplies needed:

(1) Epinephrine USP, 1 mg/ml (1:1000). May be in vials of solution, *Ana-Guard* syringes, or in an *Epi-Pen* (0.15 mg & 0.3 mg). At least three adult and children's doses of epinephrine will be available wherever immunizations are given.

(2) Diphenhydramine liquid and injection

(3) Blood-pressure cuff, adult size, with stethoscope

(C) Recognition of Anaphylactic Reaction

(1) Sudden onset of itching, redness, with or without hives, within several minutes of administering a medication. The symptoms may be localized or generalized.

(2) Angioedema (swelling of the lips, face, throat)

(3) Bronchospasm

(D) Emergency treatment

(1) If itching and swelling are confined to the extremity where the immunization was given, observe patient closely for a suitable period of time, watching for generalized symptoms. If none occur, go to paragraph D(8).

(2) If symptoms are generalized, activate the emergency medical system (EMS). Call 911 **and** the protocol physician for instruction. This should be done by a second person, while the immunizer treats and observes the patient.

(3) Administer epinephrine IM (refer to dosing chart). Standard dose is 0.01mg/kg up to 0.5 mg maximum in adults. Site of administration can be the anterolateral thigh if using auto-injector, or deltoid muscle above the vaccine injection site.

(4) Administer diphenhydramine by IM injection (refer to dosing chart). DO NOT administer diphenhydramine or any other drug by mouth if the patient is not fully alert or if the patient has respiratory distress.

(5) Monitor the patient closely until EMS arrives. Perform CPR and maintain airway, if necessary. Keep patient in supine position unless they are having breathing difficulty. If breathing is difficult, patient's head may be elevated, provided blood pressure is adequate to prevent loss of consciousness. Monitor vital signs frequently.

(6) If EMS has not arrived and symptoms still persist, repeat dose of epinephrine every 10-20 minutes for up to 3 doses, depending on patient response.

(7) Record all vital signs, medications administered to the patient, including the time, dosage, response, and other relevant clinical information.

(8) Patient must be referred for medical evaluation, even if symptoms resolve completely. Symptoms may recur after epinephrine and diphenhydramine wear off, as much as 24 hours later. After the event is concluded, complete a VAERS form. Report forms may be obtained online at www.vaers.hhs.gov or by calling 1-800-822-7967.

Suggested Dosing of Epinephrine and Diphenhydramine				
Age Group Dose	**Weight * in kg**	**Weight * in lbs**	**Epinephrine Dose** ** 1 mg/mL injectable (1:1000 dilution) intramuscular	**Diphenhydramine (Benadryl)** 12.5 mg/5 mL liquid 25 and 50 mg capsules or tablets 50 mg/mL injectable
1-6 mos	4-7 kg	9-15 lbs	0.05 mg (0.05 ml)	5 mg
7- 18 mos	7-11 kg	15-24 lbs	0.1 mg (0.1 ml)	10 mg
19-36 mos	11-14 kg	24-31 lbs	0.15 mg (0.15 ml)	15 mg
37-48 mos	14-17 kg	31-37 lbs	0.15 mg (0.15 ml)	20 mg
49-59 mos	17-19 kg	37-42 lbs	0.2 mg (0.2 ml)	
5-7 yrs	19-23 kg	42-51 lbs	0.2 mg (0.2 ml)	30 mg
8-10 yrs	23-35 kg	51-77 lbs	0.3 mg (0.3 ml)	
11-12 yrs	35-45 kg	77-99 lbs	0.4 mg (0.4 ml)	40 mg
13 yrs & older	45+ kg	99+ lbs	0.5 mg (0.5 ml)	50-100 mg

*Dosing by body weight is preferred
**Epinephrine can also be administered using an autoinjector available in 0.15 mg and 0.3 mg doses. Children weighing 15 to 30 kg should receive 0.15 mg if given by autoinjector.

ACCIDENTAL NEEDLE STICK

(A) Procedures

(1) Wash needle stick site with soap and water.

(2) Report the exposure to the physician on the protocol. Prompt reporting is essential because, in some cases, post-exposure treatment may be recommended and it should be started as soon as possible. **The National Clinicians' Post Exposure Prophylaxis Hotline (PEPline) has current recommendations (888.448.4911).**

(3) Discuss risks of acquiring HBV, HCV, HIV and the need for post-exposure treatment with the provider managing your exposure.

(4) Person giving the vaccination should already have received the Hepatitis B vaccine (extremely safe and effective).

(5) Follow-up testing should be available to all workers concerned about possible infection through occupational exposure.

(B) Treatment of Exposure

HCV - no treatment available

HBV - Post-exposure treatment of HBV is highly effective in preventing infection. Treat exposure as soon as possible after exposure, preferably within 24 hours and no later than 7 days after exposure. Hepatitis B vaccine and hepatitis B immune globulin (HBIG) are both approved for treatment use. If any symptoms suggesting HBV infection develop, patient should contact a physician.

HIV - Start as soon as possible, ideally within 72 hours of exposure. Benefit of treatment delayed beyond 72 hours is not defined. No medications are FDA-approved for prevention. Pharmacist will follow current HIV prevention guidelines recommended by CDC. Truvada® (emtricitabine and tenofovir disoproxil fumarate) plus Isentress® (raltegravir) OR Truvada® plus Tivicay® (dolutegravir) are recommended for 28 days with repeated testing to confirm HIV negative status.

(C) Precautions During Follow-Up

HBV – no precaution recommended

HCV – low risk, so no precautions are recommended

HIV - 6-12 weeks is when most of the signs and symptoms of infection show. Do not donate blood, semen, or organs during this time. Do not have sexual intercourse during this time, or else use a condom consistently and correctly. Women should not breast feed. HIV is transmitted through breast milk.

See page 7 for Physician Authorization

Administration of the Hepatitis A & Hepatitis B vaccine, under the direction of the physician who signed below, may be performed by the following individuals:

_____ _____ _____

_____ _____ _____

Administration of the Hepatitis A & Hepatitis B vaccine, under the direction of the physician who signed below, may be performed at the following location(s) including street address(es):

_____

_____

As the authorizing physician, I will review, on a biennial annual basis, the activities of the health care providers administering the vaccine under this protocol.

Date:_____

*MUST BE RENEWED WITH PHYSICIAN ON A BIENNIAL BASIS

Physician Signature: _____

Physician Name:_____

Address:_____

City:_____State:_____Zip:_____

Medical License #:_____

Pharmacist in Charge Name_____

Pharmacist in Charge Signature_____

Date_____Pharmacist in Charge License #_____

Pharmacy Name_____

Pharmacy Address_____

City_____State_____Zip_____

PHYSICIAN/BOARD OF HEALTH NOTIFICATION

Notify the individual's primary care physician, or if the individual has no family physician, the County Board of Health of the district in which the individual lives, within 30 days after administering the immunization; document accordingly.