



Interim Recommendations for Initial Domestic Medical Screening of Haitian Orphan Parolees

NOTE: Will be updated as more information becomes available

DATE: February 1, 2010

PURPOSE: To provide medical screening recommendations for diseases of public health importance in orphaned children entering the United States from Haiti under humanitarian parole status.

TARGET AUDIENCE: Domestic medical providers evaluating orphaned children being evacuated from Haiti

BACKGROUND

The January 12, 2010 earthquake and multiple aftershocks created enormous devastation and loss of life in the heavily populated city of Port-au-Prince, Haiti and outlying areas. Although the exact numbers of deaths is still unknown it is estimated that more than 200,000 people lost their lives since the event. There was an estimated 380,000 orphans in Haiti as of 2007, but since the earthquake this number is unknown. (http://www.unicef.org/infobycountry/haiti_statistics.html). The health status of orphans in Haitian orphanages is considered to be very poor. Even before the earthquake, Haiti had a high prevalence of bacterial and protozoal diarrhea, hepatitis A and E, typhoid fever, dengue fever, malaria, leptospirosis, tuberculosis, and HIV. On January 18, 2010, the Department of Homeland Security (DHS) announced a humanitarian parole policy allowing orphaned children from Haiti to enter the United States to ensure that they receive the care they need.

Normally, before admission to the United States, all internationally adopted children are required to have a medical examination in their country of origin, specified by CDC, performed by a physician designated by the Department of State. However, given the urgency of the current situation, Haitian orphans entering the United States under parole status have been allowed to bypass this overseas medical screening examination prior to departure. *Therefore, this document presents recommendations for screening for communicable diseases of public health importance that is meant to take the place of the overseas medical screening exam-- referred to hereafter as the initial domestic medical screening for orphan parolees.* This medical screening should be performed as soon as possible after arrival and consist of a general medical screening, as well as screening for tuberculosis (TB), vaccination status, HIV, intestinal parasites, malaria, syphilis, and mental health. A subsequent more comprehensive medical evaluation is recommended in accordance with the American Academy of Pediatrics guidelines on the Medical Evaluation of

Internationally Adopted Children for Infectious Diseases (Red Book®: 2009 Report of the Committee on Infectious Diseases - 28th Ed. 2009). Although these examinations may be performed together, the immediate screening described in this document should not be delayed to accommodate the comprehensive examination.

INITIAL MEDICAL SCREEING

All orphans should have a medical history (if known) and physical examination. Components of the medical history should include;

- History of trauma
- Symptoms of communicable disease (i.e. fever, coryza, cough, rash, diarrhea, vomiting)
- Past medical and surgical history including any known chronic diseases
 - Specific history of TB and HIV should be solicited
 - Medication history

Components of the physical examination should include:

- Vital signs and assessment of hydration status
- Height, weight, head circumference (if age appropriate)
- Obvious injuries that may have resulted from trauma
- A full physical examination with particular attention paid to signs that may indicate underlying medical problems such as heart disease, asthma, chronic malaria (e.g. tachycardia, heart murmurs, labored respirations, abdominal tenderness) or undetected but subtle injury from trauma (e.g. splenic rupture).
- Assessment of nutritional status (looking for signs of malnutrition)

If fever is present, there should be a high clinical suspicion of malaria, dengue fever, and typhoid. Consideration should also be given to detecting clinical conditions requiring isolation (i.e. typhoid, TB, measles or chickenpox). Optimally, evaluation should be performed in consultation with an expert in infectious diseases or tropical medicine.

Orphans with known chronic medical conditions (e.g. asthma, congenital cardiac conditions, seizure disorders) should be carefully evaluated and treated, particularly since previous therapy may have been disrupted. Orphans with known chronic cardiac and respiratory disease should have vital signs assessed including oxygen saturation (portable oximeter) as soon as possible. Orphans with diabetes should have a glucose measurement as soon as possible.

Further, in 2009, the Haitian National Nutrition Survey found an acute and chronic malnutrition to be 4.5% and 24-35%, respectively.

Laboratory screening tests should include:

- Complete blood cell count with red blood cell indices
- HIV testing

- Malaria smear (if symptomatic)
- Stool examination for ova and parasites (3 specimens)
- Stool examination for *Giardia spp.*, *Cryptosporidium*, rotavirus antigen (if symptomatic); strongyloides serology if eosinophilia
- Syphilis serologic testing
 - Non-treponemal test (RPR, VDRL, ART)
 - Treponemal test (MHA-TP, FTA-ABS)
- Serologic testing for vaccine preventable diseases (if indicated—see text)
- Tuberculin skin test or Chest radiograph (see text)

TUBERCULOSIS

The incidence of TB in Haiti is one of the highest in the Western hemisphere, at 306/100,000 for all forms of TB. By comparison, the US rate is 4.2 per 100,000 (source: Global Tuberculosis Control: epidemiology, strategy, financing: WHO report 2009. http://www.who.int/tb/publications/global_report/2009/pdf/full_report.pdf).

Because of the high incidence of TB in Haiti, in addition to the living conditions of most orphans, all orphan parolees should be evaluated for TB disease after arrival. This evaluation should consist of medical history, physical examination, *and if adequate follow up can be guaranteed, screening orphans 2-14 years of age with the tuberculin skin test (TST) or interferon-gamma release assay (IGRA) is recommended.* Physicians should be advised that some experts prefer TST in children younger than 5 years of age. There are relatively few published reports documenting the performance of IGRAs in young children, obtaining sufficient blood is more difficult, and there is concern that IGRAs may perform differently in very young children who are at greater risk of a poor outcome if infection is undiagnosed. If the TST is ≥ 10 mm or IGRA is positive, a chest radiograph (CXR) (anteroposterior or posteroanterior view and a lateral view for applicants < 10 years of age; posteroanterior view for applicants ≥ 10 years of age) should be performed.

If adequate follow-up cannot be guaranteed, the TST or IGRA can be omitted and a CXR can be done as the initial screening test.

The following categories of children should provide sputum specimens:

- Orphans with signs and symptoms of TB
- Medical history suggesting TB
- CXR findings suspicious of TB
- HIV infection

Three sputum specimens (or alternative specimens such as gastric aspirates if the child cannot provide sputum specimens) should be provided to undergo microscopy for acid-fast bacilli (AFB), as well as culture for mycobacteria and confirmation of the *Mycobacterium* species, at

least to the *M. tuberculosis* complex level. Orphans diagnosed with TB disease should be started on treatment with treatment delivered as directly observed therapy (DOT).

For any child requiring sputum specimens to be sent, the medical provider should contact the local health department of the final placement location of the child, to ensure appropriate follow-up.

Once the orphans are in a long-term placement, those not diagnosed with TB disease and started on DOT, and without documented TST or IGRA results from their initial screening, should be evaluated for latent *M. tuberculosis* infection (LTBI). LTBI evaluated should consist of either a tuberculin skin test (TST) or interferon-gamma release assay (IGRA). Orphans with a negative test for TB infection should have LTBI testing repeated 6 months after arrival.

Receipt of bacille Calmette-Guérin (BCG) vaccine is not a contraindication to a TST, and a positive TST result should not be attributed to BCG vaccine. A patient with a known positive TST should not have the skin test repeated as it may provoke a local reaction.

Elements of the medical history for TB should include;

- Previous history of TB
- Illness suggestive of TB (such as cough of >3 weeks duration, dyspnea, weight loss, fever, or hemoptysis)
- Prior treatment suggestive of TB treatment (especially if incomplete or discontinued)
- Prior diagnostic evaluation suggestive of TB

Children are less likely than adults to present with “classic” signs and symptoms of TB such as night sweats, hemoptysis or cavitory findings on chest x-ray. Children more frequently present with generalized findings such as fever, growth delay, and weight loss. Children are also more prone to extra-pulmonary TB, such as meningitis, and disease of the middle ear and mastoid, lymph nodes, bones, joints, and skin. Clinical symptoms can be subtle. The clinician should keep in mind that TB can present with virtually any sign or symptom and should be included in the differential diagnosis of most abnormal clinical findings.

Pertinent elements of the physical exam specific for TB include;

- Thorough pulmonary examination
- Inspection and palpation of appropriate lymph nodes
- Inspection for scars of scrofula, and prior chest surgery

VACCINE PREVENTABLE DISEASES

Vaccine preventable diseases (VPD) are another important public health consideration for this population. Haiti provides BCG, diphtheria, pertussis (whooping cough) and tetanus (DTwP);

measles rubella (MR); oral poliovirus (OPV); and tetanus and diphtheria toxoids (Td), as part of its routine immunization schedule (along with Vitamin A). However, vaccination coverage rates are low for most of these vaccines. For example in 2008, coverage for measles vaccination was 58%, third dose DTP 53%, and third dose polio 52%. Moreover, Haiti does not provide a 2nd measles dose, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), rubella, varicella, rotavirus, meningococcal, or pneumococcal vaccinations which are considered routine childhood immunizations in the U.S.

Children and adolescents adopted from Haiti should receive immunizations according to the recommended schedule in the United States for healthy children and adolescents (see: <http://aapredbook.aappublications.org/resources/IZSchedule0-6yrs.pdf>).

In general, when data are available for the orphans in a country, written documentation of immunizations (if available) can be accepted as evidence of adequacy of previous immunization if the vaccines, dates of administration, number of doses, intervals between doses, and age of the child at the time of immunization, are consistent internally and comparable to current US or World Health Organization schedules (<http://elib2.cdc.gov:2801/cgi/content/full/2009/1/1.5.13>). *However, given the limited data available regarding verification of immunization records in Haitian orphans, and the known low vaccine coverage rates in Haiti, it may be preferred to re-immunize the child presumptively. It is also acceptable to perform serologic evaluation of concentrations of antibodies to vaccines for certain antigens (i.e. measles, mumps, rubella, hepatitis A, polio, tetanus and diphtheria) (CDC. General Recommendations on Immunization. MMWR 2006;55 (No. RR-15):[34]).* Because the rate of more serious local reactions after diphtheria, tetanus, and pertussis (DTaP) vaccine increases with the number of doses administered, serologic testing for antibody to tetanus and diphtheria toxins before re-immunizing (or if a serious reaction occurs) can be considered if appropriate immunization is in question.

Serologic testing for the surface antigen of the hepatitis B virus (HBsAg) should be performed on all children to identify chronic infection. If serologic testing is not available and receipt of immunogenic vaccines cannot be ensured, the prudent course is to provide the immunization series.

Ideally, adoptive parents, family members and other close personal contacts should ensure they are immunized or otherwise immune to hepatitis A virus infection before international travel to pick up the child. If this is not feasible, serologic testing of the orphan for hepatitis A IgM and IgG is recommended, to identify current/recent or past infection. If a child has no evidence of previous infection, the child should be immunized against hepatitis A according to the recommended immunization schedule. If IgG tests positive, indicating past infection, no immunization will be required for the child. If IgM is positive, indicating current/recent infection, all close contacts and family members should be immunized. Orphans or their household or other close contacts with symptoms consistent with acute viral hepatitis should be evaluated promptly.

HIV

Screening for HIV should be performed on all orphans from Haiti. Transplacentally acquired maternal antibody in the absence of infection can be detected in a child younger than 18 months of age. Hence, positive HIV antibody test results in asymptomatic children of this age require clinical evaluation, further testing (follow-up serologic and PCR), and counseling.

INTESTINAL PARASITES

In a nationwide survey on intestinal helminths in 5792 urban and rural school children conducted in Haiti in 2002, 34% of stools tested positive for intestinal helminths with the following parasites identified: *Ascaris lumbricoides* (27.3%), *Trichuris trichiura* (7.3%), *Necator americanus* (3.8%), *Hymenolepis nana* (2%), *Taenia sp.* (0.3%) and *Strongyloides stercoralis* (0.2%) (Champetier de Ribes et al, Bull Soc Pathol Exot. 2005 Jun; 98(2):127-32).

Most experts would perform three stools for ova and parasite (O&P) testing collected on three consecutive mornings on all children, regardless of symptoms. If stool O & P examinations are negative and the child has eosinophilia (absolute eosinophil count exceeding 450 cells/mm³), then strongyloides species serologic testing is recommended as stool O&P have poor sensitivity for this infection and the disease can be chronic and lead to serious morbidity (Red Book®: 2009 Report of the Committee on Infectious Diseases - 28th Ed. 2009).

If gastrointestinal tract signs or symptoms are present, send stool specimens for culture, and stool antigen testing for giardia, cryptosporidia, and rotavirus.

MALARIA

Over 99% of the malaria parasite species that causes malaria in Haiti is *P. falciparum*, where it is endemic. It has been reported that up to 75% of the population of Haiti lives in malarious areas, especially at altitudes <300 m above sea level (Garcia-Martin, Am J Trop Med Hyg. 1972; 21:617–33). *Therefore, it is recommended to screen symptomatic orphans for malaria with a malaria smear.* Treatment guidelines can be found on the CDC website (<http://www.cdc.gov/malaria/pdf/treatmenttable.pdf>).

SYPHILIS

Clinicians should screen each orphan for syphilis by reliable nontreponemal and treponemal serologic tests. Children with positive treponemal serologic test results should be evaluated by someone with special expertise to assess the differential diagnosis of pinta, yaws, and syphilis and to determine extent of infection so appropriate treatment can be administered.

MENTAL HEALTH

Because of stigma in Haitian culture around mental illness, many children may be reluctant to discuss or admit to mental health problems. Likewise, prior caregivers in Haiti may not have fully explored such issues, even prior to the earthquake. The experience of the January 2010

Haitian earthquake would be expected to impact greatly on many of the orphans exposed. Clinicians should consider potential mental health and developmental issues. When mental health referrals are warranted, added care should be made to explain and arrange such referrals to the patient and his/her caregivers in a culturally sensitive, supportive, and non-stigmatizing way.

CONCLUSION

This document presents recommendations for an immediate medical screening of Haitian orphans entering the US under humanitarian parole status. This is not a comprehensive examination, and it is strongly recommended to have a comprehensive medical history and physical examination once they arrive at their final destination to evaluate other medical and developmental issues in the child, including hearing and vision assessment, evaluation of growth and development, blood lead concentration, complete blood cell count with red blood cell indices, newborn screening and/or measurement of thyroid-stimulating hormone concentration, and examination for congenital anomalies (including fetal alcohol syndrome). (Red Book®: 2009 Report of the Committee on Infectious Diseases - 28th Ed. 2009).