Welcome to America!

Philip Neiheisel
Global Health
March 22nd, 2017


Blue Ridge Regional Hospital Campus
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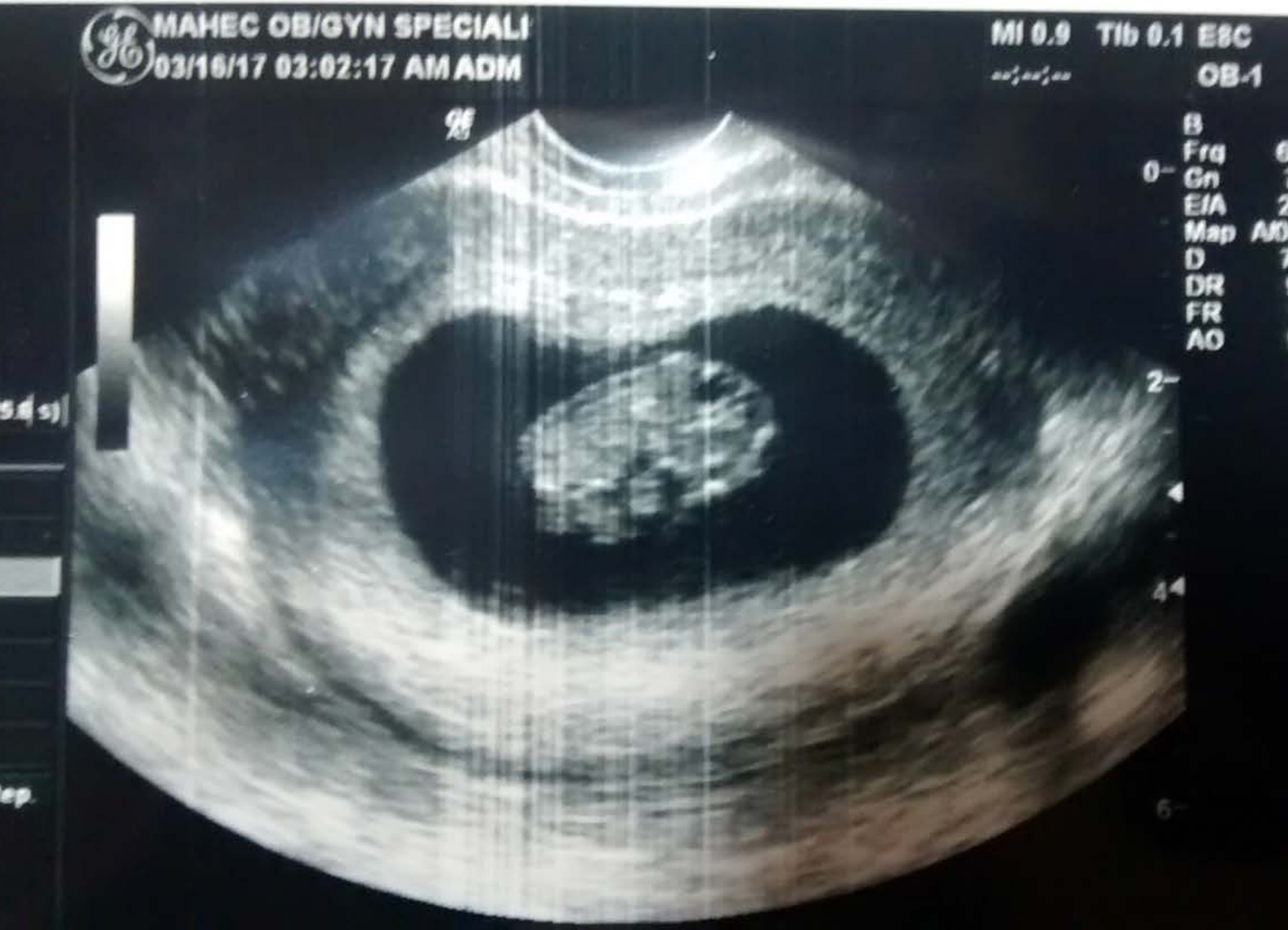
Emergency Entrance
Mitchell County Hospice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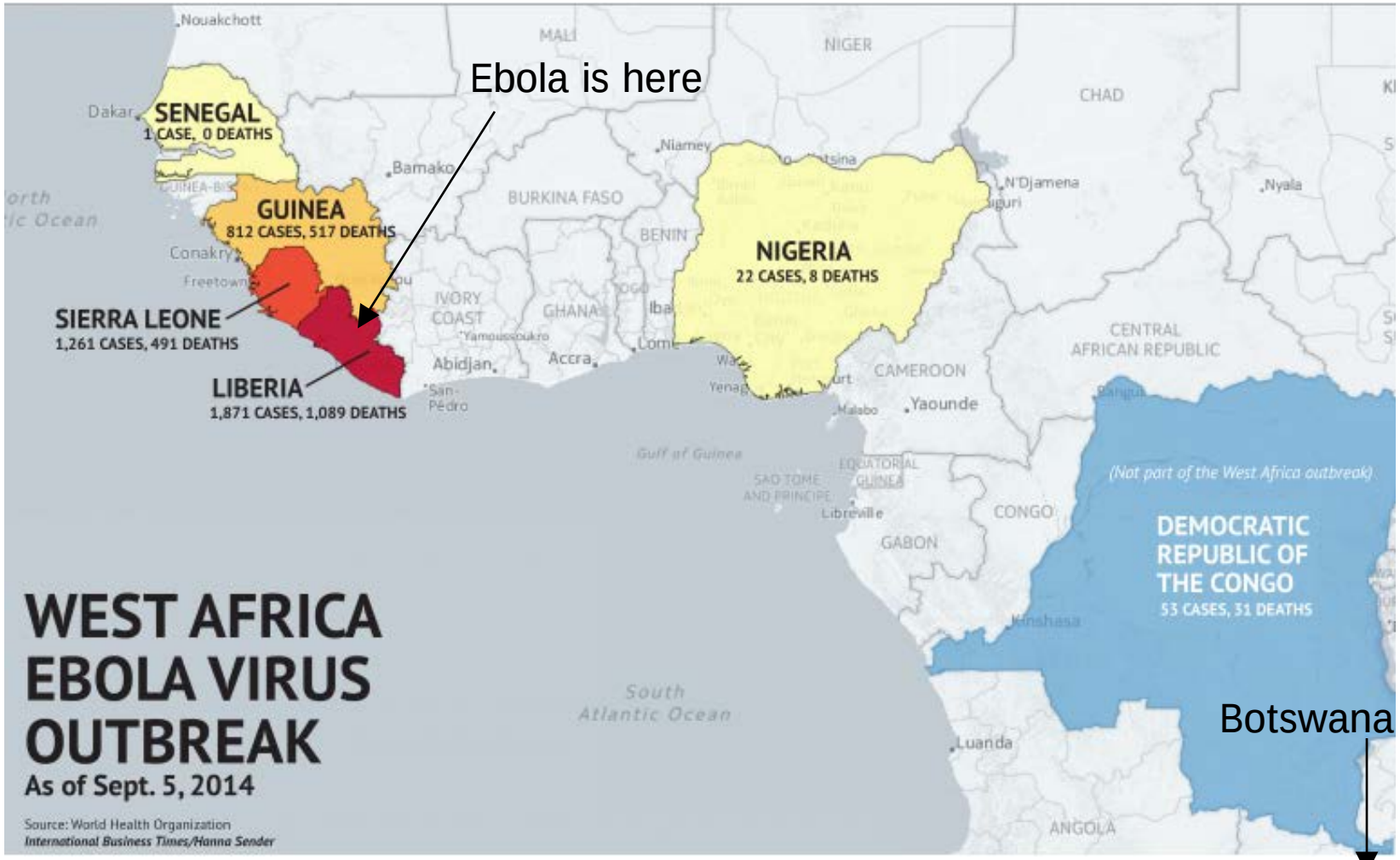
Objectives

- Discuss how doctors are involved in the immigration process
- Describe important health needs for new immigrants to the United States.
- Discuss CDC recommendations for PCPs of new immigrants at the first visit
- Identify and utilize available resources regarding immigrant health.
- Pimping
- Maps
- **AMERICA!**

Disclosures

- I’m usually DC, but I’ll go Marvel today

Ebola Reminder



This is going to take a while

- The Centers for Disease Control and Prevention (CDC) has published guidelines for medical examination of newly arrived refugees, as well as a 12-point checklist that includes screening recommended for refugees arriving in the United States [1].
- But don't worry! CDC says:

  "All screening tests and immunizations **need not be completed in the first visit**; establishing a trusting relationship will facilitate completion of all the required elements over time."

1. Centers for Disease Control and Prevention: Immigrant and Refugee Health—Guidelines for the US Domestic Examination for Newly Arriving Refugees

Definitions

…from the US Department of Homeland Security

U.S. Citizenship and Immigration Services

- Immigration and Nationality Act (INA)- outlines immigration, temporary admission, naturalization, and removal of foreign nationals
- Immigrant- A non-US citizen who comes to the US (22 exceptions) [1]
  - >1 million new immigrants to the US per year
- Refugee- Person who is outside their country and who is unable or unwilling to return to that country due to a well-founded fear of persecution [1]
  - ~60,000 new refugees to the US per year

1. Official Website of the Department of Homeland Security: IMMIGRATION AND NATIONALITY ACT \ INA: ACT 101 - DEFINITIONS \ Act 101(a)

More definitions

- Immigration Medical Exam (IME)- Required for all immigrants and refugees prior to obtaining full US citizenship
  - Must be completed before arriving in US for refugees
- Panel Physician- a medical doctor practicing **overseas** who has an agreement with a local US embassy or consulate general to perform immigration MSEs
- Civil Surgeon- **US physician** authorized to perform official IMEs
- Division of Global Migration and Quarantine (DGMQ)- CDC department that provides technical instructions (TI) for conducting IMEs
  - TIs are legally binding guidelines for all Panel Physicians and Civil Surgeons

Class A vs Class B

- Class A conditions- preclude an immigrant or refugee (possibly temporarily) from entering the United States [1].
  - Communicable public health concern (i.e. TB, Syphilis)
  - Failure to show proof of required vaccinations (single dose of a series counts)
  - Physical or mental disorder with associated harmful behavior
  - Drug abuse or addiction
- Class B conditions- physical or mental abnormalities, diseases, or disabilities which cause a “substantial departure from normal well-being”. These typically only require a waiver to be filled.
  - Inactive tuberculosis
  - Serious or permanent disabilities
  - Terminal diseases
  - Untreated medical conditions

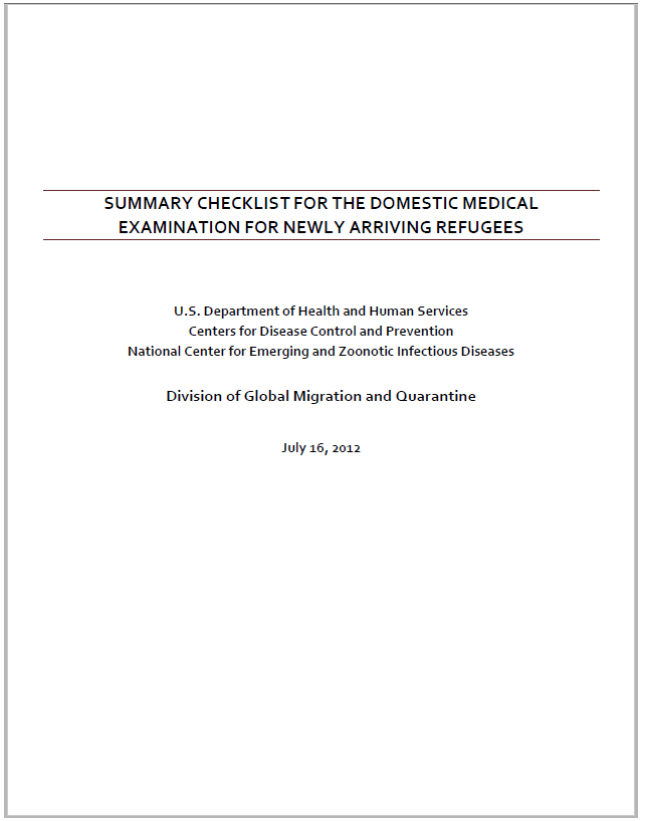
1. Official Website of the Department of Homeland Security: IMMIGRATION AND NATIONALITY ACT \ INA: ACT 101 - DEFINITIONS \ Act 212(a)(1)):

Where do we come in?

- The purpose of the Immigration Medical Exam is ONLY to exclude inadmissible conditions
  - Also may not have been done if the patient is not a legal immigrant
- Immigrants (especially refuges, adoptees, and those with class B conditions) typically also undergo a “New Arrival Screen” carried out by any qualified health professional.
  - Recommended but not required
- The New Arrival Screen also helps new immigrants to establish care with a PCP and seek care for chronic conditions that may have previously been neglected

CDC 12 point checklist

1. History and physical
2. Nutrition and growth
3. Pregnancy test
4. Immunizations
5. Mental health screening
6. General laboratory testing
7. Tuberculosis
8. Lead testing
9. Malaria
10. Intestinal and Tissue Invasive Parasites
11. Sexually transmitted diseases
12. HIV



SUMMARY CHECKLIST FOR THE DOMESTIC MEDICAL EXAMINATION FOR NEWLY ARRIVING REFUGEES

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

Division of Global Migration and Quarantine

July 16, 2012

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

1. Centers for Disease Control and Prevention: Immigrant and Refugee Health—Guidelines for the US Domestic Examination for Newly Arriving Refugees

Establish

- Establishing
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  - Stressful fa
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    system, la
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    health pro
- Explain wha
- Ask about in
- And of cours

Has the screening been done already?

- Many immigrants to the United States complete some of the New Arrival Screen prior to arrival [1] via an organized system that includes
  - Department of State
  - International Organization for Migration
  - Centers for Disease Control and Prevention (CDC)
  - State health departments
  - United States resettlement agencies
- However, some groups are excluded and many illegal migrants arrive with no health or immunization documentation.
- It must be presumed that the tests have not been done unless the patient can specifically remember them

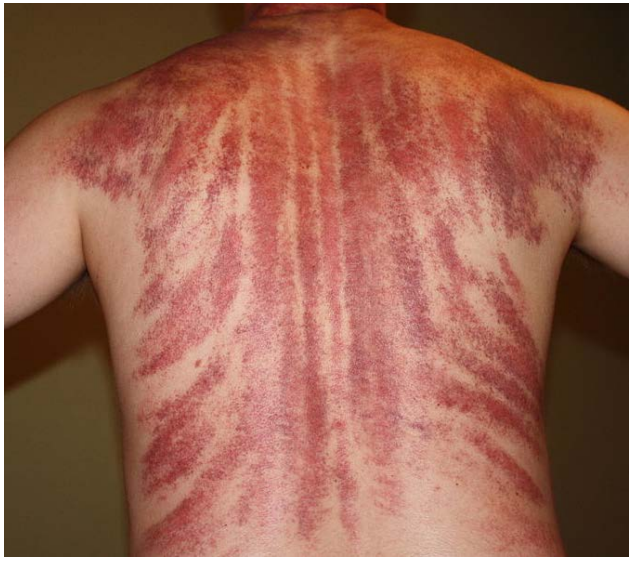
1. Centers for Disease Control and Prevention: Immigrant and Refugee Health

1. History

- Acute complaints come first (this will help with rapport)
- Standard elements of a detailed history:
  - Complete ROS, PMH, SH, FH, allergies
- Pregnancies and their outcomes, possibility of current pregnancy, menstrual history, contraceptives used
- Medications (including complementary and alternative)
- Asking the circumstances of the immigration is helpful to gauge if there may be any underlying mental health concerns
  - Mental health screening should occur in the first or second visit and include assessment for suicide risk
- Social history should include inquiry regarding current living conditions as well as migration history, including regions of residence and travel.
  - “From birth to the United States”[1]

1. Centers for Disease Control and Prevention: Domestic Examination For Newly Arrived Refugees: Guidelines and Discussion of the History and Physical Examination

1. Physical Examination



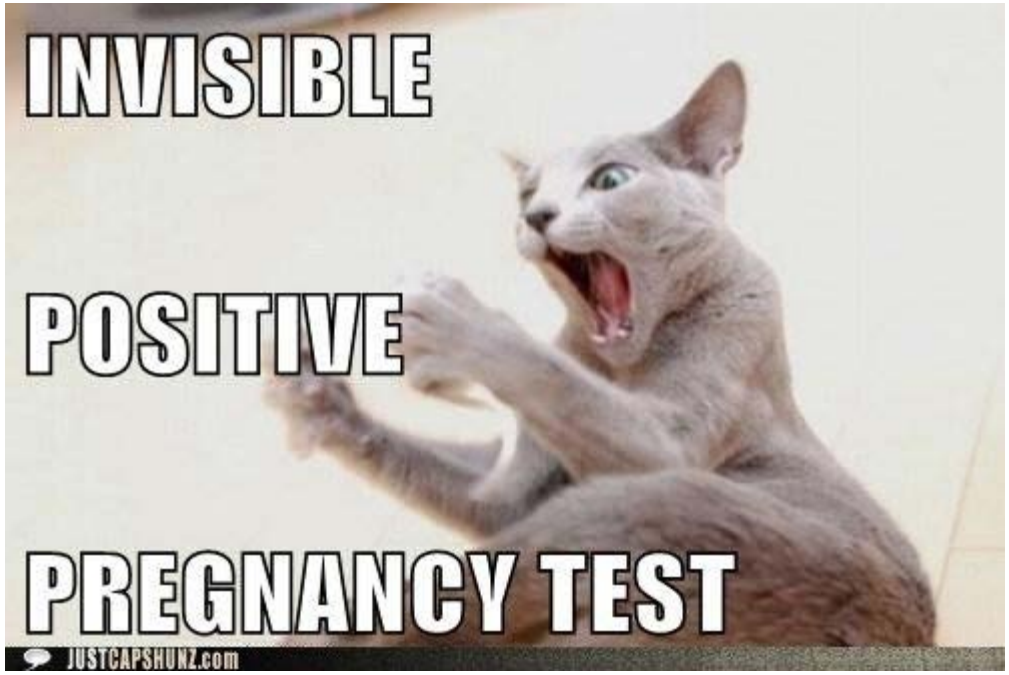
- Explain out what you are doing
- Vital signs
- Visual acuity should be tested
- Specifically, look for [1]
  - Dental caries
  - Murmurs
  - Scars or skin markings
  - Hepatosplenomegaly
- Provide a same-sex examiner if requested
  - Defer genital exams until established, but WILL need an exam to screen for female genital cutting

1. Centers for Disease Control and Prevention: Domestic Examination For Newly Arrived Refugees: Guidelines and Discussion of the History and Physical Examination

2. Nutrition and growth

- Take dietary history (e.g., restrictions, cultural dietary norms, food allergies)
- Measure weight and height for growth curves
- Head circumference if appropriate

3. Pregnancy test



- Extremely low threshold
- Perform before giving any medication or vaccine that could complicate pregnancy

Big Pharma Admits They're Just Trying to Kill Everybody with Vaccines

By **The Punky-Looking Kiddo** - September 30, 2014

31.9k
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WASHINGTON, DC – In what is being hailed as a huge victory for the anti-vaccine movement, Big Pharma announced to the world today that they've been fooling everyone all along, that vaccines don't work, and that they've secretly been trying to kill off a huge chunk of the global population by putting various toxins into all vaccines.

"The huge pressure from the highly organized anti-vaxxer movement has inevitably worn us down to the point where we just can't hide it any longer," announced Andrew Witty, the CEO of GlaxoSmithKline, which makes the diphtheria/tetanus/pertussis and hepatitis B vaccines. Both of those vaccines cause rectal

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4	Dose 4 to dose 5
Hepatitis B[1]	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks		
Rotavirus[2]	6 weeks	4 weeks	4 weeks		
Diphtheria, tetanus, & acellular pertussis[3]	6 weeks	4 weeks	4 weeks	6 months	6 months[3]
Haemophilus influenzae type b[5]	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose) if first dose administered at age 12 through 14 months No further doses needed if first dose administered at age 15 months or older	4 weeks[5] if current age is younger than 12 months and first dose administered at < 7 months old 8 weeks and age 12 months through 59 months (as final dose)[5] if current age is younger than 12 months and first dose administered between 7 through 11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose); OR if current age is 12 through 59 months and first dose administered at younger than age 12 months; OR first 2 doses were PRP-OMP and administered at younger than 12 months. No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 (PRP-T) doses before age 12 months and started the primary series before age 7 months	
Pneumococcal[6]	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age is younger than 12 months 8 weeks (as final dose for healthy children) if current age is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus[7]	6 weeks	4 weeks[7]	4 weeks[7]	6 months[7] minimum age 4 years for final dose	
Meningococcal[13]	6 weeks	8 weeks[13]	See footnote 13	See footnote 13	
Measles, mumps, rubella[9]	12 months	4 weeks			
Varicella[10]	12 months	3 months			
Hepatitis A[11]	12 months	6 months			
Persons aged 7 through 18 years					
Tetanus, diphtheria; tetanus, diphtheria, & acellular pertussis[4]	7 years[4]	4 weeks	4 weeks if first dose of DTaP/DT administered at younger than age 12 months 6 months if first dose of DTaP/DT administered at age 12 months or older and then no further doses needed for catch-up	6 months if first dose of DTaP/DT administered at younger than age 12 months	
Human papillomavirus[12]	9 years	Routine dosing intervals are recommended[12]			
Hepatitis A[11]	12 months	6 months			
Hepatitis B[1]	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated poliovirus[7]	6 weeks	4 weeks	4 weeks[7]	6 months[7]	
Meningococcal[13]	6 weeks	8 weeks[13]			
Measles, mumps, rubella[9]	12 months	4 weeks			
Varicella[10]	12 months	3 months if person is younger than age 13 years 4 weeks if person is aged 13 years or older			

NOTE: The above recommendations must be read along with the footnotes of this schedule.

Footnotes — Recommended immunization schedule for persons aged 0 through 18 years—United States, 2015

For further guidance on the use of the vaccines mentioned below, see: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional information

- For contraindications and precautions to use of a vaccine and for additional information regarding that vaccine, vaccination providers should consult the relevant ACIP statement available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered 4 days or less before the minimum interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum interval or minimum age should not be counted as valid doses and should be repeated as age-appropriate. The repeat dose should be spaced after the invalid dose by the recommended minimum interval. For further details, see *MMWR*,

- Schedule has 3 pages of footnotes which outline the “exceptions” related to more or less doses needed if patient started immunizations late
- The “Exceptions: outlines that our teenager will need:
  - 3 vaccine series for Hep B
  - 3 vaccine series for IPV
  - 1 Tdap per usual adolescent schedule
  - Demonstrate varicella immunity or 2 dose series

- Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.

Catch-up vaccination:

- Unvaccinated persons should complete a 3-dose series.
- A 2-dose series (doses separated by at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
- For other catch-up guidance, see Figure 2.

2. Rotavirus (RV) vaccines. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [RotaTeq])

Routine vaccination:

Administer a series of RV vaccine to all infants as follows:

1. If Rotarix is used, administer a 2-dose series at 2 and 4 months of age.
2. If RotaTeq is used, administer a 3-dose series at ages 2, 4, and 6 months.
3. If any dose in the series was RotaTeq or vaccine product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.

Catch-up vaccination:

- The maximum age for the first dose in the series is 14 weeks, 6 days; vaccination should not be initiated for infants aged 15 weeks, 0 days or older.
- The maximum age for the final dose in the series is 8 months, 0 days.
- For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinrix]: 4 years)

Routine vaccination:

- Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose. However, the fourth dose of DTaP need not be repeated if it was administered at

- If administered inadvertently to a child aged 7 through 10 years may count as part of the catch-up series. This dose may count as the adolescent Tdap dose, or the child can later receive a Tdap booster dose at age 11 through 12 years.
- If administered inadvertently to an adolescent aged 11 through 18 years, the dose should be counted as the adolescent Tdap booster.
- For other catch-up guidance, see Figure 2.

5. *Haemophilus influenzae* type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACTHIB, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PedvaxHIB or COMVAX], 12 months for PRP-T [Hiberix])

Routine vaccination:

- Administer a 2- or 3-dose Hib vaccine primary series and a booster dose (dose 3 or 4 depending on vaccine used in primary series) at age 12 through 15 months to complete a full Hib vaccine series.
- The primary series with ActHIB, MenHibrix, or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PedvaxHib or COMVAX consists of 2 doses and should be administered at 2 and 4 months of age; a dose at age 6 months is not indicated.
- One booster dose (dose 3 or 4 depending on vaccine used in primary series) of any Hib vaccine should be administered at age 12 through 15 months. An exception is Hiberix vaccine. Hiberix should only be used for the booster (final) dose in children aged 12 months through 4 years who have received at least 1 prior dose of Hib-containing vaccine.
- For recommendations on the use of MenHibrix in patients at increased risk for meningococcal disease, please refer to the meningococcal vaccine footnotes and also to *MMWR* February 28, 2014 / 63(RR01);1-13, available at http://www.cdc.gov/mmwr/PDF/rr/rr6301.pdf.


THAT MOMENT YOU REALIZE
HE'S REALLY CAPTAIN
PUERTO RICO
VIA 9GAG.COM

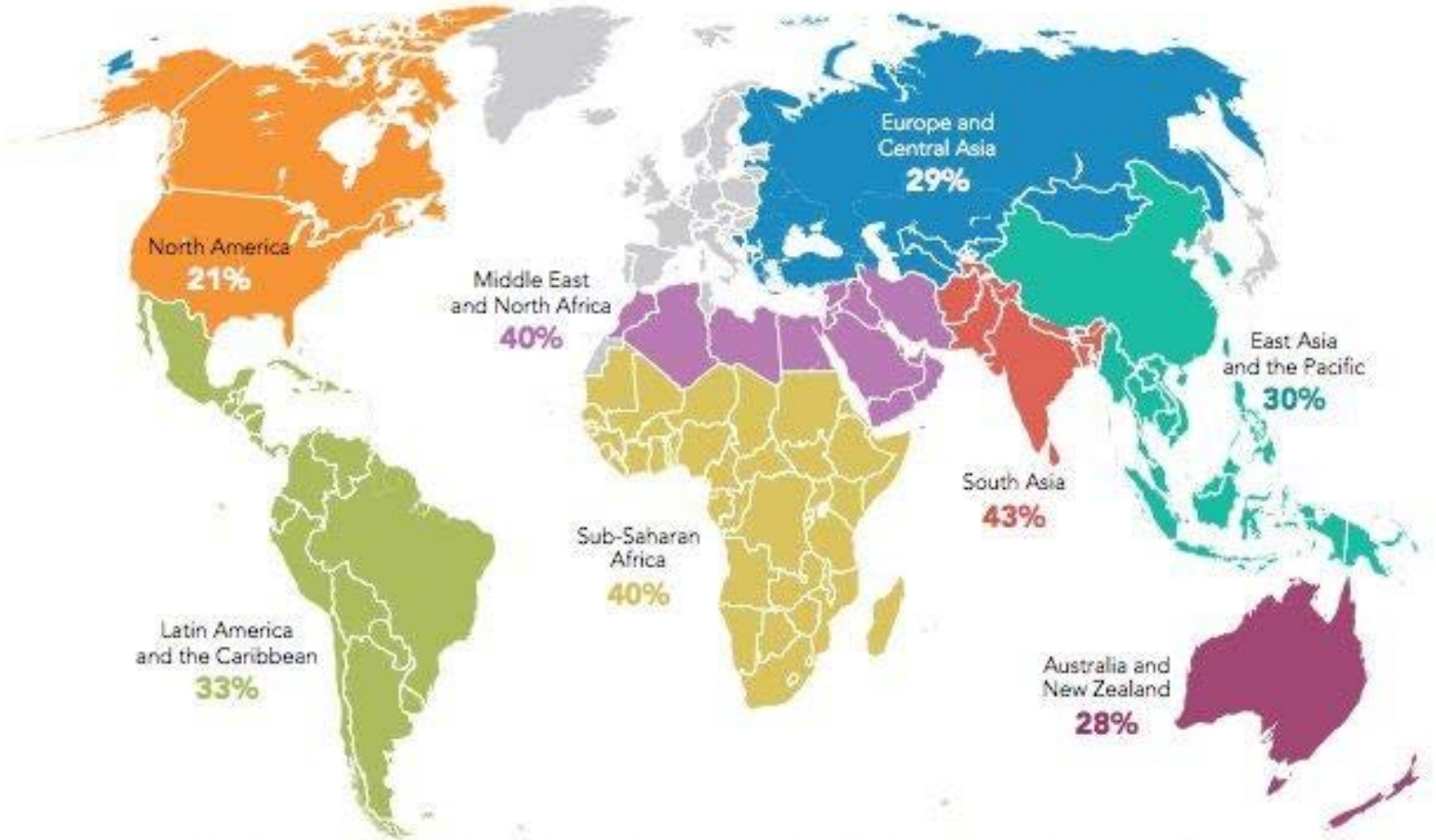
5. Mental health screening

- There is a high prevalence of mental health issues among immigrants and refugees [1], particularly those arriving from areas of civil unrest:
  - major depression
  - situational anxiety
  - posttraumatic stress disorder (PTSD)
- Detailed social history is the key to understanding what kind of stressors your patient may be facing [2]
  - May be spread out over several visits, but initial screen for suicidal ideations should take place early, likely in the first visit
  - Social history should include reason for the move
  - Sexual history should include questions about sexual trauma
- As rapport is established, move to a screening questionnaire

1. Jaranson JM, Ekblad S, Kroupin GV, Eisenman DP. Mental Health and Illness in Immigrants: Epidemiology and Risk Factors. In: Immigrant Medicine, Walker PF, Barnett ED. (Eds), Elsevier, Philadelphia 2007. p.627.

2. CDC: Guidelines for Mental Health Screening during the Domestic Medical Examination for Newly Arrived Refugees

FIGURE 3.2 Share of ever partnered women who have experienced physical or sexual intimate partner violence during their lifetime



Source: Preliminary analysis of WHO (World Health Organization), global prevalence database (2013) using World Bank regions. [1]

Note: Areas shaded in grey are not calculated or do not have relevant data.

1. WHO, Global and Regional Estimates of Violence against Women

5. Mental health screening tools

- The New Mexico Refugee Symptoms Checklist-121 (NMRSCL-121)
  - assesses the broad range of persistently distressing somatic and psychological symptoms in refugees
  - valid predictor of traumatic experiences, PTSD, anxiety and depression in both Kurdish and Vietnamese refugees[1]
- The Hopkins Symptom Checklist-25 (HSCL-25)
  - assesses anxiety and depression symptoms,
  - valid for the general U.S. population and for Indochinese refugees and has transcultural validity.
  - scale predicts “clinically significant” anxiety and depression in general U.S. and refugee samples and are valid as diagnostic proxies

1. Hollifield M, et al. The Range of Symptoms in Refugees of War: The New Mexico Refugee Symptom Checklist-121. J Nerv Ment Dis 2009;197: 000 – 000

5. Mental health screening tools

- The Posttraumatic Symptom Scale-Self Report (PSS-SR)
  - reliable predictor of the PTSD diagnosis in U.S. populations
  - 17 items, essentially DSM-IV PTSD diagnostic items.
  - PSS-SR continuous scores and the diagnostic proxy were highly correlated with war-related trauma and anxiety depression in Kurdish and Vietnamese refugee
- Refugee Health Screener-15 (RHS-15)
  - 4-12 minutes, validated 2012. [1]
  - clinically significant anxiety, clinically significant depression, PTSD
  - Validated in Iraqi, Nepali Bhutanese, Karen, and Burmese refugees

The Refugee Health Screener-15 (RHS-15): development and validation of an instrument for anxiety, depression, and PTSD in refugees. Gen Hosp Psychiatry 2013; 35:202.

NMSRCL-121

SYMPTOMS	NOT AT ALL	A LITTLE BIT	MODER-ATELY	QUITE A BIT	EXTREMELY
1. Muscle, bone, joint pains	0	1	2	3	4
2. Feeling down, sad, or blue most of the time	0	1	2	3	4
3. Too much thinking or too many thoughts	0	1	2	3	4
4. Feeling helpless	0	1	2	3	4
5. Suddenly scared for no reason	0	1	2	3	4
6. Faintness, dizziness, or weakness	0	1	2	3	4
7. Nervousness or shakiness inside	0	1	2	3	4
8. Feeling restless, can't sit still	0	1	2	3	4
9. Crying easily	0	1	2	3	4

14. Generally over your life, do you feel that you are:

Able to handle (cope with) anything that comes your way 0

Able to handle (cope with) most things that come your way 1

Able to handle (cope with) some things, but not able to cope with other things.....2

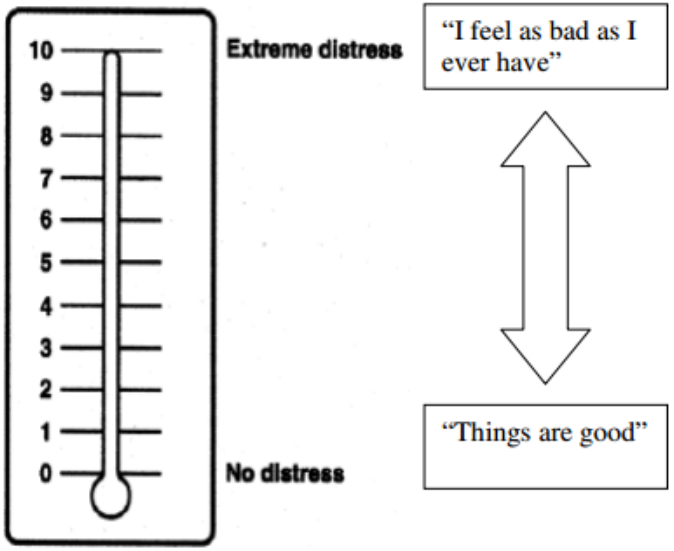
Unable to cope with most things.....3

Unable to cope with anything 4

15.

Distress Thermometer

FIRST: Please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.



ADD TOTAL SCORE OF ITEMS 1-14: ___

NMRSCL-121

6. Laboratory testing

- CBC (everybody)
- UA (only if able to do clean catch)
- Newborn screen (per state regulations)
- Lipid panel (per USPSTF guidelines)
- Vitamin D
- Optional: BMP, B12, and FSBS (no evidence)

Why check a CBC?

- CBC is useful for identification of anemia, macrocytosis, microcytosis, and eosinophilia [1]
- Name the disorder by CBC:

A. Hemoglobin 10.1 g/dl; hematocrit 30.3%; MCV 90 fL; Leukocyte count 4,800/mm3 (200/mm3 eosinophils), 180,000/mm3 platelets;

B. Hemoglobin 8.6 g/dl; hematocrit 25.2%; MCV 88 fL; Leukocyte count 9,400/mm3 (300/mm3 eosinophils), 403,000/mm3 platelets;

C. Hemoglobin 8.1 g/dl; hematocrit 24.3%; MCV 92 fL; Leukocyte count 10,700/mm3 (400/mm3 eosinophils), 92,000/mm3 platelets;

D. Hemoglobin 9.4 g/dl; hematocrit 29.3%; MCV 75 fL; Leukocyte count 10,900/mm3 (2,800/mm3 eosinophils), 431,000/mm3 platelets;

1. Parasitic infection

D. (Eosinophilia)

1. Malaria

C. (Thrombocytopenia, anemia)

1. HIV

A. (Low WBC count, lymphopenia sometimes)

1. Sickle cell disease

B. (Normocytic to microcytic anemia)

1. Seybolt LM, Christiansen D, Barnett ED. Diagnostic evaluation of newly arrived asymptomatic refugees with eosinophilia. Clin Infect Dis 2006; 42:363.

Vitamin D and B12 screening

- Deficiencies in vitamin B12 and vitamin D have been observed with high prevalence among some immigrant groups in cross-sectional studies:
  - B12 deficiency has been observed with high prevalence among Bhutanese Nepali and Iraqi refugees [1].
  - Australian study showed low B12 in Iranian and Afghanistani refugees.
  - Vitamin D deficiency has been observed with high prevalence among African immigrants, including Somali and Ethiopian women [2].
- Initial Vitamin D screening is recommended for refugees
- There is no consensus on universal screening for vitamin B12 deficiency

1. Benson J, Phillips C, Kay M, et al. Low vitamin B12 levels among newly-arrived refugees from Bhutan, Iran and Afghanistan: a multicentre Australian study. PLoS One 2013; 8:e57998.
2. 30.Penrose K, Hunter Adams J, Nguyen T, et al. Vitamin D deficiency among newly resettled refugees in Massachusetts. J Immigr Minor Health 2012; 14:941.

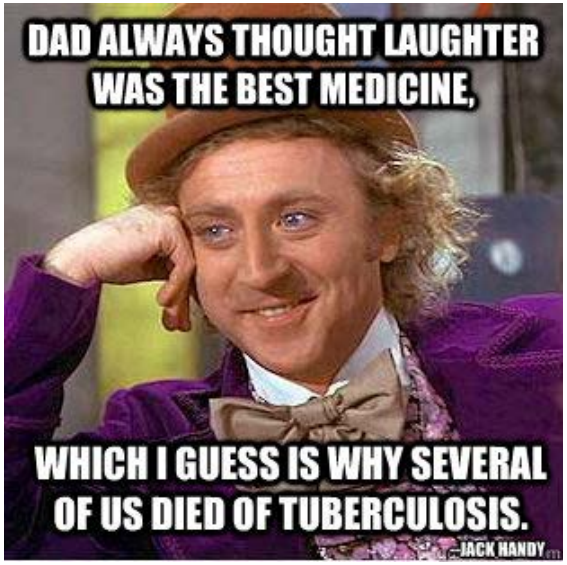
creamteasandjammydodgers:

> if this scene isn't in The Winter Soldier I will protest

7. Tuberculosis

- In one study, 59 percent of foreign-born individuals diagnosed with TB had resided in the United States for more than five years, 15 percent had been in the United States for less than one year, and 18 percent between one and four years [1].

- Testing for Latent TB should be performed regardless of time since immigration, since TB may present years after exposure [2].
  - PPD (TST) or interferon-gamma release assay (IGRA).
  - IGRA not recommended in children <5 years old
  - Patients with a positive TST or IGRA should undergo chest radiograph and assessment for signs of active tuberculosis. In the absence of active disease, treatment for LTBI should be administered.



1.Walter ND, Painter J, Parker M, et al. Persistent latent tuberculosis reactivation risk in United States immigrants. Am J Respir Crit Care Med 2014; 189:88.

2. Centers for Disease Control and Prevention: Immigrant and Refugee Health— Guidelines for Screening for Tuberculosis Infection and Disease during the Domestic Medical Examination for Newly Arrived Refugees

Reading a PPD

- What would be the parameters for a positive PPD in our patient?
- What if the patient had a BCG vaccine?

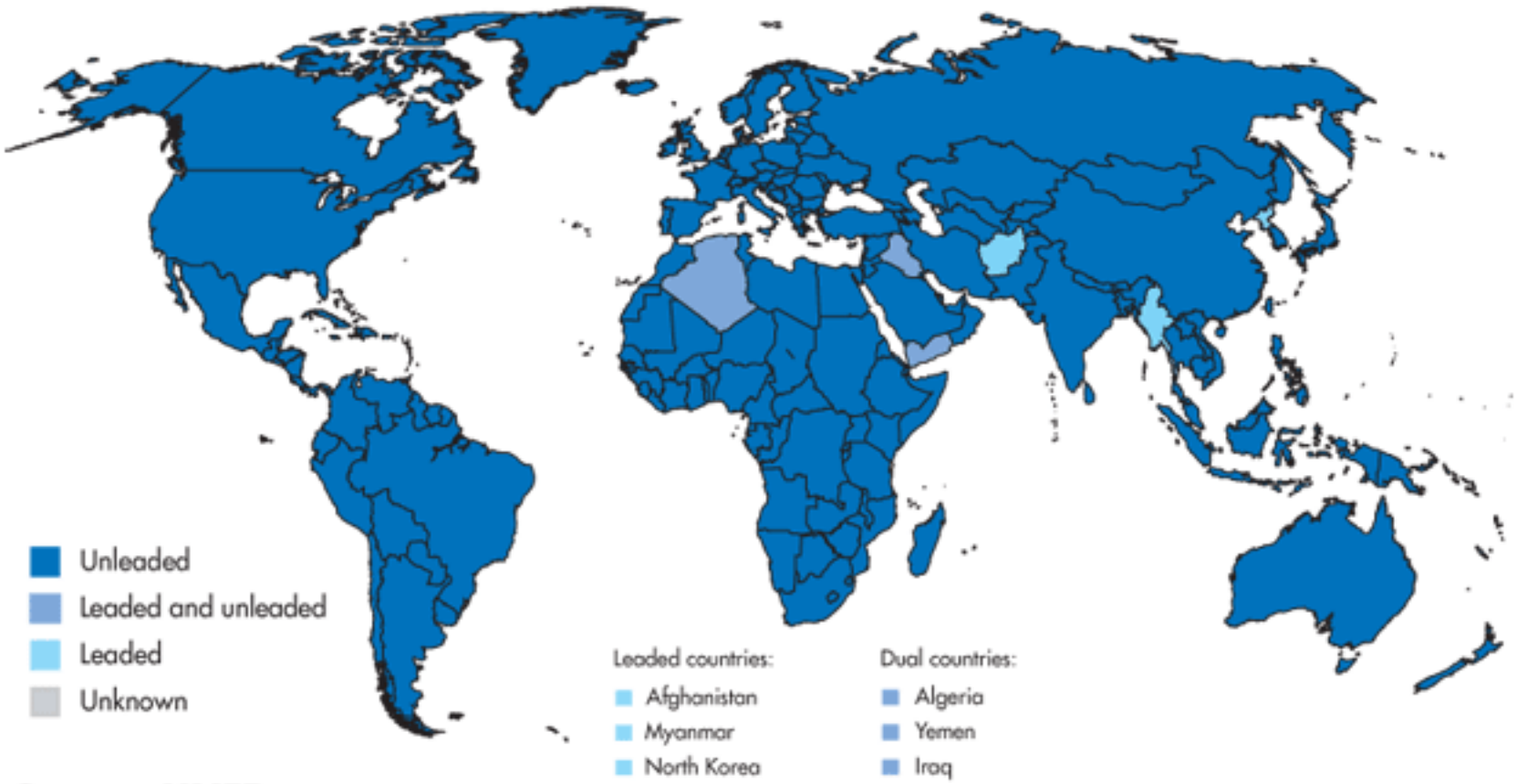
8. Lead

- One Minnesota study showed that for 1,724 refugee children 0-3 years old arriving in Minnesota 2004-2005, 4.3% had a BLL of ≥ 10 mcg/dl. [1]
- Blood lead level recommended for all refugees 6 months - 16 years of age [2].
- SECOND blood lead recommended for refugees 6 months - 6 years old 3-6 months after they get permanent residence, regardless of the results of the initial lead test.

1. Centers for Disease Control and Prevention (CDC). Blood lead levels--United States, 1999-2002. *MMWR Morb Mortal Wkly Rep*. 2005;54:513-516.

2. CDC: Screening for Lead during the Domestic Medical Examination for Newly Arrived Refugees

Leaded petrol phase-out: global status January 2011



Source: UNEP

1. The Global Benefits of Phasing out Leaded Fuel', Department of Environmental and Occupational Health at the California State University, Northridge, Professor Thomas Hatfield and Peter L. Tsai.

9. Malaria (Africa only)

- CDC guidelines recommend individualized management by group [1]
- Presumptive treatment or laboratory screening for *P. falciparum* malaria is appropriate if patient is from an endemic area AND:
  - Has fever (by history or exam)
  - Has unexplained anemia, thrombocytopenia, or splenomegaly
- Can also be considered for asymptomatic individuals following arrival from sub-Saharan Africa (if treatment was not administered prior to migration)
- 3 options:
  - Screening with three blood films at 12 to 24 hour intervals
  - Presumptive treatment with 4 tabs of 250 mg atovaquone/100 mg proguanil daily for 3 days
  - Presumptive treatment with 4 tabs of 20 mg artemether and 120 mg lumefantrine for 6 doses
  - **Presumptive treatment is preferred** because screening is cumbersome

1. http://www.cdc.gov/immigrantrefugeehealth/pdf/malaria-domestic.pdf

9. Malaria

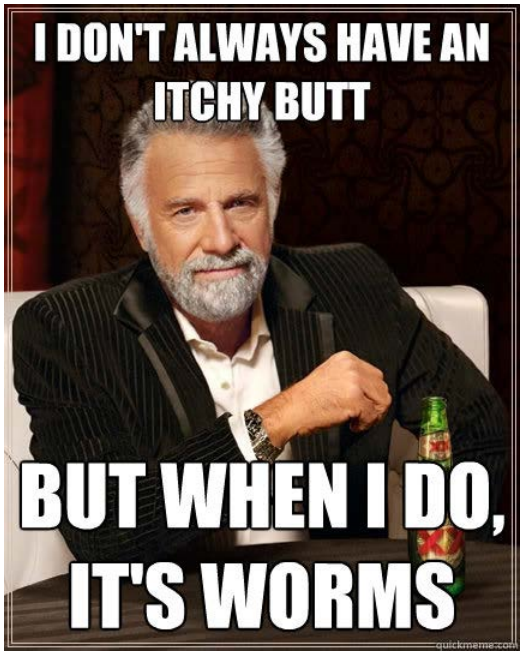
- Pregnant women and children <5 kg should undergo laboratory testing but no presumptive treatment
- Screening is NOT warranted for asymptomatic individuals from:
  - Southeast Asia
  - South Asia
  - Central Asia
  - parts of East Africa (eg, Nairobi)
  - all areas in the Western Hemisphere
- Asymptomatic patients from Sub-Saharan Africa may also complete their empiric antimalarial course prior to travel to the US
- No need to screen for other types of malaria than *P. falciparum*

Sub-Saharan Africa

Get ready for some worm pix

10. Parasitic infections

- > 1 billion people in the world are estimated to have parasites [1]
- CDC guidelines dictate which immigrants require treatment or screening for parasitic infections [2]
  1. Helminths
  2. Strongyloides (w/ or w/o Loa Loa)
  3. Schistosoma
- In all cases, antiparasitic pretreatment before departure means additional treatment is not necessary
  - This saves LOTS of money
- Everyone else should either undergo screening or receive presumptive treatment following arrival.

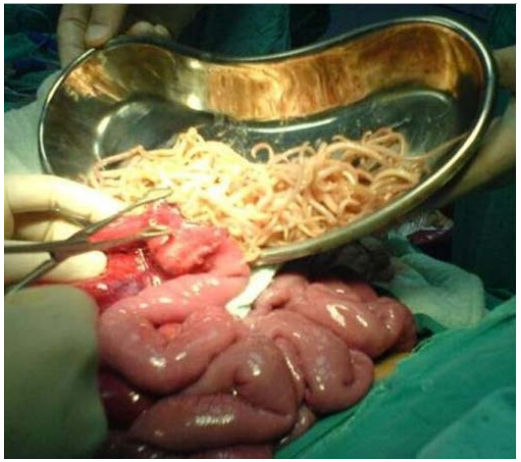


1. Bethony J, Brooker S, Albonico M, et al. Soil-transmitted helminth infections: Ascaris, trichuriasis, and hookworm. Lancet 2006;367:1521-32.

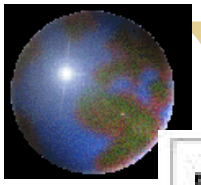
2. www.cdc.gov/immigrantrefugeehealth/pdf/intestinal-parasites-overseas.pdf

10a. Helminths

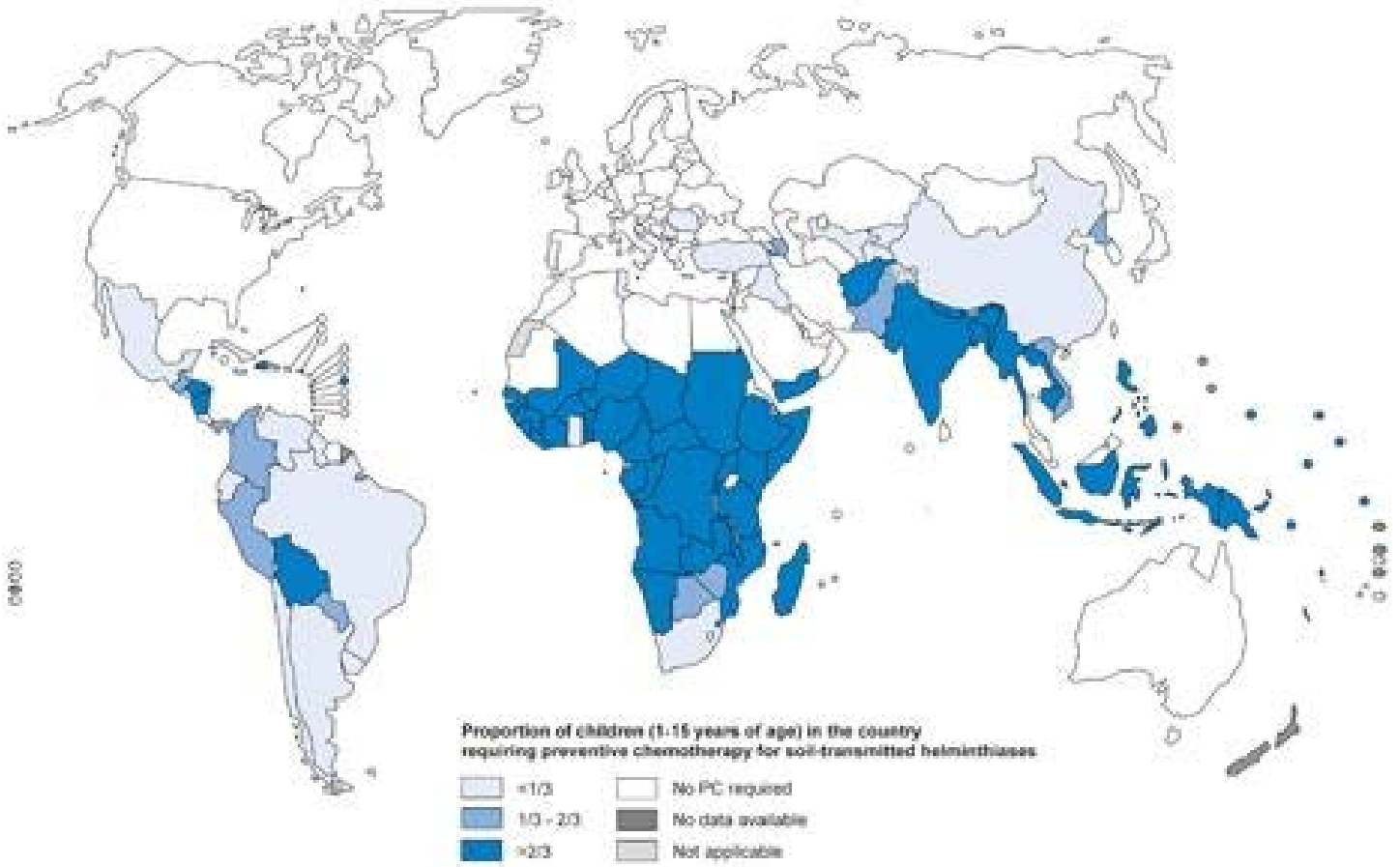
- Empiric treatment for soil-transmitted helminths prior to immigration has been shown to reduce the prevalence of parasitic infections in refugees resettled from selected countries [1]
- Screening or empiric treatment of soil-transmitted helminths MAY be appropriate for non-pretreated, asymptomatic, at-risk individuals following arrival from the following regions:
  - Asia
  - Middle East
  - Africa
  - Latin America
  - Caribbean
- May be deferred until after delivery for pregnant women.
- Tx: Albendazole 400 mg PO for one day [2]



1. Geltman PL, Cochran J, Hedgecock C. Intestinal parasites among African refugees resettled in Massachusetts and the impact of an overseas pre-departure treatment program. Am J Trop Med Hyg 2003; 69:657.
2. Swanson SJ, Phares CR, Mamo B, et al. Albendazole therapy and enteric parasites in United States-bound refugees. N Engl J Med 2012; 366:1498.



Proportion of children (1-15 years of age) in the country requiring preventive chemotherapy for soil-transmitted helminthiases, worldwide, 2010



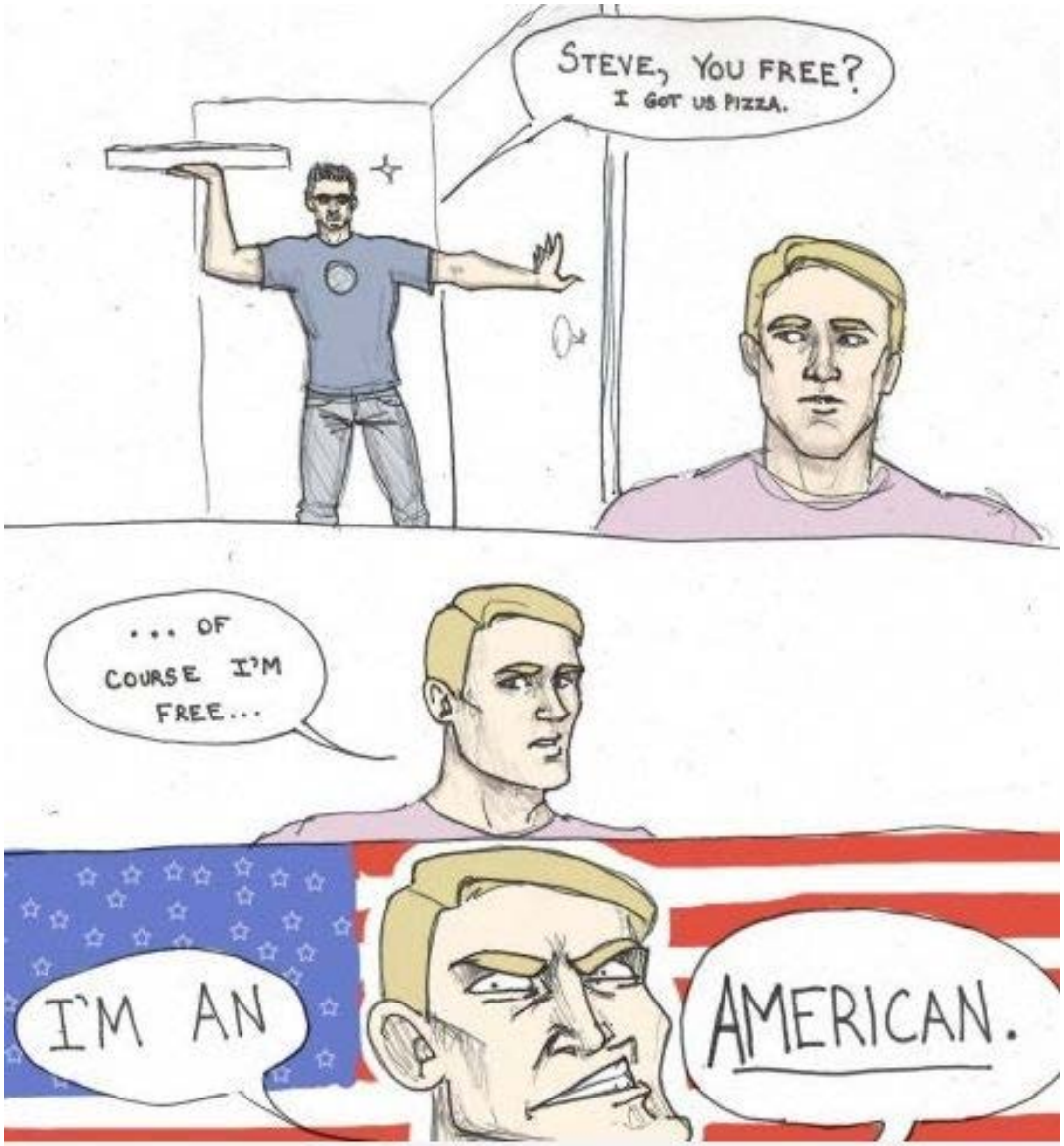
Note: Distribution of soil-transmitted helminthiases is focal in many countries. For the detailed epidemiological situation in countries, please refer to *Preventive chemotherapy and transmission control databank*. Geneva, World Health Organization, 2011 (available at: http://www.who.int/neglected_diseases/preventive_chemotherapy/databank/en/index.html; accessed June 2011)

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2011. All rights reserved

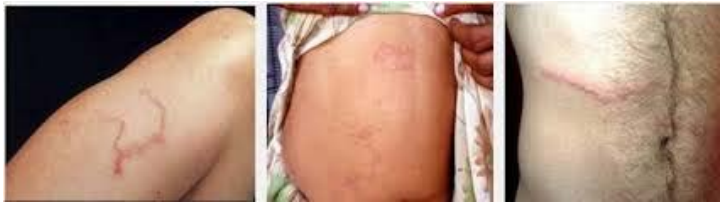
Data Source: World Health Organization
Map Production: Control of Neglected Tropical Diseases (NTD)
World Health Organization

World Health Organization

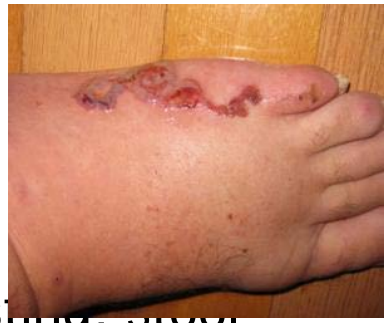
1. World Health Organization: Global Health Observatory Map Gallery, 2011


STEVE, YOU FREE?
I GOT US PIZZA.
... OF COURSE I'M FREE...
I'M AN
AMERICAN.
www.iLikeitFunny.com

10b.Strongyloidiasis



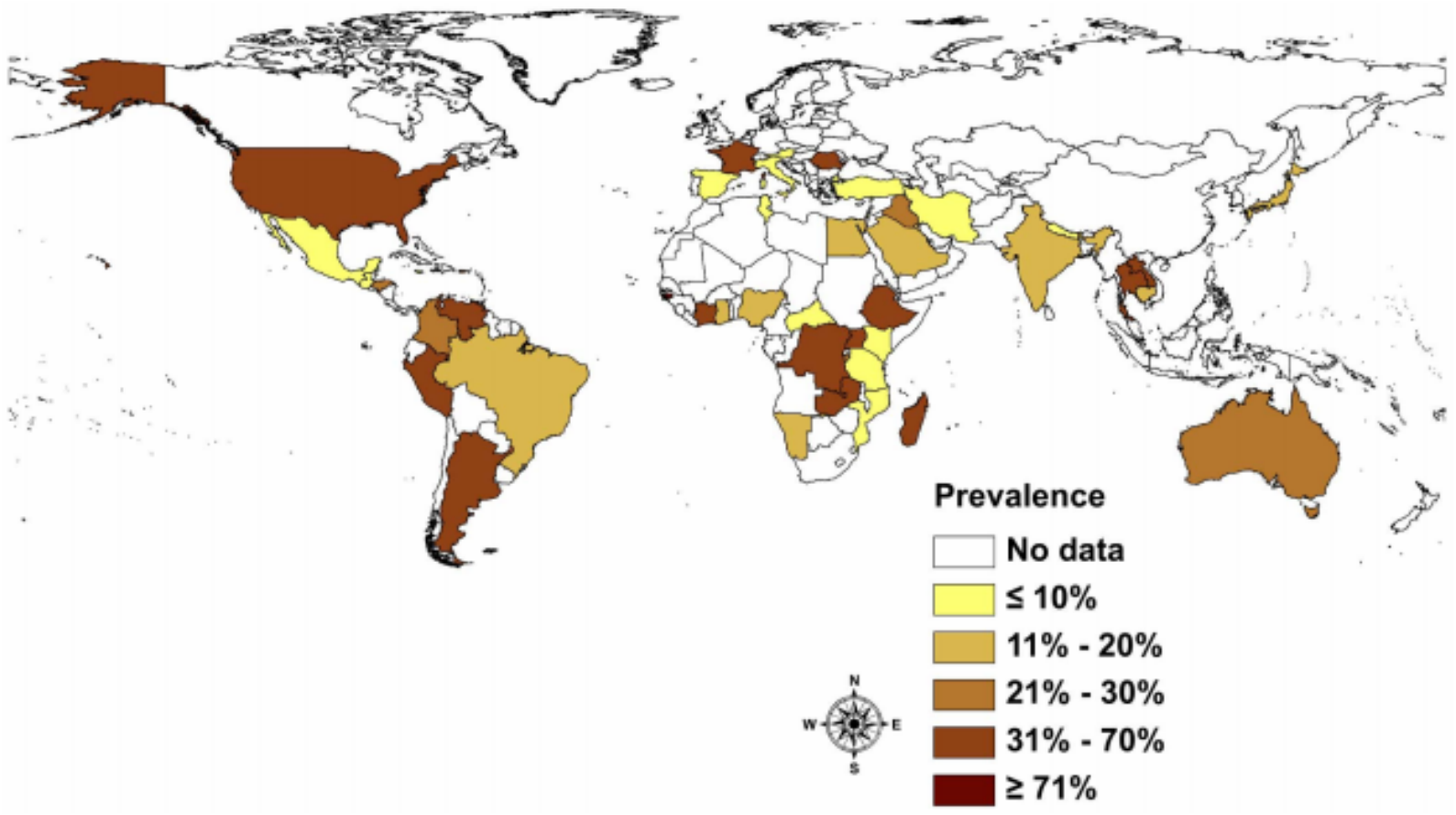
- Screening or empiric treatment of strongyloidiasis is recommended for non-pretreated asymptomatic individuals following arrival from the following regions [1]:
  - Asia
  - Middle East
  - North Africa
  - Sub-Saharan Africa (non–*Loa loa* endemic areas)
  - Latin America
  - Caribbean



- Screening for strongyloidiasis consists of serologic testing; stool ova and parasite is not adequate
- Empiric treatment is ivermectin 200 mcg/kg/day once a day for two days
- NOT recommended for pregnant women

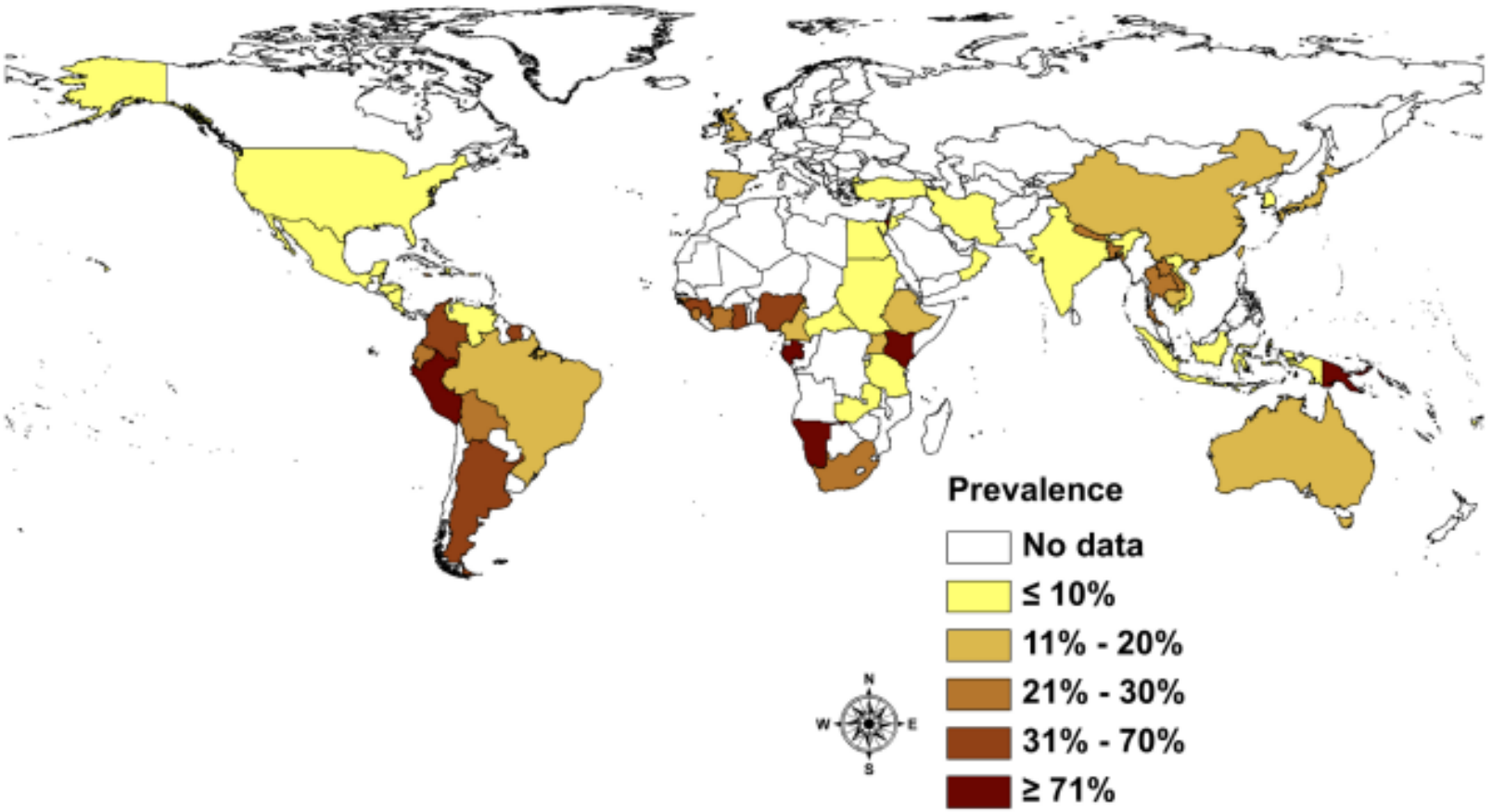
1. http://www.cdc.gov/immigrantrefugeehealth/pdf/intestinal-parasites-domestic.pdf

Prevalence: health service reporting



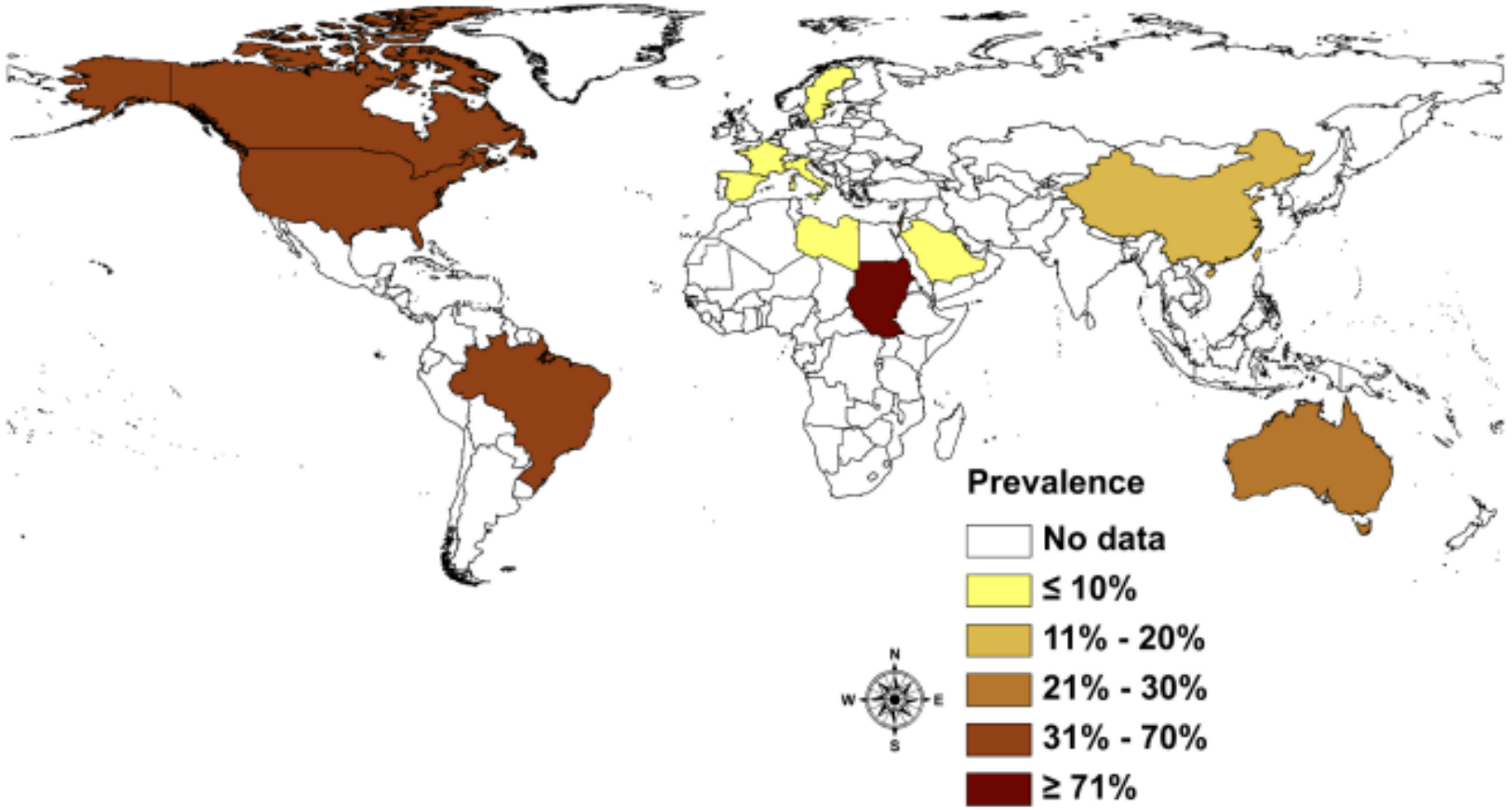
1. Schar F, et al. “Strongyloides stercoralis: Global Distribution and Risk Factors”. 2013. *PLOS Neglected Tropical Diseases*. July 2013 | Volume 7 | Issue 7 | e2288

Prevalence: community-based studies



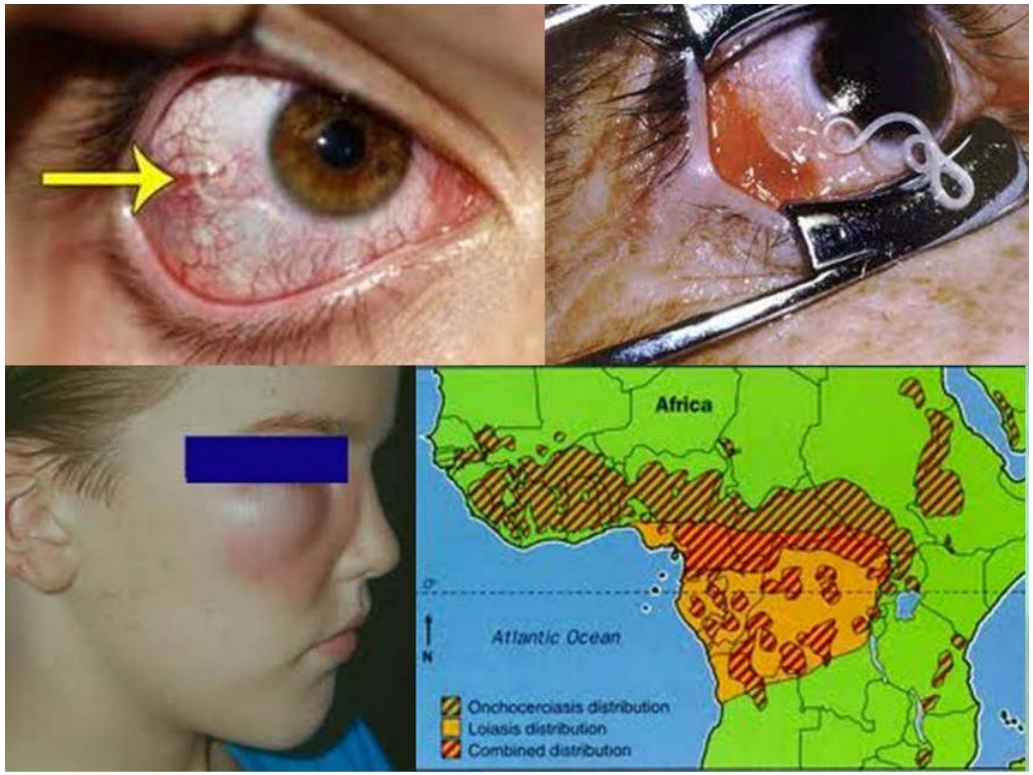
1. Schar F, et al. “Strongyloides stercoralis: Global Distribution and Risk Factors”. 2013. *PLOS Neglected Tropical Diseases*. July 2013 | Volume 7 | Issue 7 | e2288

Prevalence in immigrants/refugees



1. Schar F, et al. “Strongyloides stercoralis: Global Distribution and Risk Factors”. 2013. *PLOS Neglected Tropical Diseases*. July 2013 | Volume 7 | Issue 7 | e2288

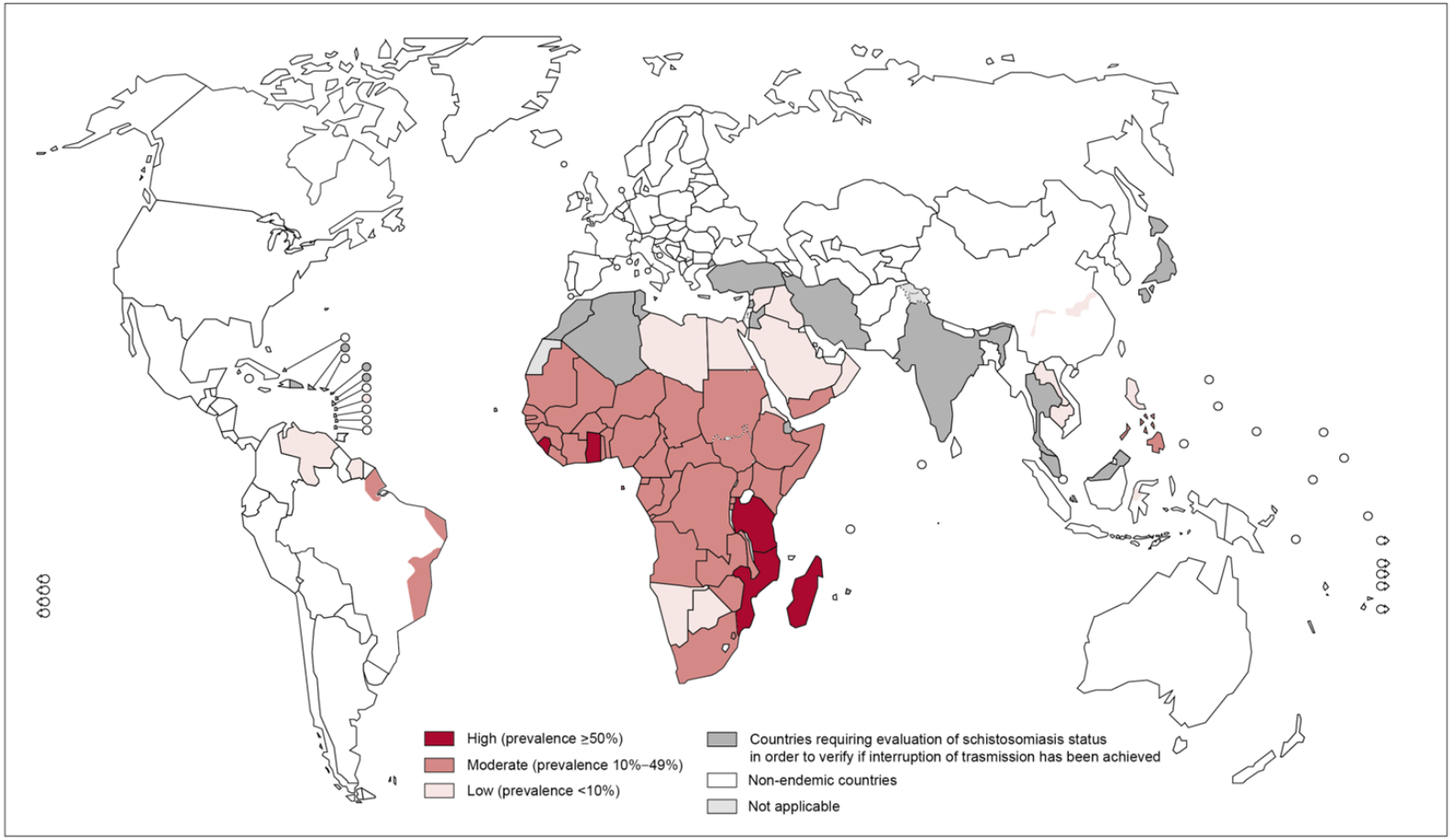
10c. Strongyloidiasis with loa loa



- Among patients from *Loa loa* endemic areas, *Loa loa* infection needs to be ruled out before ivermectin can be given for strongyloidiasis [1].
  - Screening for loiasis consists of quantitative daytime blood smear or serology.
  - Strongyloidiasis + loa loa treatment: Albendazole 400 mg twice a day for seven days
  - It is particularly important that patients from endemic areas undergo presumptive treatment for *Strongyloides* prior to anticipated immunosuppression due to the risk of dissiminated disease.

1. http://www.cdc.gov/immigrantrefugeehealth/pdf/intestinal-parasites-domestic.pdf

Distribution of schistosomiasis, worldwide, 2012



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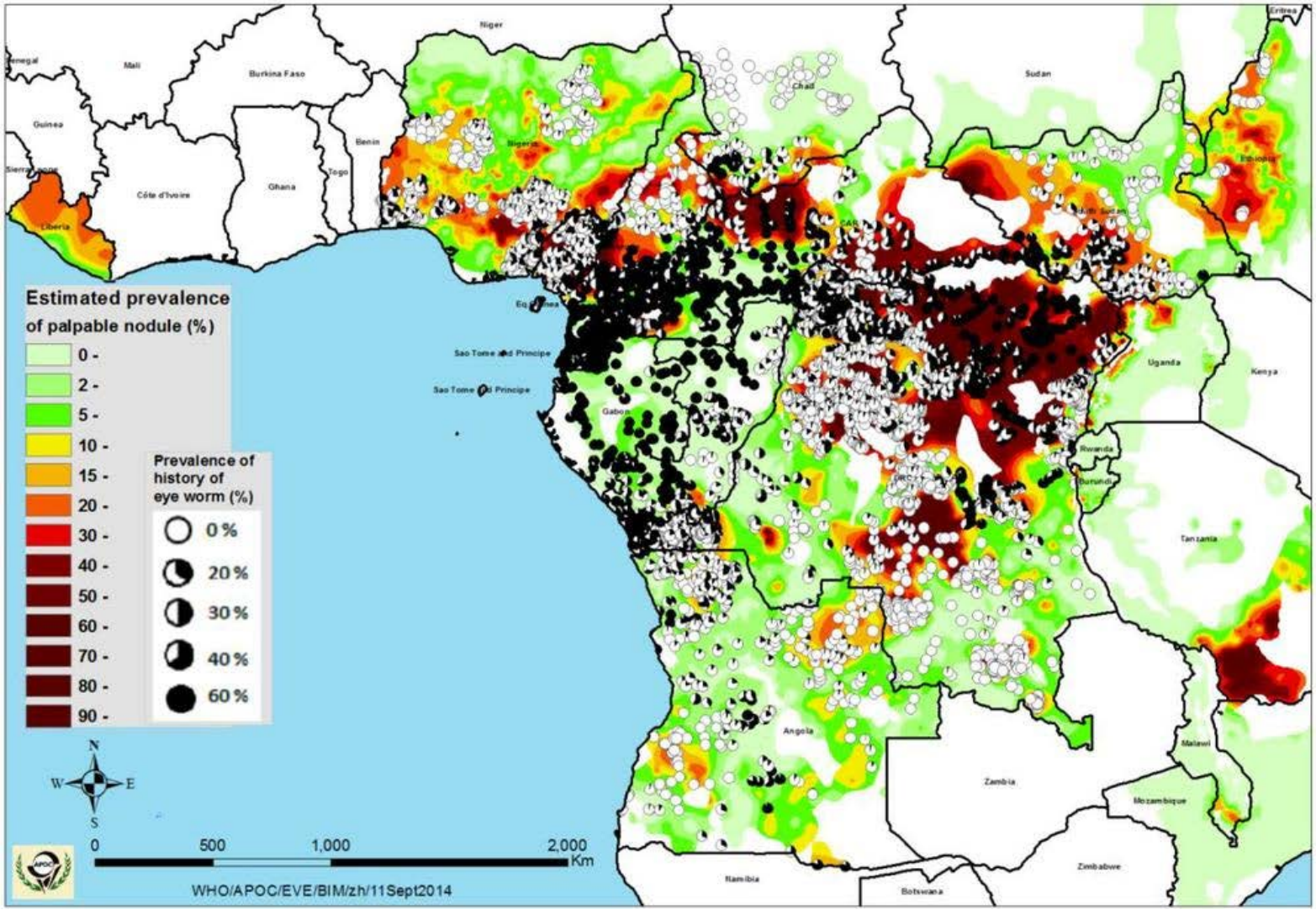
Data Source: World Health Organization
Map Production: Control of Neglected Tropical Diseases (NTD)
World Health Organization

World Health Organization

1. World Health Organization: Global Health Observatory Map Gallery, 2013


Estimated prevalence of palpable nodule (%)
0 -
2 -
5 -
10 -
15 -
20 -
30 -
40 -
50 -
60 -
70 -
80 -
90 -
Prevalence of history of eye worm (%)
0 %
20 %
30 %
40 %
60 %
N
W
E
S
0
500
1,000
2,000
Km
WHO/APOC/EVE/BIM/zh/11Sept2014
Niger
Mali
Burkina Faso
Guinea
Benin
Togo
Ghana
Côte d'Ivoire
Liberia
Chad
Sudan
Eritrea
Ethiopia
Uganda
Kenya
Rwanda
Burundi
Tanzania
Angola
Zambia
Malawi
Mozambique
Zimbabwe
Namibia
Botswana
Gabon
Sao Tome and Principe

What? Too many maps??

10d. Schistosomiasis

- For asymptomatic non-pretreated individuals following arrival from **sub-Saharan Africa**, including pregnant women and children, schistosomiasis must be covered [1]
- 2 choices:
  - Screening consists of serology. Stool and urine examination are not adequate
  - Presumptive treatment with praziquantel 40 mg/kg x1

1. http://www.cdc.gov/immigrantrefugeehealth/pdf/intestinal-parasites-domestic.pdf

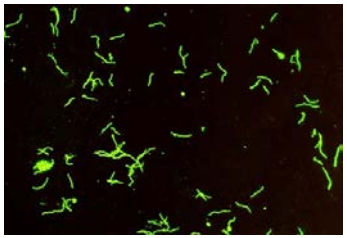
Treatment Schedules for Presumptive Parasitic Infections for U.S.-Bound Refugees, administered by IOM[a]—June 2015

Region	Country of Processing	Principal Refugee Groups (location)	Presumptive Parasite Treatment for Eligible Refugees[b,c]	Comments
Africa	Ethiopia	*Eritreans (Shimelba); Somalis (Kebribeya); Multiple (Addis Ababa)*	Albendazole Praziquantel Ivermectin Artemether-lumefantrine	Ivermectin since Jan 2014
	Kenya	*Somalis (Dadaab); Somalis, Sudanese, Congolese (Kakuma); Multi*	Albendazole Praziquantel Ivermectin ntrine	Ivermectin since Sep 2013
	Tanzania	*Cong*	ntrine	N/A
	Rwanda, Uganda, Burundi	*Soma*	ntrine	Ivermectin since April 2014
	South Africa and other countries	*Multi*	ntrine	N/A
Asia	Malaysia	*Burm (Kua*		Ivermectin since Feb 2013
	Nepal	*Bhut Sanis*		Ivermectin since Jan 2013
	Thailand	*Burm Burm other*		Ivermectin since July 2011
Mideast	Iraq	*Iraqi*		Ivermectin since Jan 2014
	Jordan	*Iraqis and Syrians (Amman)*	Albendazole Ivermectin	Ivermectin since Jan 2014
	Lebanon, Syria, Turkey, Egypt	*Multiple*	None	N/A
Europe	Russia, Ukraine, Moldova	*Russians, Afghanis, Ukranians, Moldovans*	None	N/A
Americas	Cuba, other	*Cubans, Colombians*	None	N/A

[a] Information provided by the International Organization for Migration (IOM) during required overseas refugee medical exam.

11. Sexually transmitted diseases

- Screening per CDC guidelines, starting with a sexual history [1].
- Nucleic acid amplification test for chlamydia in:
  - Women 15-25 years of age x1
  - Women with new or multiple sexual partners
  - Symptomatic patients
  - Patients with leukocyte esterase on urine dipstick
- Nucleic acid amplification test for gonorrhea in:
  - Symptomatic patients
  - Patients with leukocyte esterase on urine dipstick
- RPR or VRDL in all patients ≥15 from syphilis endemic countries
  - Confirmatory testing with fluorescent treponemal antibody, treponema pallidum particle agglutination assay, or enzyme-linked immunosorbent assay [ELISA] should be performed if positive RPR or VDRL.



1. Centers for Disease Control and Prevention: Immigrant and Refugee Health—Screening for Sexually Transmitted Diseases during the Domestic Medical Examination for Newly Arrived Refugees

Syphilis endemic countries

Region	Country
Africa	• Angola • Benin • Botswana • Burkina Faso • Cameroon • Central African Republic • Chad • Cote d'Ivoire • Democratic Republic of the Congo • Ethiopia • Gabon • Ghana • Liberia • Mali • Mauritania • Niger • Republic of the Congo • Rwanda • Senegal • Somalia • South Africa • Sudan • Togo
Americas	• Colombia • Ecuador • Haiti • Guyana • Martinique • Mexico • Surinam • Venezuela
Asia	• Cambodia • India • Indonesia • Pakistan • Sri Lanka
Middle East	• Saudi Arabia
Western Pacific	• Papua New Guinea • Solomon Islands • Vanuatu

12. HIV

- HIV testing was removed from the requirements for US admission in January 2010, but is still recommended
- CDC recommends an “opt out” approach with EHR documentation if patients opt out
- Should be repeated 3-6 months following settlement if high risk.
- General CDC guidelines for the United States recommend HIV screening in health-care settings for all persons 13-64 years of age [1].
- Unless negative maternal antibody and low risk can be proven, CDC recommends also screening all immgrant children under age 13 [2].

1. Branson BM, Handsfield HH, Lampe MA, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR Recomm Rep 2006;55:1-17; quiz CE1-4

2. Centers for Disease Control and Prevention: Screening for HIV Infection During the Refugee Domestic Medical Examination

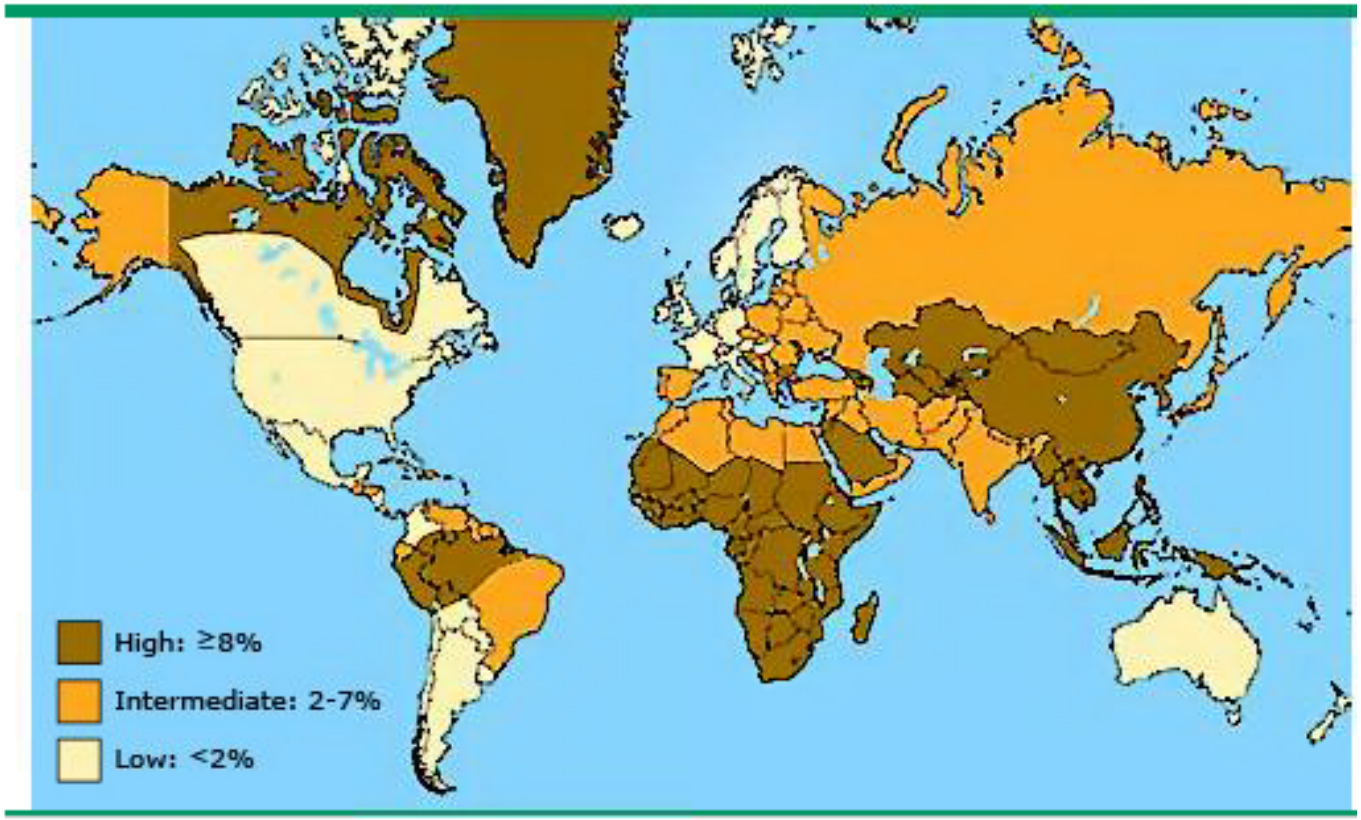
Finished yet, CDC?

Hepatitis B (13?)

- CDC recommends immigrants from countries where the prevalence of hepatitis B infection is ≥2 percent should undergo routine screening, regardless of vaccination status in country of origin [1].
  - hepatitis B surface antigen (HBSAg)
  - Hep B surface antibody (HBSAb or anti-HBS)
  - Hep B core antibody (HBcAB or anti-HBc)
- Horizontal transmission of hepatitis B has been documented in family units. Individuals living in the household of a carrier should also be offered screening and immunization.
- Hepatitis B carriers should be:
  - Evaluated for treatment
  - given vaccination against hepatitis A
  - given routine screening for early detection of hepatocellular carcinoma;

1. CDC: 2014. Screening for Hepatitis During the Domestics Medical Examination for Newly Arrived Refugees

Prevalence of chronic infection with hepatitis B virus, 2006



%: percent.

Reproduced from: http://wwwnc.cdc.gov/travel/yellowbook/2012/chapter-3-infectious-diseases-related-to-travel/hepatitis-b.htm. (accessed on July 11, 2012).

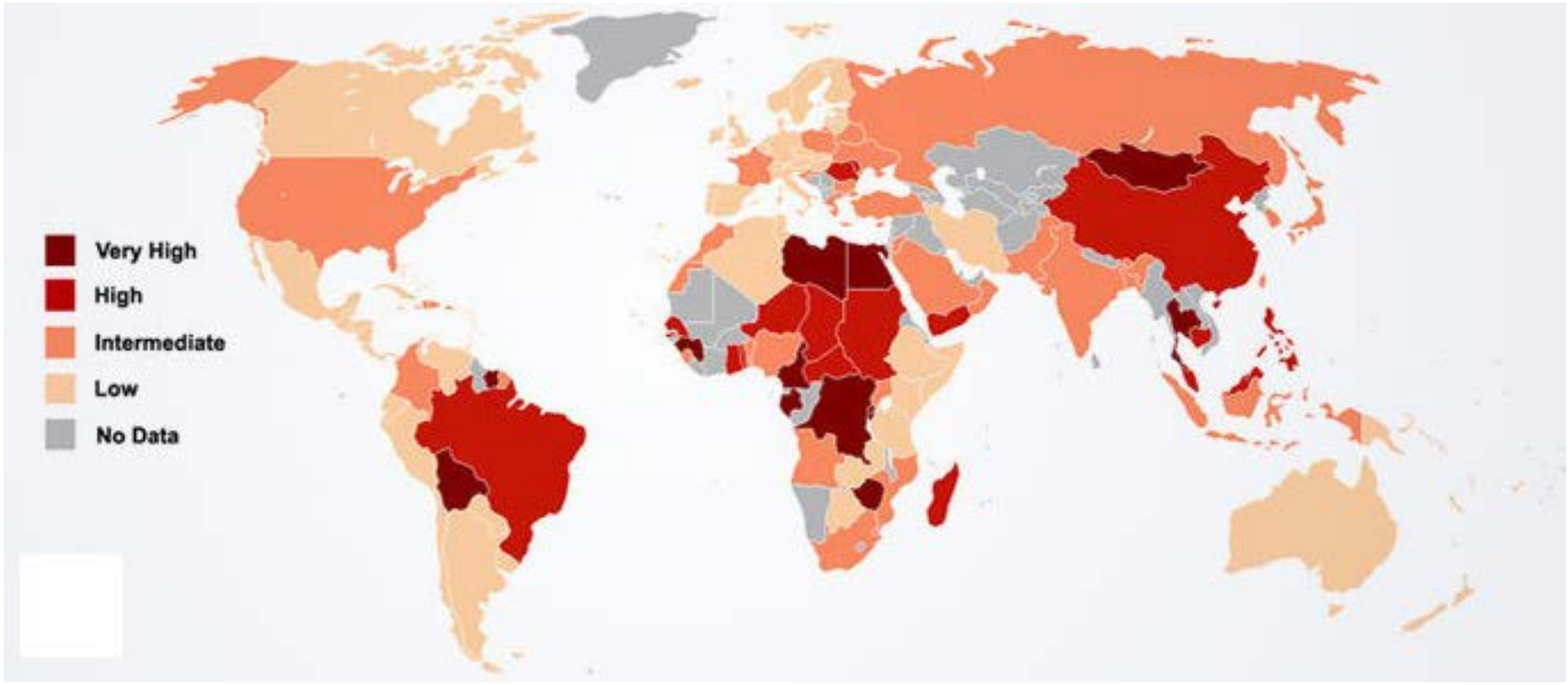
Hepatitis A and C

- Screening for hepatitis A may be cost effective for certain groups but is not currently required [1].
- Routine screening for hepatitis C among immigrants is controversial due to lack of data on cost-effectiveness [2].
- Screening is most appropriate for groups with identified risk factors or those coming from areas of known increased prevalence for hepatitis C
- History should include blood transfusions and needle-sharing practices such as tattooing or acupuncture to determine if screening is needed.

1.Fishbain JT, Eckart RE, Harner KC, Hospenthal DR. Empiric immunization versus serologic screening: developing a cost-effective strategy for the use of hepatitis A immunization in travelers. J Travel Med 2002; 9:71.

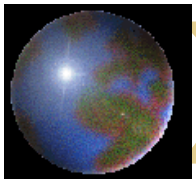
2.Eckman MH, Talal AH, Gordon SC, et al. Cost-effectiveness of screening for chronic hepatitis C infection in the United States. Clin Infect Dis 2013; 56:1382.

Global hepatitis C, 1999



1. WHO-Guide: Hepatitis C, 2002

Tired yet?



Pimpin' time!

- Eosinophilia may reflect...
  - parasitic infection such as strongyloidiasis, filariasis, or schistosomiasis.
- Hematuria, female infertility, or chronic pelvic pain may reflect...
  - schistosomiasis.
- Thrombocytopenia and anemia may reflect..
  - malaria
- Splenomegaly may reflect...
  - hyperreactive malaria syndrome or schistosomiasis.
- Rash or itching in the setting of eosinophilia may reflect...
  - onchocerciasis and other filarial worms.
- Heart failure or esophageal motility disorders may reflect...
  - Chagas disease.
- Seizures or other central nervous system symptoms may reflect...
  - neurocysticercosis.

Take away points

- The Centers for Disease Control and Prevention (CDC) has published guidelines for medical examination of newly arrived refugees, as well as a 12 point checklist that includes screening recommended for refugees arriving in the United States.
- Establish rapport and focus on mental health early in the encounter
- Use the CDC vaccine catch-up guide for immunizations
- Immigrants from tuberculosis (TB) endemic areas should have screening with PPD or IGRA
  - Receipt of Bacille Calmette-Guérin (BCG) vaccine should not be considered in interpretation of the result.
- Presumptive treatment or laboratory screening for *Plasmodium falciparum* malaria for asymptomatic patients from sub-Saharan Africa
- Presumptive treatment or laboratory screening for patients from areas with endemic parasitic diseases
- Immigrants from countries where the prevalence of hepatitis B infection is ≥2% should undergo routine screening, regardless of vaccination status

Resources

- CDC 12 point refugee guidelines: http://www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/domestic-guidelines.html
- Association of Refugee Health Coordinators [ARHC]: www.refugeehealthcoordinators.org/default.html
- List of clinicians who advertise performance of new arrival screens: www.globalhealth.umn.edu/community-initiatives/index.html
- Migrant Health Resources http://wwwnc.cdc.gov/travel/yellowbook/2016/appendices/appendix-c-migrant-health-resources

References

- Centers for Disease Control and Prevention: Immigrant and Refugee Health www.cdc.gov/immigrantrefugeehealth Centers for Disease Control and Prevention: Immigrant and Refugee Health—Guidelines for the US Domestic Examination for Newly Arriving Refugees www.cdc.gov/immigrantrefugeehealth/guidelines/domestic/domestic-guidelines.html
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- CDC: 2014. Screening for Hepatitis During the Domestics Medical Examination for Newly Arrived Refugees

References

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- http://www.cdc.gov/immigrantrefugeehealth/pdf/intestinal-parasites-domestic.pdf
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Questions?


The strength of this country isn't in buildings of brick and steel. It's in the hearts of those who have sworn to fight for its freedom...
- CAPTAIN AMERICA
Getty Images/Pinwords