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Welcome to webinar #449  
**Screening of Children  
and Youth New to Canada:  
A practical approach and  
tools for care providers**

June 10, 2015



**Caring for Kids  
New to Canada**



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Pediatric Infectious Diseases, Dept. of Medicine  
University of Alberta

Pediatric ID Consultant, Alberta Children's Hospital



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# Your Presenters Today

**Sue**



**Tony (on the right)**



# Objectives

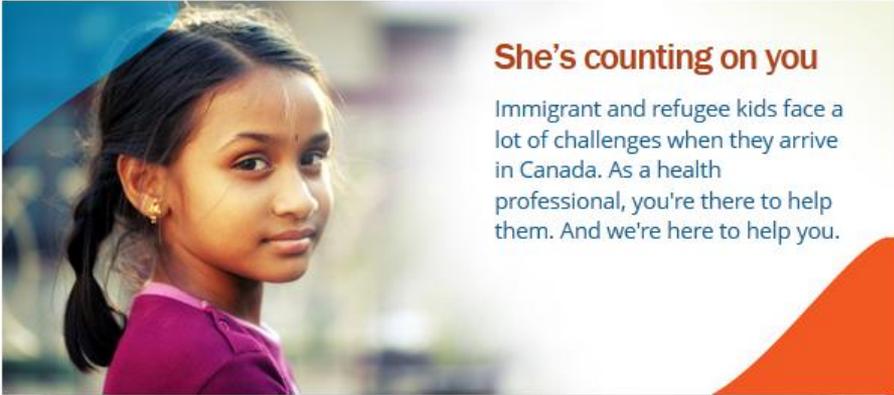
- Outline pediatric migrant health issues
- Review the screening resources
- Introduce the e-Checklist as a screening tool



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Assessment & Screening	Medical Conditions	Mental Health & Development	Health Promotion	Culture & Health	Providing Care for Newcomers	Beyond the Clinic
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### She's counting on you

Immigrant and refugee kids face a lot of challenges when they arrive in Canada. As a health professional, you're there to help them. And we're here to help you.



### About this Site

Caring for Kids New to Canada helps health professionals provide quality care to immigrant and refugee children, youth and families. It was developed by the Canadian Paediatric Society with experts in newcomer health. Learn more [about Caring for Kids New to Canada](#), the [people behind the site](#), and how it was developed.

### Getting Started

If you're new to this site, or to caring for immigrant and refugee children, get started with the [essentials for providing health care to children and youth new to Canada](#). Or consult our [sitemap](#) for an overview of this website.

### Featured Content

#### Promoting health from the first visit

The [first medical assessment of an immigrant or refugee child or teen](#) involves more than just a physical exam. Find out how to make the most of this important visit.

#### Assessing child development

[Attitudes toward developmental disabilities differ among cultures](#). When doing a developmental assessment, this information can help you tailor your approach to meet the needs of immigrant and refugee families.

#### Safe and healthy travel

Many immigrant families travel from Canada back to their home countries to visit friends and relatives. Learn how to [keep your patients safe and healthy while travelling abroad](#).

#### North American Refugee Health Conference

Several editors from Caring for Kids New to Canada will be presenting at this Toronto gathering June 6-8, 2013. This is the [premier venue for clinicians working with refugee patients](#).



Read about how you can provide culturally competent care



Find resources for immigrant and refugee families in your community



Navigating the system: A primer on health insurance for newcomers



Is your patient adapting well to life in Canada? Here's how to find out



- Assessment & Screening
- Medical Conditions
- Mental Health & Development
- Health Promotion
- Culture & Health
- Providing Care for Newcomers
- Beyond the Clinic



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# Question 1: Who are you?

a) Doctor

b) Nurse

c) Administrator

d) Public Health worker

e) Other



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## Question 2: Where are you?

- a) Nfld. and Labrador
- b) New Brunswick, PEI or Nova Scotia
- c) Quebec
- d) Ontario
- e) Manitoba
- f) Saskatchewan
- g) Alberta
- h) B.C.
- i) NWT, Yukon or Nunavut



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## **Question 3: Do you deal with I/R children and youth?**

- a) Rarely**
- b) Occasionally**
- c) Often**
- d) Daily**



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**Question 4a: Have you used the CKNC website before?**

**a) Yes**

**b) No**

**Question 4b: If yes, how often?**

**a) Rarely**

**b) Occasionally**

**c) Often**

**d) Daily**



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## Outline

A) Quick history of the evolution of the CKNC Web resource

## Conflicts

None to report (except for being intimately involved with the CKNC Project and Task Force)



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## Outline

B) Medical Assessment and Screening of I/R Children and Youth

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None to report (except for being intimately involved with the CKNC Project and Task Force)



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## Outline

C) E-Checklist and Other CKNC Tools

## Conflicts

None to report (except for being intimately involved with the CKNC Project and Task Force)



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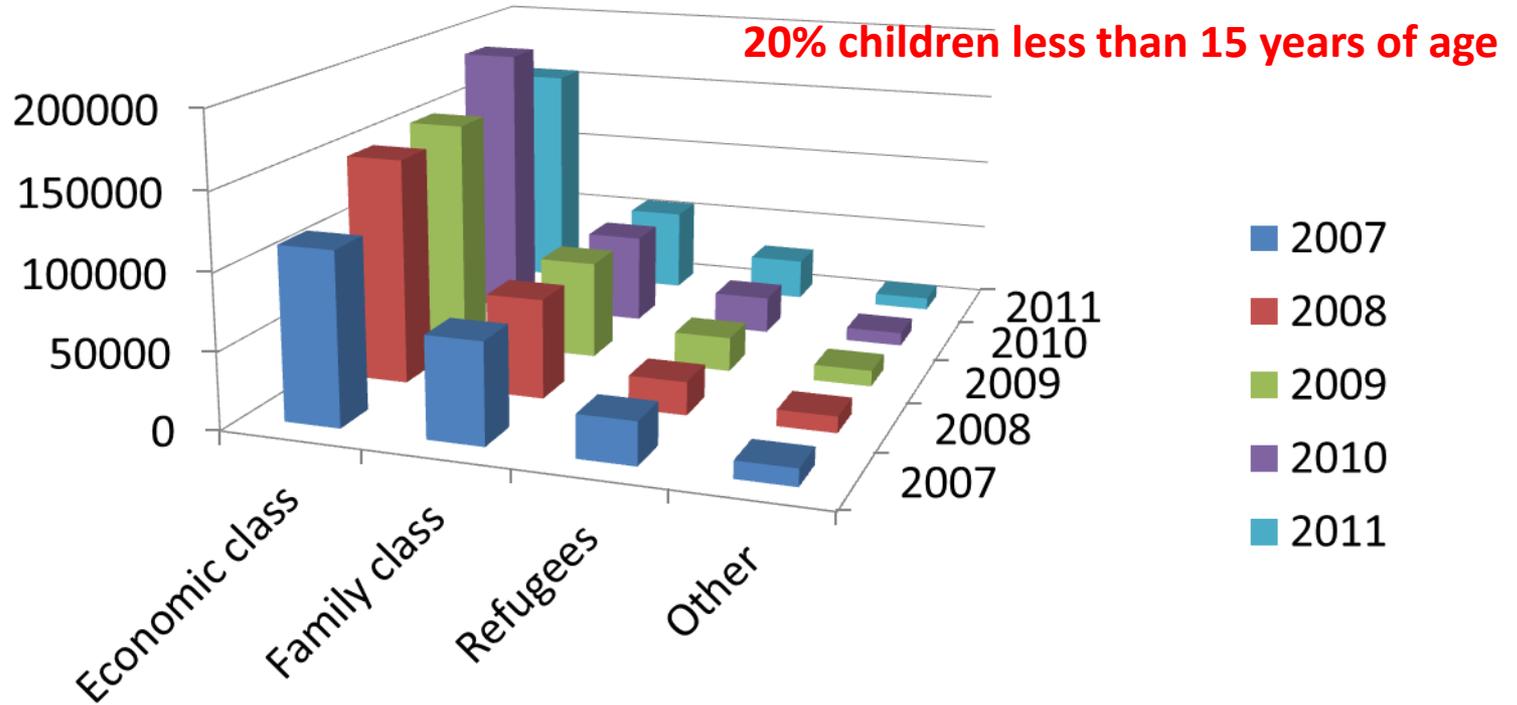
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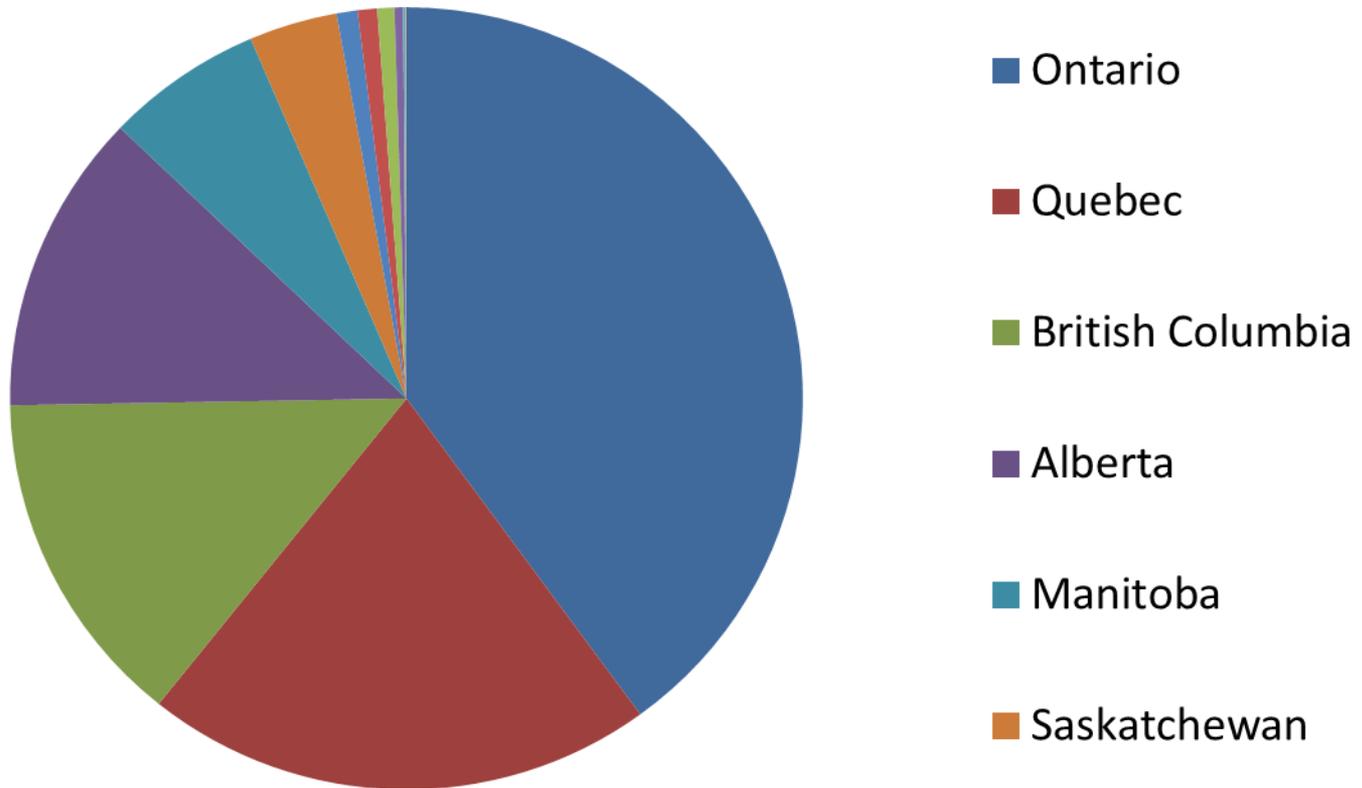
# Permanent Residents



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# Permanent Residents



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**Whitehorse**  
**218 permanent resident settlements in 2011**



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# Country of Origin

## Permanent Residents

Country	%
Philippines	14
China	12
India	10
United States	4
United Kingdom	3
Iran	3
France	2

## Refugee Claimants

Country	%
Hungary	18
China	7
Colombia	4
Pakistan	4
Namibia	3
Nigeria	3
Mexico	3



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# Language Ability

Language	%
Tagalog	13
Arabic	10
Mandarin	10
English	9
Spanish	6
Punjabi	5
French	4
Creole	3

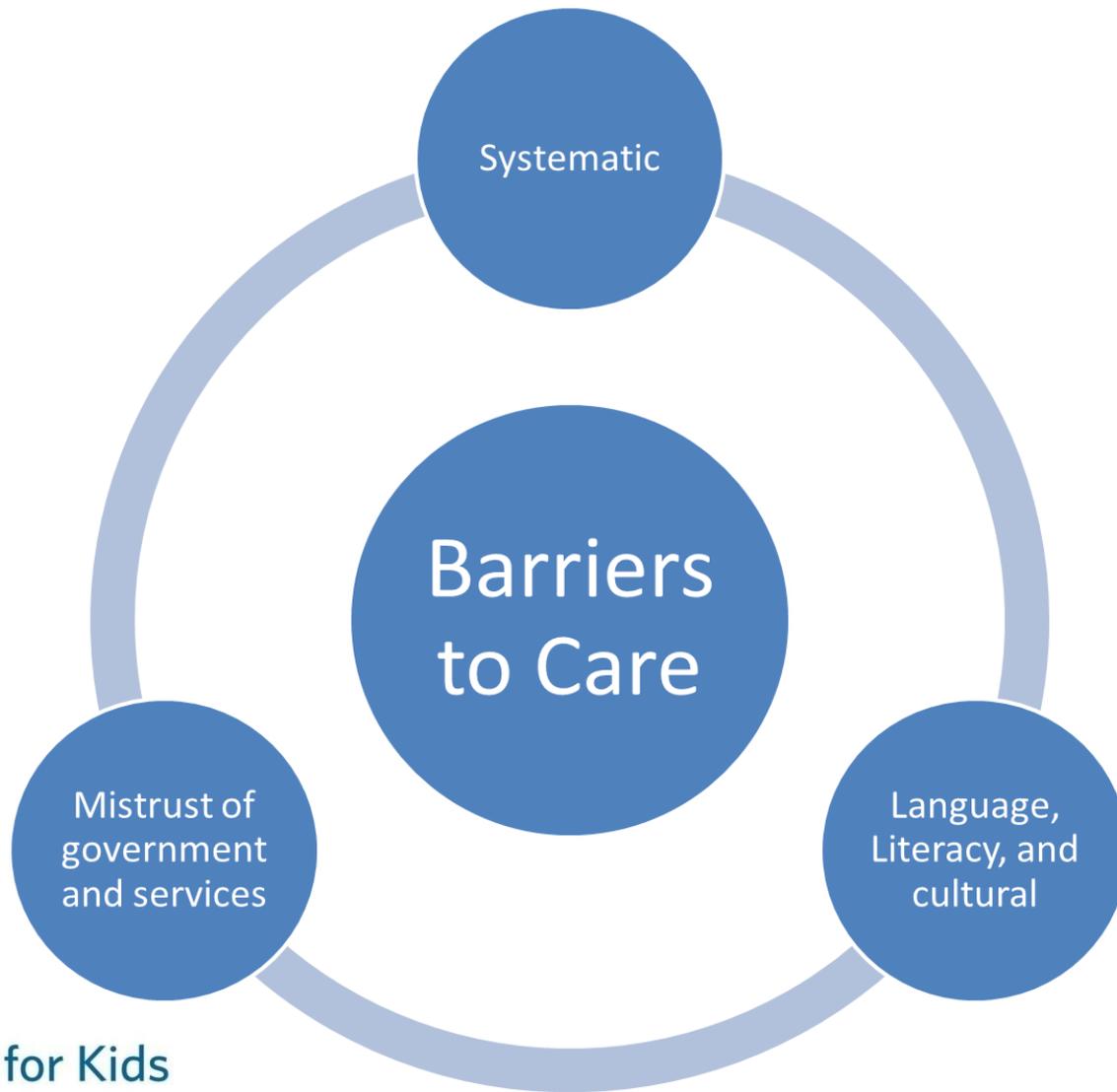


English 58%

French 6 %

English and French 10%

Neither English nor French 25%



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# How culture influences health care and health outcomes

## What is culture?

It is more than you might assume it to be.

### Hidden and obvious elements of any culture



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# How culture influences health care and health outcomes

## Hidden and obvious elements of any culture

### What is culture?

It is more than you might assume it to be.



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# Caring for Kids New to Canada: A Knowledge Transfer and Exchange Project

**Objective:** to improve health equity and outcomes for children and youth new to Canada.



Read about how you can provide culturally competent care



Find resources for immigrant and refugee families in your community



Navigating the system: A primer on health insurance for newcomers



Is your patient adapting well to life in Canada? Here's how to find out



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# Caring for Kids New to Canada: A Knowledge Transfer and Exchange Project

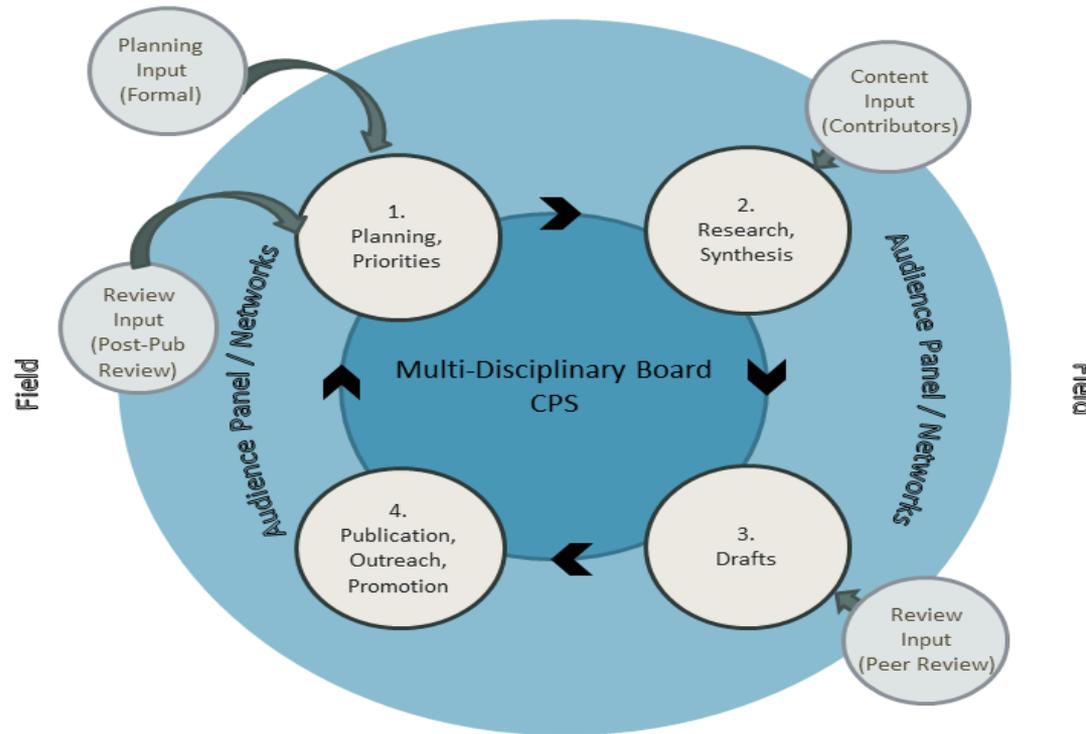
Project Stages



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health professionals working with immigrant  
and refugee children, youth and families

[www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)

# Caring for Kids New to Canada: A Knowledge Transfer and Exchange Project







# Caring for Kids New to Canada

An online guide for health professionals working with immigrant and refugee children, youth and families.

Developed by the Canadian Paediatric Society with experts in newcomer health.

[www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)

This project funded by the Government of Canada.

Canada



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Society

Home / N

**Navigating the Health System**

Health

Key points

Health for residents

Health for refugees

Health for...



### Information for Practitioners

- [An Overview of Immigrants and Refugees in Canada](#)
- [Barriers and Facilitators to Health Care](#)
- [Overcoming Barriers to Care: A Checklist](#)
- [FAQs about Medication Coverage for Refugees](#)
- [Medical Assessment](#)
- [Using Interpreters: A Checklist](#)
- [Using Interpreters in Health Care Settings](#)

### Resources for Families

- [Community Resources Serving Newcomer Families](#)
- [Community Resources for Immigrant and Refugee Youth](#)
- [Health Information for Parents](#)

 Print

## ies

### Key points

health care system

ould apply as soon

rogram. Coverage



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Home / Navigating the Health System / FAQs about Medication Coverage for Refugees



<b>Navigating the Health System</b>
<b>FAQs about Medication Coverage for Refugees</b>

## FAQs about medication coverage for refugees and refugee claimants

### Why do I need to know what coverage my patient has?

Knowing what services are covered for your newcomer patients (e.g., lab work, nursing care, diagnostic testing, dental, eye care) is important. Knowing whether a medication you prescribe will be covered for your patient can avoid issues with fulfillment at the pharmacy and reduce the likelihood of your patient *not* taking their medication because it is difficult or expensive to obtain.

### How do I know what coverage my patient has?

The Interim Federal Health Program (IFHP) provides limited, temporary, publicly funded coverage of health care benefits for refugees, refugee claimants and certain other eligible individuals in Canada, based on their immigration status. More information about the IFHP is available in this resource, including eligibility criteria for refugees and refugee claimants.

- Why do I need to know what coverage my patient has?
- How do I know what coverage my patient has?
- What if my patient doesn't have the proper forms with them or their coverage has expired?



## Caring for Kids New to Canada

A guide for health professionals working with  
immigrant and refugee children and youth

### Guide

# Helping newcomers overcome barriers to health care

This guide summarizes how health professionals can help reduce some of the barriers that prevent immigrant and refugee families from accessing or receiving quality health care in Canada. Find more information at [www.kidsnewtcanada.ca](http://www.kidsnewtcanada.ca).

#### Self-educate and train practice staff about:

- How to provide culturally competent care.
- Health issues that are more common in newcomers.
- Availability of local community resources and how to help patients connect with them.
- Health care coverage eligibility for immigrants and refugees, including the Interim Federal Health Program for refugees and provincial coverage, if available. Policies at local hospitals or clinics concerning eligibility and emergency care can vary; find out what they are. Circulate clear guidelines for staff on care entitlements of different groups.

#### Help newcomer families access health care services.

- Educate newcomer patients on their eligibility for health care coverage based on immigration/refugee status. Let them know about free local public health services (e.g., immunizations).
- Help educate patients about navigating the Canadian health system.
- Connect patients with a regular primary care provider (or a community health centre for those who are uninsured) and support services (e.g., social work, transportation, interpreters, financial aid, settlement services, legal agencies).

#### Streamline health care coverage paperwork.

- Ask about your patient's immigration or refugee status and know which health care services or benefits they are (or are not) entitled to.
- Register with Mediavie Blue Cross, which administers the Interim Federal Health program. Check a newcomer patient's coverage at each visit.
- Improve the rate and completion of payment, e.g., by identifying one person in your practice to learn and run the process.

#### Help build newcomers' trust in the health care system.

- Be clear to newcomer patients that patient information is confidential.
- Provide flexible appointment times to accommodate mental health needs or irregular work schedules.
- Provide printed reminders and use tracking systems to improve patient attendance and monitor access to care.
- Encourage positive and stable relations with all clinic staff.
- Offer preventative services; emphasize the benefits of continuity of care, prevention and screening.

#### Promote effective communication with patients and families.

- Understand the importance of interpreters, how best to work with them, how to arrange for services in advance, and appropriate alternatives. Avoid using children in families as interpreters. Advocate for interpretive services in your community.
- Be aware that eliciting information about sensitive issues from young newcomers may require several consultations.
- Learn about the family's dynamics and socio-cultural perceptions of illness.
- Provide health promotional materials in multiple languages, many of which are available online.
- Provide a letter for newcomer families that explains a child's diagnoses or needs, if applicable. This can help when looking for support services or urgent care.

#### Pool information and resources.

- Use an interprofessional team approach, including referrals to appropriate community organizations.
- Pool local interest in newcomer patients and information about providing care.

[www.kidsnewtcanada.ca](http://www.kidsnewtcanada.ca)



Adapted from: Caulford P, editor. Barriers and Facilitators to Health Care for Newcomers. In: Caring for Kids New to Canada: A guide for health professionals working with immigrant and refugee children and youth [Internet]. Benozzino T and Hul C, editors. Ottawa: Canadian Paediatric Society; 2013 May. Available from: <http://www.kidsnewtcanada.ca/are/barriers>. English, French.



## Caring for Kids New to Canada

A guide for health professionals working with  
immigrant and refugee children and youth

### Checklist

# Using an interpreter with children, youth and families

#### Booking the appointment

- This is the time to ask whether an interpreter is needed.
- Allot extra time. These interviews can easily take twice as long as more typical patient visits.
- If you and the family have found a trusted interpreter, try to use the same person for all of their visits.

#### Before the office visit: Speak with the interpreter

- Speak with the interpreter to discuss goals and how best to achieve them. Emphasize that families must make decisions for themselves about medical matters.
- Encourage the interpreter to intervene if a misunderstanding occurs or seems likely.
- Be respectful of the interpreter's time: they may have several other appointments. Try not to be late or delayed for the appointment and be watchful of the time during the clinic visit.

#### During the visit: Advice for practitioners

- Sit in a circle so that everyone can see non-verbal cues.
- Introduce the interpreter and the family. Ask the interpreter to describe their own role.
- Ask the family if they feel comfortable working with this interpreter.
- Explain your role as clinician and the purpose of the visit.
- Look at family members when speaking to them and while the interpreter speaks. Speak directly, using "I" and "you" whenever possible. Remember, a family may look to the interpreter instead of you when answering questions.

- Speak slowly and clearly. Use short sentences, pause frequently to allow the interpreter to translate, and give only small amounts of information at a time.
- Avoid idioms, jargon, slang, abbreviations, acronyms or jokes, which may cause confusion.
- Repeat important instructions and explanations. If you think there has been a miscommunication, restate in a different way. Ask the patient, parent or caregiver to repeat the information back to you.
- Maintain responsibility for the visit. The interpreter's role is to convey information and discussion accurately, not to come up with medical or other explanations.
- Do not carry on a separate discussion with the interpreter without first explaining why to the family. Also, ask the interpreter to explain to them the nature and content of that conversation.
- If you are speaking in English or French with an adolescent patient, be sure to ask a less-fluent parent how much should be interpreted for their benefit.
- Allow enough time for the family to ask questions.

#### After the visit: Debrief with the interpreter

- Ask whether the interpreter observed anything you should know about.
- As required, ask the interpreter to write down instructions for the family.
- Ask if the interpreter can help with scheduling follow-up appointments, if needed.
- Be sure to book an interpreter for any follow-up appointments. If possible use the same person.
- If possible, ask the interpreter to accompany the family for lab tests or to the pharmacy.

[www.kidsnewtocoland.ca](http://www.kidsnewtocoland.ca)



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A guide for health professionals working with immigrant and refugee children and youth



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- Assessment & Screening
- Medical Conditions
- Mental Health & Development
- Health Promotion
- Culture & Health
- Navigating the Health System
- Education & Advocacy

Home / Education & Advocacy / Advocacy for Immigrant and Refugee Health Needs



### Education & Advocacy

#### Advocacy for Immigrant and Refugee Health Needs

- Key points
- Advocacy by health professionals
- Advocating for change: How is it done?
- Case advocacy
- Systems advocacy

## Advocacy for Immigrant and Refugee Health Needs

### Key points

- Advocacy occurs at different levels with different targets and includes:
  - case advocacy (for individual children/youth),
  - systems advocacy (for practice changes that affect many children/youth), and
  - policy advocacy (for changing legislation, regulations).
- When advocating for the health needs of immigrant and refugee children and youth, health professionals need to be aware of potential pitfalls.
- Effective advocacy involves carefully documenting and defining the problem, targeting an 'audience' or group that can effect change, proposing a solution, and using evidence and data as a basis for each effort.

## B) Medical Assessment and Screening of I/R Children and Youth



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New to Canada

# Keys to Medical Assessment and Screening of Kids New to Canada

1. Understanding newcomers' unique needs
2. Some examples of diseases and conditions that are “unique”
3. Using the screening tools available at [www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)
4. Integrating mental health into screening
5. Understanding needs of international adoptees



# 1) Understanding the unique needs

Recent immigrant and refugee children have many unique health needs, compared to the Canadian population.

- Many have not have not had a reliable or accurate health assessment (perhaps ever!)
- You must be prepared to diagnose health conditions that could affect a child's growth and development, including infectious diseases, chronic illnesses, undiagnosed congenital problems and psychosocial issues





## Caring for Kids New to Canada

A guide for health professionals working with  
immigrant and refugee children and youth

### Guide

# Taking a history with newcomer children and adolescents

The following sample questions can be gathered in the health and psychosocial history of newcomer children and adolescents. These are not meant to be exhaustive; nor are they meant to be used as a “checklist” to be asked in a certain order. Rather, these questions illustrate approaches that providers can use to explore issues that affect the health of newcomer children and adolescents. These questions can be asked of the child and/or parent as appropriate. The issues can be explored directly with the older child or adolescent in a developmentally appropriate manner, including as part of the confidential adolescent psychosocial interview.

#### Assess immigration history and possible immigration stress or trauma.

- What is your country of origin? What ethnic group(s) do you identify with?
- Why and when did you come to Canada? How did you arrive in this country? What were some of the challenges and difficulties? What or who helped you and your family adjust and cope?

#### Assess identity development, acculturation, potential acculturation gaps, and conflicts within families.

- Is there anything causing you stress or difficulty? Do you have a support system? Have you made contact with local cultural associations?
- Do you feel more comfortable being with people of your family’s background, or mainstream Canadian society, or both, or neither?
- What language(s) do you speak? What language is usually spoken at home? What language do you prefer speaking? Do you ever interpret for your parents?
- Are you in school yet? How do you like it? How many days do you miss? Have you made friends? Who is your best friend? Where do you play with your friends?
- What are your hopes for the future?

#### Explore sociocultural dimensions of health and health beliefs: This will help with negotiating a treatment plan.

- What do you think has caused this problem? What do you call it? How do you understand it?
- How does it affect your life?

- Have you had this problem before? How was it treated before? What do you believe will cure it?
- Are there any healing practices or medicines that are traditional for your family that you think might help? Is there anything that may help you to feel better that doctors may not know about?
- Who helps you to handle health issues?
- What do you fear most about this problem? Are you afraid of being excluded from your own community because of this problem? (e.g., tuberculosis or a congenital abnormality)
- Is there anything else you want to tell me, about this situation or your family or culture that will help me provide you with better care?

#### Ask about bias, racism or discrimination: Ask about these experiences as part of the social history, validate them, and provide appropriate counselling or referrals to mental health and community agencies.

- Some other children (young people) with the same background have told me about being teased, bullied or harassed, just because of their background or the way they look. Has that ever happened to you?

#### Perform a confidential, developmentally appropriate adolescent psychosocial assessment on all newcomer youth.

Screen all adolescents equally and routinely for risky behaviours, such as sexual activity or substance use.

**Never assume** that adolescents from a particular cultural group are more or less likely to adopt a behaviour than someone from another group.

[www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)



This page is an excerpt from: Vo D, Mayhew M, editors. Cultural Competence for Child and Youth Health Professionals. In: Caring for Kids New to Canada: A guide for health professionals working with immigrant and refugee children and youth [Internet]. Barozzino T and Hui C, editors. Ottawa: Canadian Paediatric Society; 2013 April. Available from: <http://kidsnewtocanada.ca/culture/competence>. English, French.

# How to approach these unique needs

Getting to know a new immigrant or refugee child involves doing

- a complete history,
- a physical examination, and
- appropriate investigations.

Be sensitive to and aware of cultural and language differences.

Use professional interpreters as needed.

[www.kidsnewtocanada.ca/care/assessment#selectedresources](http://www.kidsnewtocanada.ca/care/assessment#selectedresources)



# What the approach adds up to

You must look for **chronic illness** that is untreated. You need to be aware of and prepared to detect **diseases** uncommon in Canada.



You should be prepared to identify **physical and psychosocial problems** different from those you see in Canadian children.



**Several appointments to complete an initial assessment**



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# What the approach requires

**Time:** Ideally, you will want to do a unique assessment for each child in a family.

**Patience:** Doing a complete history may have to be delayed if a child has a serious or specific health concern.



# Culturally appropriate and competent care

A sensitive, caring and compassionate health professional can learn a lot about a new child, with a warm smile, calm manner and gentle touch.

To deliver excellent care to newcomers, you need to learn about culturally appropriate care.



# Cultural competence underlies any approach

Culturally competent care includes supporting patients' ability to use and access health care.

- Educate yourself about culturally appropriate care.
- Use interpreters, as needed (not children!)
- Take time to understand newcomers' concerns about health care, especially those that relate to culture of origin and migration history.





## Caring for Kids New to Canada

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immigrant and refugee children and youth

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Adapted from: Hillard R, editor. Using interpreters in Health Care Settings. In: Caring for Kids New to Canada: A guide for health professionals working with immigrant and refugee children and youth [Internet]. Barozzini T and Hul C, editors. Ottawa: Canadian Paediatric Society; 2013 April. Available from: <http://kidsnewtocanada.ca/care/interpreters>. English, French.

## 2) Some examples of the “unique” diseases and conditions

**Infectious diseases:**  
Many kinds

**Health conditions:**  
Malnutrition  
Mental health concerns  
Hereditary anemias



Caring for Kids  
New to Canada

# Infectious diseases

**HIV/AIDS:** Children aged 0 to 4 are not routinely tested before they leave their country of origin or immediately after they arrive in Canada.

**Vaccinated or not?:** Immunization records may not exist or be inaccurate. Language issues might mean that something parents call “measles” is not truly measles. A trained interpreter can help sort things out.

**Updating immunizations:** Public health can often provide an expert to help you decide what kind of “catch up” schedule is best.

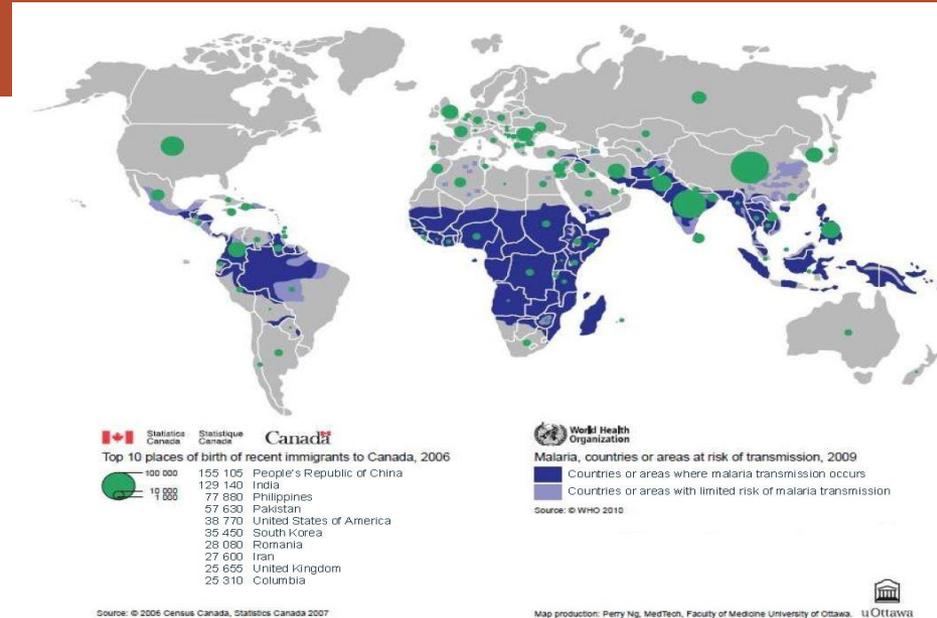


# Infectious diseases

- **Malaria:** The map shows where it is most common. Symptoms can occur 2-4 weeks after infection by the mosquito.

- Consider countries on the patient's migration path as well as the country of origin.

- **Tuberculosis:** Globally, the risk of TB is greatest in children under 5. Children under 11 who enter Canada are not required to undergo a screening x-ray for TB.



# Examples of health conditions

**Malnutrition:** You should consider malnutrition as a possibility for all refugee or internationally adopted children from low-income countries.

**Vitamin and mineral deficiencies:** The primary deficiencies are:

-Folic Acid, Vitamin B12, Iodine, Vitamin D, Iron, Zinc, Vitamin A



# Other possible health conditions

## **Hereditary anemias**

G6PD Deficiency

Thalassemia

Sickle Cell Disease

## **Dietary Anemias**

Iron Deficiency and Iron Deficiency Anemia

Folate/B12 deficiency

All children and youth new to Canada should be screened for anemia upon arrival.



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# 3) Using the screening tools available

The Assessment and Screening part of the website covers topics such as:

Immunizations

Hearing

Vision

Oral Health

Visit: [www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)



Caring for Kids  
New to Canada

Assessment & Screening

Medical Conditions

Mental Health & Development

Health Promotion

Culture & Health

Navigating the Health System

Education Advocacy



Health Topics

Assessing Child Maltreatment in a Multicultural Setting

Child Development: Issues and Assessment

Female genital mutilation/cutting

First Language Use and Bilingualism

Health Evaluation of the International Adoptee

Immunizations

Lead Toxicity

Medical Assessment

Oral Health Screening

Vision Screening

Tools and Resources

Checklists for medical assessment

Health Information by Region

Symptoms, signs and clinical problems: A tool for differential diagnosis

Taking a History With Newcomer Children: A 1-Page Guide

Key points

... are from low- and ... hearing impairment

... of origin.

... her tongue or different

... for optimal growth and

... development. Primary prevention can eliminate half of all cases of deafness and hearing impairment.

- Children should have their hearing tested before they enter school or any time there is a concern about a child's hearing or language development.

References

## Assessment & Screening

### Immunizations

Key points

Introduction

STEP 1: Which immunizations has this child received?

STEP 2: Which immunizations does this child need?

STEP 3: Creating an appropriate catch-up schedule

STEP 4: What underlying conditions or risk factors require additional immunizations?

STEP 5: Follow-up

Selected resources

References

## STEP 1: Which immunizations has this child received?

Childhood immunization schedules differ considerably according to the country of origin. Immigrant and refugee children may have been immunized according to the World Health Organization's (WHO's) Expanded Program of Immunization (EPI) Plus schedule (see Table 1).

**Table 1: The WHO's Expanded Program of Immunization (EPI) Plus\* schedule**

Vaccine	Birth	6 wks	10 wks	14 wks	9 to 12 mos
BCG	•				
DPT		•	•	•	
OPV	[•]	•	•	•	
Measles					•
HBV <sup>†</sup>	•	•		•	
Yellow Fever (YF)					•

\*YF and HBV added in 1994 for endemic countries

[ ] added during epidemics

† alternative schedules for HBV include: at 6 wks, 10 wks and 14 wks OR at birth, 6 wks and 9 to 12 mos.

BCG Bacillus Calmette-Guérin vaccine; DPT diphtheria-pertussis-tetanus vaccine; OPV Oral polio vaccine; HBV hepatitis B vaccine

## Related Topics

## Assessment & Screening

### Hearing Screening

Key points

Causes of hearing impairment and deafness

Signs of hearing loss in infants and children

Screening recommendations

Intervention

Prevention

Selected resources

References

# Hearing Screening

### Key points

- Intact hearing is essential for language, speech and cognitive development.
- About 1 to 3 per 1000 children in Europe and the United States have hearing loss.<sup>1</sup>
- An estimated 80% of people in the world with moderate to profound hearing impairment are from low- and middle-income countries.<sup>2</sup> Children from developing countries may be more likely to have hearing impairment than the general Canadian population.<sup>2,3</sup>
- Immigrant and refugee children may not have received hearing screening in their country of origin.
- A delay in language and speech development should not be attributed to a different mother tongue or different culture until hearing testing and other appropriate evaluations are performed.
- Early detection of hearing loss and intervention in infants and young children are critical for optimal growth and development. Primary prevention can eliminate half of all cases of deafness and hearing impairment.
- Children should have their hearing tested before they enter school or any time there is a concern about a child's hearing or language development.

## Related Topics

## Assessment & Screening

### Vision Screening

#### Key points

#### Why vision screening is important

#### Risk factors associated with impaired vision

#### Trachoma, onchocerciasis and xerophthalmia

#### Screening recommendations

#### Recommendations for when to screen

#### Barriers influencing eye care

#### What health professionals can do

#### Selected resources

#### References

#### Other works consulted

malnutrition). Approximately 127 million preschool-aged children worldwide are vitamin A-deficient, a problem that can be addressed at minimal cost—about 5 cents per dose for a vitamin A supplement.

## Screening recommendations

The Canadian Collaboration for Immigrant and Refugee Health recommends age-appropriate screening for visual impairment soon after newcomers arrive.

Patients should be referred to an optometrist or ophthalmologist for evaluation if presenting vision is <6/12 with the patient's corrective lenses in place.<sup>1</sup>

A newcomer child's eye anatomy and visual function should be checked at regular intervals. Beginning with newborns, assessments should include the red reflex for serious ocular diseases (e.g., retinoblastoma and cataracts), and the corneal light reflex and cover-uncover test and inquiry for strabismus (ocular misalignment).

Subjective visual acuity should be assessed at the preschool stage, usually starting at 3 years of age as well as when there is a complaint. An assessment should also include ocular alignment and ocular media clarity.

## Recommendations for when to screen

Because untreated eye diseases can result in vision loss, regular vision screening is recommended by a number of organizations,<sup>1,2,8</sup> including [the CPS](#), as follows:

- Age-appropriate testing at health care practitioner visits beginning with newborns and continuing until the age of five.<sup>9</sup>
- Visual acuity tests with age-appropriate tools.
- For all children, at least one assessment between 3 to 5 years of age (level of evidence rating All).

[Vitamin A deficiency can be addressed in young newcomers to Canada through supplementation](#) as well as dietary modifications. The [recommended daily intakes of vitamin A](#) for all age groups are available on the Health Canada website.

To help combat xerophthalmia, the CDC recommends an age-appropriate daily multivitamin for all children aged 6 months to 59 months. Specific supplementation may be of benefit in children older than 5 years of age.<sup>3</sup>

despite having similar caries rates.

## Assessment & Screening

### Oral Health Screening

Key points

Epidemiology

Risk factors

Screening and intervention

Access to care

Selected resources

References

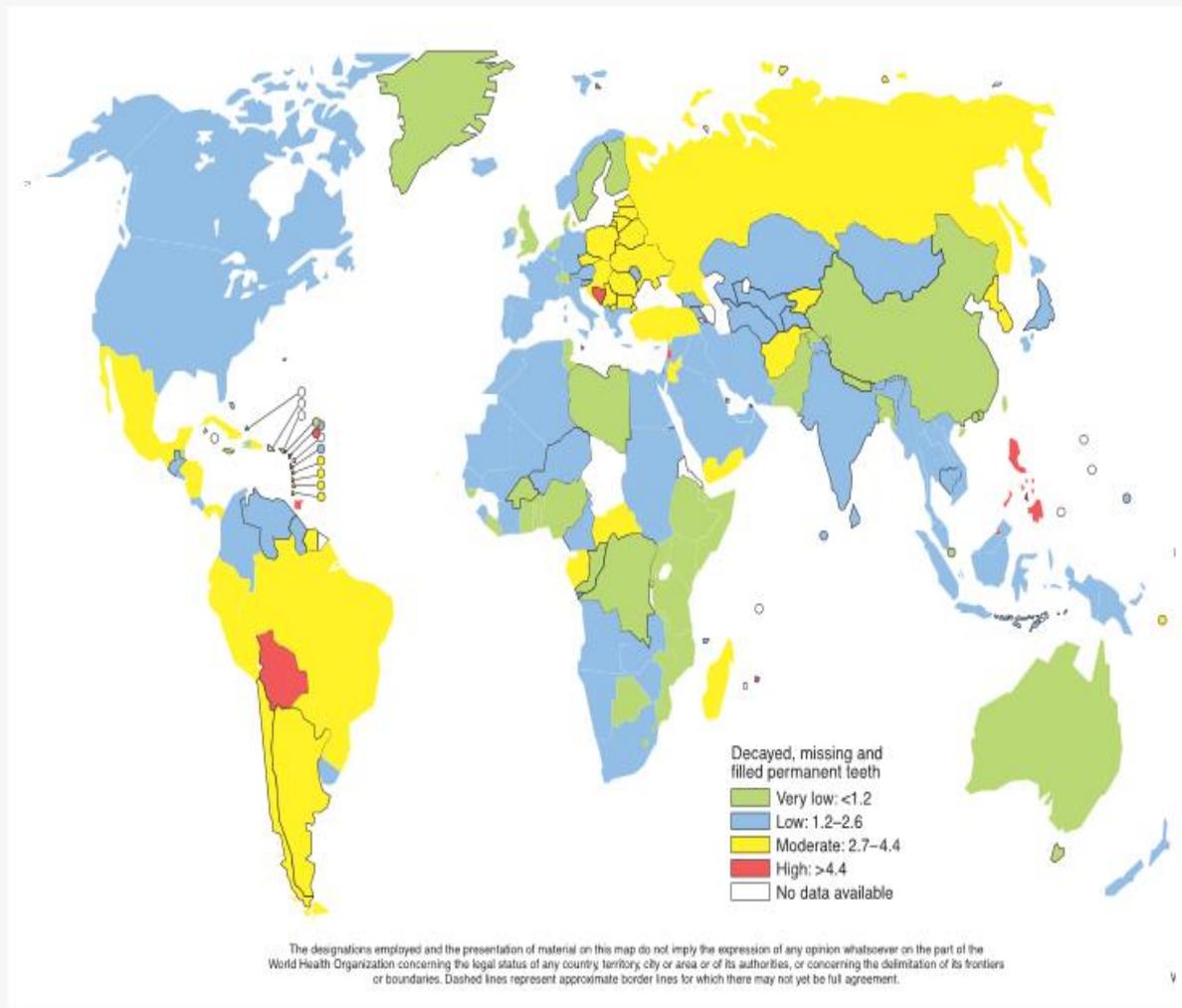
## Related Topics

Health Insurance for Immigrant and Refugee Families

Barriers and Facilitators to Health Care for Newcomers

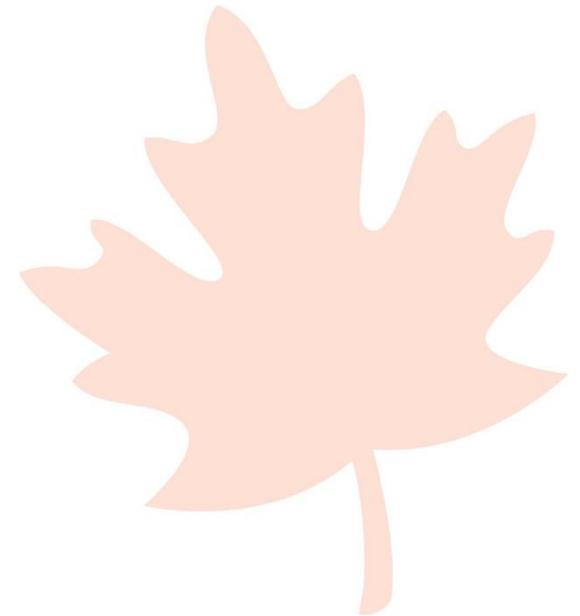
Community Resources Serving Immigrant and Refugee Families

Figure 1: Dental caries levels in 12-year-olds worldwide



# 4) Integrating mental health into screening

When you are working with newcomer children and youth, you need to understand the kinds of unique mental health needs that may affect this population.



# Examples of mental health concerns

**Depression:** The Canadian Community Health Survey (CCHS)—one of the few national studies of mental health in Canada—found rates of depression in children and youth new to Canada are generally lower than in their Canadian-born peers.

But, refugee children have higher rates of psychological distress, including depression, than immigrant children in general.



# Examples of mental health concerns

**Post-Traumatic Stress Disorder:** An anxiety disorder some people develop after seeing or living through an event that has caused or threatened serious harm or death.

PTSD is a disabling condition that can become chronic. Assessment and treatment call for a combined approach involving family and schools, as well as more specialized services.

Avoid any single-session debriefing. This can cause more harm than good.



# Examples of mental health concerns

**Substance abuse among immigrant youth:** Generally, substance use disorders are less common in immigrant youth than in their Canadian-born peers. On the other hand, risk factors for this disorder appear to increase with time in Canada and level of acculturation. Youth from cultures that strictly prohibit substance use and strongly adhere to familial authority are less likely to abuse substances in Canada than youth from countries where substance abuse is endemic.



# 5) Being aware of international adoptions

All international adoptions are “special needs” adoptions.

[www.kidsnewtocanada.ca/health-promotion/adoption](http://www.kidsnewtocanada.ca/health-promotion/adoption)

There are many tips on the website for care providers and families alike to aid in the adoption process ranging from pre-adoption preparation to post-adoption medical care, screening and ongoing physical/mental health provision.



# Specific concerns for parents of international adoptees

**Adoptive parents need to be aware of:**  
prenatal exposures a child may have suffered  
poor prenatal care  
malnutrition  
neglect and abuse  
the effects of hospitalization or institutionalization.

Parents must update their own vaccinations before they travel to the country of adoption.





# Caring for Kids New to Canada

An online guide for health professionals working with immigrant and refugee children, youth and families.

Developed by the Canadian Paediatric Society with experts in newcomer health.

[www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)

This project funded by the Government of Canada.

Canada



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# Thank You!!

## C) E-Checklist and Other CKNC Tools



Caring for Kids  
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# Screening Tools: *Assessment + Screening*

## Background

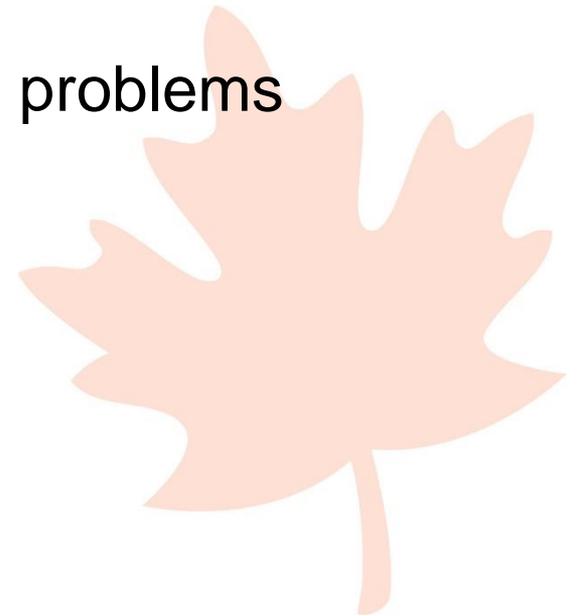
- Medical Assessment
- Taking a history

## Resources

- Symptoms, signs and clinical problems
- Health information by region
- Specific conditions

## Bringing it all together

- e-Checklist and links





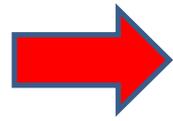
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- Health Promotion
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- Assessing Child Maltreatment in a Multicultural Setting
- Child Development: Issues and Assessment
- Female genital mutilation/cutting
- First Language Use and Bilingualism
- Health Evaluation of the International Adoptee
- Hearing Screening
- Immunizations
- Lead Toxicity
- Medical Assessment
- Oral Health Screening
- Vision Screening

### Tools and Resources

- Checklists for medical assessment
- Health Information by Region
- Symptoms, signs and clinical problems: A tool for differential diagnosis
- Taking a History With Newcomer Children: A 1-Page Guide

### Content

#### June 10, 2015: Children and Youth New to Canada: Resources

discuss ways in which... can be used to prevent... the key health issues affecting... and youth. New practical... the screening process, such... will be highlighted.

#### Checklists for medical

A

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Designed to be used electronically or in print, these [checklists](#) will help care providers cover the recommended steps in the initial medical assessments



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## Assessment & Screening

### Medical Assessment

Key points

Initial medical assessment

Preparing for the visit:  
Documentation

Communicating effectively with  
newcomer families

Taking a history

Assessing psychosocial history

Physical examination

Screening lab tests

At the second visit

Follow-up visits

## Medical Assessment of Immigrant and Refugee Children

### Key points

- Getting to know a new immigrant or refugee child involves a thorough history, physical examination and appropriate investigations.
- When assessing children and youth new to Canada, be sensitive to and aware of cultural and language differences. You may need to involve trained cultural interpreters.
- Look for chronic illnesses that may not have been adequately treated and diseases not usually seen in Canada.
- Be aware that immigrant and refugee children may present with different problems, both physical and psychosocial.
- It may take several appointments to complete the initial medical assessment.
- This site includes electronic tools to help with [medical assessment](#), and with determining [differential diagnoses](#) for common symptoms and laboratory findings.

Most immigrant and refugee children new to Canada have not had a reliable, accurate or valid health assessment. It is vital to



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[Child Development: Issues and Assessment](#)

[Female genital mutilation/cutting](#)

[First Language Use and Bilingualism](#)

[Health Evaluation of the In-Adoptee](#)

[Hearing Screening](#)

[Immunizations](#)

[Lead Toxicity](#)

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[Health Information by Region](#)

[Symptoms, signs and clinical problems: A tool for differential diagnosis](#)

[Taking a History With Newcomer Children: A 1-Page Guide](#)

## Content

**June 10, 2015:**  
**Checklists for medical assessment for children and youth new to Canada: essential resources**

discuss ways in which these checklists can be used to prevent, identify and address the key health issues affecting immigrant and refugee children and youth. New practical tips on [the screening process](#), such as how to conduct a history, will be highlighted.

**Checklists for medical assessment**

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## Symptoms, signs and clinical problems: A tool for differential diagnosis

Common symptoms and laboratory findings that may be encountered among immigrant and refugee children arriving in Canada are provided below. Select from these options to perform a search for possible differential diagnoses.

[Read Instructions](#)

Find diseases and conditions that contain any of these symptoms:

Abdominal pain

Anemia

Arthralgia / Myalgia

Cough

Diarrhea

Eosinophilia

Fever

Headache / Seizure

Hematuria

Hepatomegaly /  
Splenomegaly

Lymphadenopathy

Retinitis /  
Conjunctivitis

Skin lesions / Rash

Show only results that have *all* my selections.

Search

## Possible Differential Diagnoses

For all of: Fever, Headache / Seizure, Hepatomegaly / Splenomegaly,  
Results: 3

Note: These search results are not all-inclusive lists. They are intended to provide some important possibilities to consider in children new to Canada, in order to expand the differential diagnoses. Remember to consider illnesses common in Canada as well vaccine-preventable illnesses.

### Do not miss

✓	Disease / Condition	Distribution	Clinical Clues	Detailed Information	
<input type="checkbox"/>	HIV/AIDS Human immunodeficiency virus infection / Acquired Immunodeficiency Syndrome	Worldwide (HIV-1), west / central Africa (HIV-2)	<p><b>Signs and Symptoms</b></p> <p>Mononucleosis-like illness in acute HIV infection, followed by progression to AIDS over time, marked by recurrent infections, failure to thrive, chronic diarrhea, lymphadenopathy, hepatosplenomegaly, lymphocytic interstitial pneumonia, opportunistic infections (e.g. PJP, recurrent salmonellosis, CMV retinitis, etc) lymphoid interstitial pneumonitis (LIP).</p>	<p><b>Other</b></p> <p>Transmission: Perinatal; sexual; exposure to infected blood products, organs (transplanted) or needles.</p>	More information on <a href="#">HIV/AIDS</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Malaria	Tropics /Subtropics	<p><b>Signs and Symptoms</b></p> <p>Fever, rigors, sweats, headaches, seizures, pallor, enlarged liver/ spleen, nausea and vomiting, diarrhea, hematuria.</p>	<p><b>Other</b></p> <p>Travel to or previous residence in endemic region; usually presents within 3 months of leaving the endemic area, except for <i>P. vivax</i> and <i>P. ovale</i>, which may present a year later or more. No (or inadequate) chemoprophylaxis. Transmission: Bite of infected <i>Anopheles</i> mosquitoes.</p>	More information about <a href="#">Malaria</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Viral hemorrhagic fever	Africa, Central/South America, Middle-East, South and Southeast Asia	<p><b>Signs and Symptoms</b></p> <p>Fever, fatigue, muscle aches, hypotension, bleeding, seizures, coma.</p>	<p><b>Other</b></p> <p>Organisms: Arenaviruses (e.g. Junin, Machupo, Lassa), Bunyaviruses (e.g. Crimean Congo Hemorrhagic Fever, Hemorrhagic Fever with Renal Syndrome), Filoviruses (e.g. Ebola virus) and Flaviviruses (Dengue, Yellow fever). Transmission: Varies by virus, including close</p>	More information about <a href="#">viral hemorrhagic fever</a> is available from the CDC.





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## Assessment & Screening

### Health Information by Region

[Immigrant health needs by country  
or region of origin](#)[International traveller health needs  
by country](#)

## Related Topics

[Travel-related illness](#)[Medical Assessment of Immigrant  
and Refugee Children](#)

## Health Information by Region or Country: Resource Links

Here are a few key sources of health information by region or country. For immigrants or refugees new to Canada, be sure to consider not only their original country of origin but also any countries they may have passed through before arriving in Canada.

### Immigrant health needs by country or region of origin

#### Evidence-Based Preventative Care Checklist for New Immigrants and Refugees (Canada)

- Online [checklists by region and country of origin](#) for use by primary care practitioners
- Source: Canadian Collaboration for Immigrant and Refugee Health

#### Countries A-Z: health needs relating to country of origin (UK)

- Summary pages of [health information by country of origin](#)
- Source: Public Health England's Migrant Health Guide

#### Global Health Observatory Map Gallery (International)

- [Key health and socioeconomic data for individual countries](#), and [tropical diseases by region](#).
- Source: World Health Organization

#### ProMED-mail (International)

- Information about [outbreaks of infectious diseases and acute exposures to toxins](#) affecting human health.
- Source: International Society for Infectious Diseases (ISID)

Sign up for WHO updates



Health topics

## Tropical diseases



Tropical diseases encompass all diseases that occur solely, or principally, in the tropics. In practice, the term is often taken to refer to infectious diseases that thrive in hot, humid conditions, such as malaria, leishmaniasis, schistosomiasis, onchocerciasis, lymphatic filariasis, Chagas disease, African trypanosomiasis, and dengue.

### General information

- [Fact sheets on neglected tropical diseases](#)
- [Fact sheets on tropical diseases](#)
- [Q&As on tropical diseases](#)
- [Tropical diseases news](#)

### Technical information

- [Control of neglected tropical diseases](#)
- [Tropical Diseases, Special Programme for Research and Training \(TDR\)](#)

### Publications

## Assessment & Screening

### Health Information by Region

Immigrant health needs by country or region of origin

International traveller health needs by country

## Related Topics

Travel-related Illness

Medical Assessment of Immigrant and Refugee Children

- [Key health and socioeconomic data for individual countries, and tropical diseases by region.](#)
- Source: World Health Organization

#### ProMED-mail (International)

- Information about [outbreaks of infectious diseases and acute exposures to toxins](#) affecting human health.
- Source: International Society for Infectious Diseases (ISID)

## International traveller health needs by country

#### Where are you travelling? (Canada)

- [Information for use by travellers](#)
- Source: Public Health Agency of Canada

#### Travelers' Health (US)

- [Health risk information by country](#) for use by clinicians with separate pages adapted for use by travelers
- Source: Centers for Disease Control and Prevention

#### Country Information Pages (UK)

- [Disease risks by country](#) for use by health professionals
- This site also provides information on [recent disease outbreaks by region](#)
- Source: National Travel Health Network and Centre (NaTHNaC)

#### International Travel and Health Interactive Map (International)

- Visual display of [regions at risk for select infectious diseases](#)
- Source: World Health Organization

Read more about [travel-related illness and immigrant and refugee children](#) in Caring for Kids New to Canada.

Last updated: September, 2013

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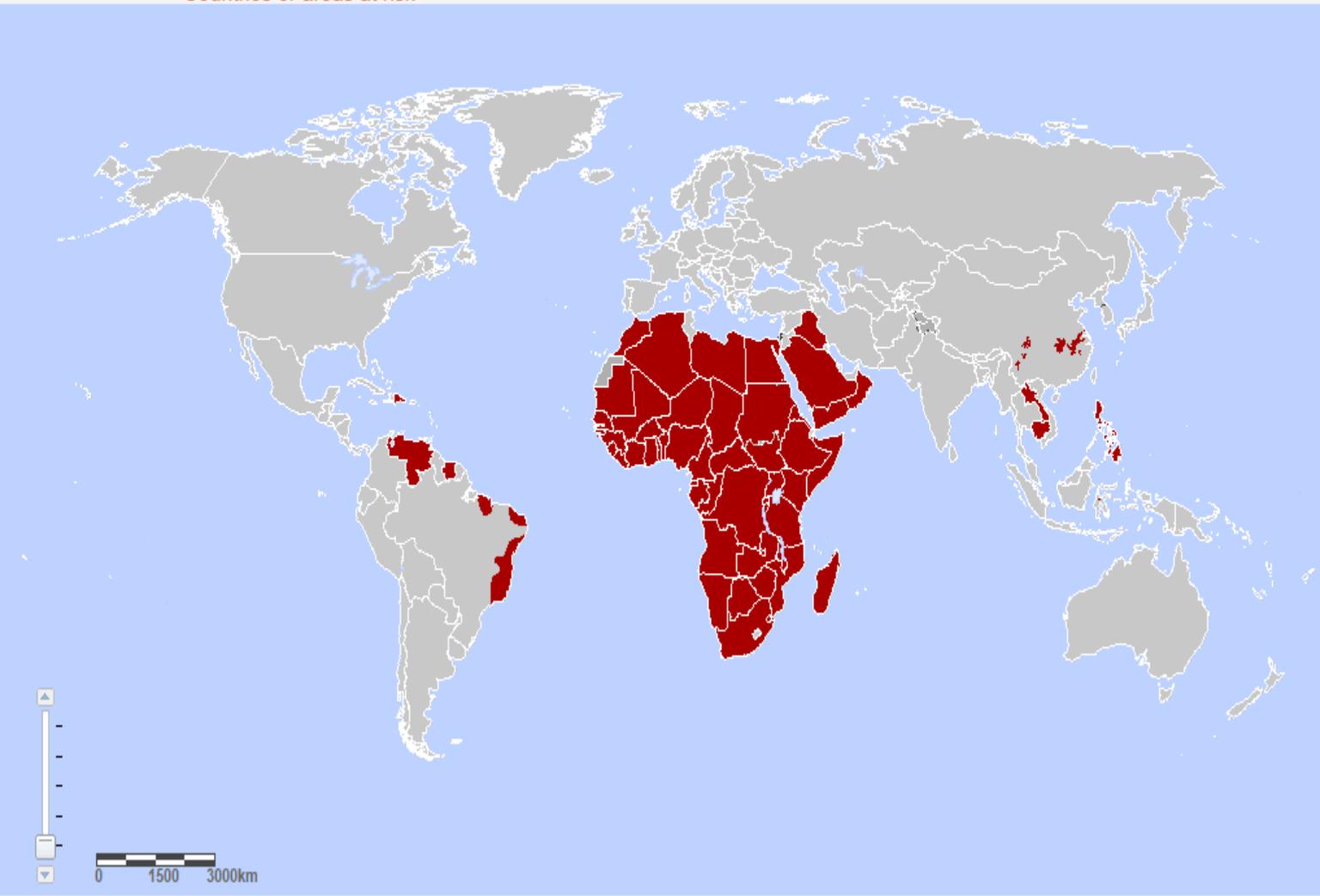


# International Travel and Health Interactive

Countries or areas at risk

Click on a layer to display it on the map

- Areas at risk
- Chikungunya
- Dengue Overview
- Hepatitis A
- Hepatitis B
- Japanese Encephalitis
- Meningitis Belt
- Poliomyelitis
- Rabies
- Schistosomiasis
- Yellow fever



# Why Create a Checklist?

- Synthesize web content
- Screening + health promotion
- Subgroup-specific
- Consistent approach



# How was the checklist created?



[www.clipartof.com](http://www.clipartof.com) · 91918



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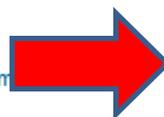
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Oral Health Screening

Vision Screening



## Tools and Resources

Checklists for medical assessment

Health Information by Region

Symptoms, signs and clinical problems: A  
tool for differential diagnosis

Taking a History With Newcomer Children:  
A 1-Page Guide

## Content

### June 10, 2015: Essentials for Children and Youth New to Canada: Checklist of Screening Sources

discuss ways in which  
a can be used to prevent,  
the key health issues affecting  
and youth. New practical  
the screening process, such  
will be highlighted.

### Checklists for medical

Caring for Kids New to Canada helps health professionals  
provide quality care to immigrant and refugee children,  
youth and families. It was developed by the Canadian

If you're new to this site, or to caring for immigrant and  
refugee children, get started with the [essentials for providing  
health care to children and youth new to Canada](#). Or consult  
our [sitemap](#) for an overview of this website.

Designed to be used electronically or in print,  
these [checklists](#) will help care providers cover  
the recommended steps in the initial medical  
assessments

[Assessment & Screening](#)[Medical Conditions](#)[Mental Health & Development](#)[Health Promotion](#)[Culture & Health](#)[Navigating the Health System](#)[Education & Advocacy](#)[Home](#) / [Assessment & Screening](#) / [Checklists for medical assessment](#)[Print](#)

## Medical assessment of immigrant and refugee children

### Checklists for medical assessment

#### Before you start

- These checklists are intended as a guide for family physicians and primary care paediatricians to assist with the initial medical assessment of immigrant and refugee children. They have been developed as a tool to accompany the more detailed information about [medical assessment](#) and [screening](#), including recommendations for anticipatory guidance, developmental and psychosocial assessment, assessing and starting immunizations, and effective communication and trust.
- These checklists are not all-inclusive. Every child is unique and the practitioner must continue to exercise judgement.
- These checklists are not sufficient for international adoptees; refer to the pages on this site about [international adoptees](#).

**Checklists were not designed for use with international adoptees**

#### Sources

The source content for these checklists includes evidence-based guidelines from the [Canadian Collaboration for Immigrant and Refugee Health](#), as well as material on this website. Both the checklists and the source content have been peer reviewed. The CCIHR has also developed [checklists for use with adult immigrant and refugee patients](#).

[Read Instructions](#)[Initial Assessment](#)[Follow-Up Visit 1](#)[Follow-Up Visit 2](#)

# Question for Participants

How confident are you with your current approach to screening of migrant children?

- a. Very much
- b. Somewhat
- c. Neutral
- d. Very little
- e. Not at all

# Case 1

A 12 yr old female government-assisted refugee presents to your office. She was born in the Democratic Republic of Congo but has spent the last year in Uganda. There are no specific complaints.

What is included in your initial screening visit?





# Medical assessment of immigrant and refugee children

## Checklist: Initial Assessment

Remember to print or copy your information before leaving this page. You cannot save information on this page.

Read Instructions

- 1 Address specific parental concerns
- 2 Complete history and physical including:

Complete Screening Assessments for:

<ul style="list-style-type: none"><li><input type="checkbox"/> <a href="#">Vision</a></li><li><input type="checkbox"/> <a href="#">Hearing</a></li><li><input type="checkbox"/> <a href="#">Dental</a></li><li><input type="checkbox"/> <a href="#">Growth</a></li><li><input type="checkbox"/> <a href="#">Nutrition</a></li></ul>	Hx/Px
---	-------

### 3 Initial screening

All children

#### General

- Complete blood count (CBC) with differential

#### Serology

- [Hep A IgG](#)
- [Hep B sAg](#)
- [HepBsAb](#)
- [Syphilis ≥ 15 years](#)
- [VZV IgG ≥ 13yrs](#)

#### Microbiology

- [Stool ova & parasite \(O&P\) 2 samples](#)
- [TB testing \(TST or IGRA\)](#)

Comments

Applicable only to select geographic/genetic groups



Applicable only to select geographic/genetic groups

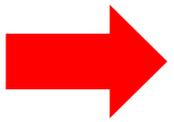
Region	
<b>Africa</b>	<input type="checkbox"/> <a href="#">Hb electrophoresis</a> <input type="checkbox"/> <a href="#">G6PD</a> <input type="checkbox"/> <a href="#">Strongyloides</a> <input type="checkbox"/> <a href="#">Schistosomiasis</a>
• North Africa	<input type="checkbox"/> <a href="#">Hep C</a>
• Sub-Saharan Africa	<input type="checkbox"/> <a href="#">Human Immunodeficiency virus (HIV)*</a>
Asia	<input type="checkbox"/> <a href="#">Hb electrophoresis</a> <input type="checkbox"/> <a href="#">G6PD</a> <input type="checkbox"/> <a href="#">Hep C</a>
• Central Asia	<input type="checkbox"/> <a href="#">HIV*</a> <input type="checkbox"/> <a href="#">Hep C</a>
• South-East Asia	<input type="checkbox"/> <a href="#">Strongyloides</a>
Middle East	<input type="checkbox"/> <a href="#">Hb electrophoresis</a> <input type="checkbox"/> <a href="#">G6PD</a> <input type="checkbox"/> <a href="#">Hep C</a>
Caribbean	<input type="checkbox"/> <a href="#">HIV*</a> <input type="checkbox"/> <a href="#">Hb electrophoresis</a>
Eastern Europe	<input type="checkbox"/> <a href="#">Hep C</a>

\* Test for HIV if from this region and when any one of the following are present:

- ≥15 yr
- infected/deceased parent or sibling
- suspected sexual abuse
- history of blood product transfusion
- not accompanied by birth mother

## 4 Additional testing to consider

- General**
  - Blood urea nitrogen (BUN)
  - Creatinine (Cr)
  - Liver function tests (LFTs)
  - Thyroid-stimulating hormone/ thyroxine (TSH/T4)
  - [Fe/Ferritin](#)
  - [Vitamin D](#)
  - Lead
  - Urinalysis (U/A)
  - [Chest XRay \(CXR\)](#)
- Serology**
  - [HIV serology](#) : clinical manifestations (any region)
  - [Syphilis](#) : If suspicion of sexual assault or congenital infection
- Microbiology**
  - [Malaria smears/Rapid Diagnostic Test \(RDT\)](#) : If febrile, from endemic area (including visits to area) up to 12 months



## 5 Next Steps:

- Referral to [community agencies and social services as needed](#)
- Schedule a follow-up appointment in 2-7 days (2-3 days if TST done).

# Medical assessment of immigrant and refugee children

## Checklist: Follow-Up Visit 1

Remember to print or copy your information before leaving this page. You cannot save information on this page.

Read Instructions

- 1 Address specific parental concerns
- 2 Complete any remaining items from the history and physical at the initial visit, plus:

*All children*

Complete screening assessments for: <input type="checkbox"/> <a href="#">Developmental</a> <input type="checkbox"/> <a href="#">Mental Health</a>	Hx/Px
---	-------

*Adolescents*

Complete screening assessment for: <input type="checkbox"/> <a href="#">Psychosocial</a>	Hx/Px
---	-------



3 Review results, test and/or treat as appropriate

**General**

- [Anemia](#)
  - Microcytic/normocytic: Fe Studies; Hb electrophoresis, lead
  - Megaloblastic: Folate, B12
- [Eosinophilia](#)
  - Additional stool(s) for O+P as needed
  - Consider consulting with paediatric infectious diseases for further testing.
- [Positive TST/IGRA: CXR](#)
- [Review stool tests](#)
- [Review serologies](#)

Eosinophilia

4 Additional screening

*All children*

- [Assess and catch-up immunizations](#)
- [Screening tests not yet completed from Initial Assessment](#)

Comments

Stool O+P: *Schistosoma mansoni*

5 Next Steps:

- [Referral to community agencies and social services as needed](#)
- [Schedule a follow-up appointment for 1 month](#)



A guide for health professionals working with immigrant and refugee children and youth



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- Assessment & Screening
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- Navigating the Health System
- Education & Advocacy



### Infectious Diseases

- Chagas Disease
- Cysticercosis and Taeniasis
- Dengue
- Enteric Fever
- Gastrointestinal parasites - an overview
- Gastrointestinal parasitic infections
- Health Information by Region
- Helicobacter pylori
- HIV/Aids
- Malaria
- Onchocerciasis
- Tuberculosis
- Travel-related Illness

### Malnutrition

- About Malnutrition
- Folic Acid Deficiency
- Iodine Deficiency
- Iron Deficiency
- Vitamin A Deficiency
- Vitamin B12 Deficiency
- Vitamin D Deficiency
- Zinc Deficiency

### Hereditary Anemias

- Hereditary Anemias
- G6PD Deficiency
- Sickle Cell Disease
- Thalassemia

- At the second visit
- Follow-up visits
- Selected resources
- References
- Other works consulted

Most immigrant and refugee children new to Canada have not had a reliable, accurate or valid health assessment. It is vital to diagnose health conditions that could affect a child's growth and development, including infectious diseases, chronic illnesses and psychosocial issues.

### Initial medical assessment

The initial assessment of a young newcomer is no different than that for a Canadian-born child. It includes a detailed and complete history, a full physical exam and appropriate investigations. If symptoms are present, the work-up can be targeted toward specific areas.

Ideally, the first visit should be scheduled as soon as possible after the family arrives in Canada. It occurs more often, however, when a child is sick or has a health problem and after the family has been in Canada for some time.

### Related Topics

Meeting a new immigrant or refugee family for the first time can seem overwhelming, especially if they come from an unfamiliar

development of cholangiocarcinoma.

Source: Centers for Disease Control and Prevention, Public Health Image Library (PHIL), Dr. Mae Melvin: <http://phil.cdc.gov/phil/home.asp>

## Medical Conditions Tapeworms (cestodes)

Gastrointestinal parasitic infections	Information related to beef ( <i>Taenia saginata</i> ) and pork ( <i>Taenia solium</i> ) tapeworm infections is provided elsewhere on this website. See <a href="#">Cysticercosis and Taeniasis</a> .
Key points	See <a href="#">Cysticercosis and Taeniasis</a> .
Roundworms (nematodes)	
Flukes (trematodes)	When humans eat undercooked fish with encysted larvae, they become infected with the adult form of <i>Diphyllobothrium latum</i> , the fish tapeworm. See Table 4 for information on treatment.
Tapeworms (cestodes)	
Protozoa/Coccidia	
Conclusion	
Selected resources	<b>Protozoa/Coccidia</b>
References	Diarrheal disease lasting longer than 14 days after arrival from the tropics is likely to be caused by protozoan parasite infection.

**Related Topics** Giardiasis, presenting with watery diarrhea, steatorrhea and malabsorption, is a common gastrointestinal parasites infection in the paediatric age group.<sup>23</sup> overview

**Cryptosporidiosis and cyclosporiasis** present with watery diarrhea that may be prolonged in patients with HIV/AIDS.<sup>24,25</sup>

**Amebiasis:** An estimated 50 million illnesses and 100,000 deaths due to *Entamoeba histolytica* occur around the world every year, predominantly in Asia, sub-Saharan Africa, and

Figure 6. Giardia cyst and trophozoites

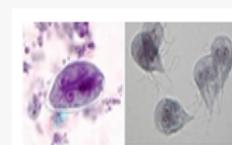


Table 3. Suggested therapy for flukes

Intestinal parasite	Suggested therapy for children and adolescents
Flukes <i>C. sinensis</i> , <i>Fasciolopsis</i> , <i>H. heterophyes</i> , <i>Metagonimus</i> , <i>Nanophyetus</i> , <i>Opisthorchis</i>	<ul style="list-style-type: none"> <li>Praziquantel 75 mg/kg/day PO divided tid x 2 days, OR</li> <li>Albendazole* 10 mg/kg/day PO x 7 days</li> </ul>
Sheep liver fluke <i>F. hepatica</i>	<ul style="list-style-type: none"> <li>Triclabendazole 10 mg/kg PO once*, (may repeat after 24 hours), OR</li> <li>Nitazoxanide*:                             <ul style="list-style-type: none"> <li>1-3 years: 100 mg/dose bid x 7 days</li> <li>4-11 years: 200 mg/dose bid x 7 days</li> <li>≥ 12 years: 500 mg tablet/dose bid x 7 days</li> </ul> </li> </ul>
Lung fluke <i>P. westermani</i>	<ul style="list-style-type: none"> <li>Praziquantel 75 mg/kg/day PO divided tid x 2 days</li> </ul>
Schistosomiasis (Bilharziasis) <i>S. haematobium</i> , <i>S. japonicum</i> , <i>S. mansoni</i> , <i>S. mekongi</i> , <i>S. intercalatum</i>	<ul style="list-style-type: none"> <li>Praziquantel 40 (for <i>S. haematobium</i>, <i>S. mansoni</i>, <i>S. intercalatum</i>) or 60 (for <i>S. japonicum</i>, <i>S. mekongi</i>) mg/kg/day PO divided bid (if 40 mg/day), tid (if 60 mg/day) for 1 day</li> </ul>

\* Not licensed in Canada but available for order through Health Canada's SAP.<sup>8,11,12</sup>

Table 4. Suggested therapy for tapeworms (cestodes)

Intestinal parasite	Suggested therapy for children and adolescents
Tapeworms	<ul style="list-style-type: none"> <li>Praziquantel 5-10 mg/kg PO once, OR</li> </ul>





## Medical assessment of immigrant and refugee children

### Checklist: Follow-Up Visit 2

Remember to print or copy your information before leaving this page. You cannot save information on this page.

Read Instructions

**Fever for past 5 days!**

1 Address specific parental concerns

2 Provide ongoing anticipatory guidance, developmental and mental health assessments as needed.

3 Other follow-up

- Headache
- Fatigue
- NI LOC
- No neck stiffness

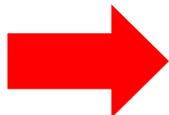
- Treatment or referrals as needed
- Otoacoustic emissions (OAE)
- Referral for dental and eye care
- Immunizations as needed
- Connect family to ongoing primary care provider, if needed
- Referral to community agencies and social services as needed

#### Notes on follow-up visit 2

Remember to print or copy your information before leaving this page. You cannot save information on this page.

***Go to Signs and Symptoms page...***

Do not miss



✓	Disease / Condition	Distribution	Clinical Clues		Detailed Information
<input type="checkbox"/>	HIV/AIDS Human immunodeficiency virus infection / Acquired Immunodeficiency Syndrome	Worldwide (HIV-1), west / central Africa (HIV-2)	<b>Signs and Symptoms</b> Mononucleosis-like illness in acute HIV infection, followed by progression to AIDS over time, marked by recurrent infections, failure to thrive, chronic diarrhea, lymphadenopathy, hepatosplenomegaly, lymphocytic interstitial pneumonia, opportunistic infections (e.g. PJP, recurrent salmonellosis, CMV retinitis, etc) lymphoid interstitial pneumonitis (LIP).	<b>Other</b> Transmission: Perinatal; sexual; exposure to infected blood products, organs (transplanted) or needles.	More information on <a href="#">HIV/AIDS</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Malaria	Tropics /Subtropics	<b>Signs and Symptoms</b> Fever, rigors, sweats, headaches, seizures, pallor, enlarged liver/ spleen, nausea and vomiting, diarrhea, hematuria.	<b>Other</b> Travel to or previous residence in endemic region; usually presents within 3 months of leaving the endemic area, except for <i>P. vivax</i> and <i>P. ovale</i> , which may present a year later or more. No (or inadequate) chemoprophylaxis. Transmission: Bite of infected <i>Anopheles</i> mosquitoes.	More information about <a href="#">Malaria</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Tuberculosis	Worldwide; highest rates in Africa, Southeast Asia, Asia, Pacific Island countries, former Soviet states and Eastern Europe, Greenland, Central and South America	<b>Signs and Symptoms</b> Fever, cough, night sweats, weight loss, failure to thrive. Unilateral enlarged cervical lymph node.	<b>Other</b> Travel to or previous residence in endemic region; contact with known case of TB. Transmission: Inhalation, less commonly by ingestion (e.g. unpasteurized milk). Chest X-ray is often not diagnostic in children although commonly there is significant hilar lymphadenopathy.	More information about <a href="#">tuberculosis</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Viral hemorrhagic fever	Africa, Central/South America, Middle-East, South and Southeast Asia	<b>Signs and Symptoms</b> Fever, fatigue, muscle aches, hypotension, bleeding, seizures, coma.	<b>Other</b> Organisms: Arenaviruses (e.g. Junin, Machupo, Lassa), Bunyaviruses (e.g. Crimean Congo Hemorrhagic Fever, Hemorrhagic Fever with Renal Syndrome), Filoviruses (e.g. Ebola virus) and Flaviviruses (Dengue, Yellow fever). Transmission: Varies by virus, including close contact (infected blood or body fluids), aerosol (animal slaughter, mouse droppings), mosquito bite in some cases, made of	More information about <a href="#">viral hemorrhagic fever</a> is available from the CDC.



## Medical Conditions

### Malaria

Key points

Epidemiology and risk factors

Etiology

Clinical clues

Diagnosis

Treatment

Importance of health education and awareness

Prevention

Selected resources

References

Other works consulted

## Related Topics

Travel-related illness

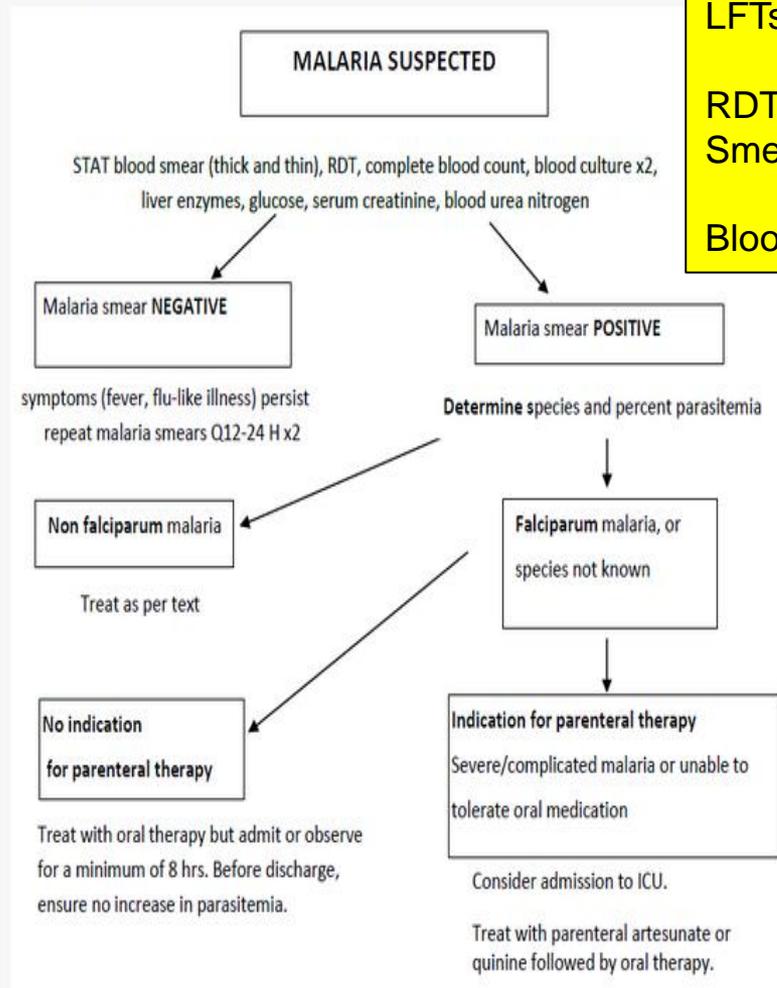
G6PD Deficiency

Enteric Fever (Typhoid Fever and Paratyphoid Fever)

Using Interpreters in Health Care Settings

been cultured from the blood of patients who have also been diagnosed with malaria.

Figure 2: Algorithm for the management of malaria



Plot 45, Hb 121, WBC 6.7  
LFTs, glu, Cr, BUN NI

RDT +ve for *P. Falciparum*  
Smear 1% parasitemia

Blood culture neg

Source: Committee to Advise on Tropical Medicine and Travel (CATMAT). Canadian recommendations for the prevention and treatment of malaria among international travellers. Can Commun Dis Rep. 2013; In press.



Your patient is admitted and receives oral atovaquone-proguanil. She defervesces and smears are negative by day 3.

With your daily visits, the girl starts to open up to you. She tells you that she before she got sick she was having trouble sleeping and experiencing nightmares. Her parents acknowledge being concerned that she had become very withdrawn. They wondered if it was because of the changes moving to Canada.





A guide for health professionals working with immigrant and refugee children and youth



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- Assessment & Screening
- Medical Conditions
- Mental Health & Development**
- Health Promotion
- Culture & Health
- Navigating the Health System
- Education & Advocacy



### Mental Health

- [Attachment disorders](#)
- [Depression](#)
- [Mental Health Promotion](#)
- [Post-Traumatic Stress Disorder](#)
- [Substance Use and Immigrant Youth](#)

### Child Development

- [Child Development: Issues and Assessment](#)
- [Developmental Disability Across Cultures](#)
- [First Language Use and Bilingualism](#)
- [Prenatal Risk Factors for Developmental Delay](#)
- [School and Education](#)

### International Adoption

- [Enhancing Attachment](#)
- [Preparing to Adopt](#)
- [Parent Travel](#)
- [Tools and Resources](#)
- [Health Evaluation of the International Adoptee](#)



## About this Site

Caring for Kids New to Canada helps health professionals provide quality care to immigrant and refugee children, youth and families. It was developed by the Canadian Paediatric Society with experts in newcomer health. Learn more [about Caring for Kids New to Canada](#), the [people behind the site](#), and how it was developed.

## Getting Started

If you're new to this site, or to caring for immigrant and refugee children, get started with the [essentials for providing health care to children and youth new to Canada](#). Or consult our [sitemap](#) for an overview of this website.

## New! Checklists for medical assessment

Designed to be used electronically or in print, these [checklists](#) will help care providers cover the recommended steps in the initial medical assessments

## Symptoms, signs and clinical problems: A tool for differential diagnosis

Select from among a list [common symptoms and lab findings](#) to come up with a list of possible diagnoses to consider.

## For newcomer youth

Health professionals can support positive youth development by connecting immigrant



Read about how you can



Find resources for immigrant and refugee families in your



Navigating the system: A primer on health insurance for



Is your patient adapting well to life in Canada? Here's how to find out

## Mental Health & Development

### Post-Traumatic Stress Disorder

[Key points](#)
[Definition](#)
[Prevalence](#)
[Duration](#)
[Resilience](#)
[Presentation](#)
[Co-morbid psychiatric disorders](#)
[Discussing PTSD with newcomers](#)
[Screening and diagnosis](#)
[Treatment](#)
[Selected resources](#)
[References](#)
[Other works consulted](#)

## Related Topics

[Depression in Children and Youth](#)
[Cultural Competence for Child and Youth Health Professionals](#)
[Adaptation and Acculturation](#)

Underlying pathology	Common symptoms
Re-experiencing	<ul style="list-style-type: none"> <li>Flashbacks (reliving trauma; can include physical symptoms)</li> <li>Nightmares</li> <li>Frightening thoughts</li> </ul>
Avoidance	<ul style="list-style-type: none"> <li>Avoiding reminders of the trauma (e.g., places, events, objects)</li> <li>Feeling emotionally numb</li> <li>Feeling strong guilt, depression or worry</li> <li>Losing interest in activities</li> <li>Trouble remembering the traumatic event</li> </ul>
Hyper arousal	<ul style="list-style-type: none"> <li>Easily startled</li> <li>Feeling tense or "on edge"</li> <li>Difficulty sleeping</li> <li>Angry outbursts</li> </ul>

It is important to recognize that while the underlying pathology of PTSD is not affected by language or culture, symptoms can vary according to age and level of maturity.

Table 2: Symptoms of PTSD based on age

Age group	Symptoms
Young children (1 to 6 years)	<ul style="list-style-type: none"> <li>Intense fear of separation</li> <li>Clinging</li> <li>Regressive symptoms (e.g., bedwetting, loss of speech or motor skills)</li> <li>Fearfulness</li> <li>Confusion</li> <li>Exaggerated startle responses to noise</li> <li>Fussiness</li> <li>Helplessness</li> <li>Passivity</li> <li>Trauma re-enactment</li> </ul>
Primary school-aged children (6 to 11 years)	<ul style="list-style-type: none"> <li>Guilty feelings</li> <li>Repeated traumatic play, story-telling</li> <li>Sleep disturbances, nightmares</li> <li>Angry outbursts</li> <li>Regression to behaviour of a younger child</li> <li>Loss of interest in activities</li> <li>Distractibility</li> <li>Unwillingness to go to school</li> </ul>
Adolescents (12 years and older)	<ul style="list-style-type: none"> <li>Self-consciousness</li> <li>Rebellion at home or school</li> <li>Rapidly shifting relationships</li> <li>Extreme risk-taking that may be life-threatening re-enactments of trauma</li> <li>Decline in school performance</li> <li>Social withdrawal</li> <li>Accident proneness</li> <li>Sleep and eating disturbances</li> </ul>

# Question for Participants

Which of the following are done by Citizenship + Immigration Canada in all children before arrival?

- a. Mantoux
- b. Chest X-ray
- c. Urinalysis
- d. All of the above
- e. None of the above

# Case 2

A 2 yr old boy has been in Canada for a year. He immigrated with his family from the Punjab, India. They have been accessing care through various walk in clinics for minor illnesses but now seek to have a regular FP.



### 3 Initial screening

All children

#### General

- Complete blood count (CBC) with differential

#### Serology

- [Hep A IgG](#)
- [Hep B sAg](#)
- [HepBsAb](#)
- [Syphilis ≥ 15 years](#)
- [VZV IgG ≥ 13yrs](#)

#### Microbiology

- [Stool ova & parasite \(O&P\) 2 samples](#)
- [TB testing \(TST or IGRA\)](#)

Comments

Applicable only to select geographic/genetic groups



Applicable only to select geographic/genetic groups

### Region

Africa  [Hb electrophoresis](#)  [G6PD](#)  [Strongyloides](#)  [Schistosomiasis](#)

• North Africa  [Hep C](#)

• Sub-Saharan Africa  [Human Immunodeficiency virus \(HIV\)\\*](#)

**Asia**  [Hb electrophoresis](#)  [G6PD](#)  [Hep C](#)

• Central Asia  [HIV\\*](#)  [Hep C](#)

• South-East Asia  [Strongyloides](#)

Middle East  [Hb electrophoresis](#)  [G6PD](#)  [Hep C](#)

Caribbean  [HIV\\*](#)  [Hb electrophoresis](#)

Eastern Europe  [Hep C](#)

\* Test for HIV if from this region and when any one of the following are present:

- ≥15 yr
- infected/deceased parent or sibling
- suspected sexual abuse
- history of blood product transfusion
- not accompanied by birth mother

## 4 Additional testing to consider

### General

- Blood urea nitrogen (BUN)
- Creatinine (Cr)
- Liver function tests (LFTs)
- Thyroid-stimulating hormone/ thyroxine (TSH/T4)
- [Fe/Ferritin](#)
- [Vitamin D](#)
- Lead
- Urinalysis (U/A)
- [Chest XRay \(CXR\)](#)

### Serology

- [HIV serology](#) : clinical manifestations (any region)
- [Syphilis](#) : If suspicion of sexual assault or congenital infection

### Microbiology

- [Malaria smears/Rapid Diagnostic Test \(RDT\)](#) : If febrile, from endemic area (including visits to area) up to 12 months

## 5 Next Steps:

- Referral to [community agencies and social services as needed](#)
- Schedule a follow-up appointment in 2-7 days (2-3 days if TST done).



# Medical assessment of immigrant and refugee children

## Checklist: Follow-Up Visit 1

Remember to print or copy your information before leaving this page. You cannot save information on this page.

Read Instructions

# Planning return visit to Punjab for family wedding

- 1 Address specific parental concerns
- 2 Complete any remaining items from the history and physical at the initial visit, plus:

*All children*

Complete screening assessments for:

- [Developmental](#)
- [Mental Health](#)

Hx/Px

*Adolescents*

Complete screening assessment for:

- [Psychosocial](#)

Hx/Px





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**Preventive Care**

- Breastfeeding
- First Language Use and Bilingualism
- Hearing Screening
- Immunizations
- Injury Prevention
- Obesity
- Oral Health Screening
- Travel-related Illness
- Vision Screening

**Adolescent Health**

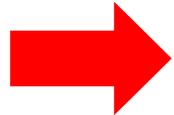
- Substance Use and Immigrant Youth
- Community Resources for Immigrant and Refugee Youth

**International Adoption**

- Enhancing Attachment
- Preparing to Adopt from Overseas
- Helping Parents Prepare for Travel
- Tools and Resources
- Health Evaluation of the International Adoptee

**Tools and Resources**

- Health information for parents
- Checklists for medical assessment
- Community Resources Serving Newcomer Families
- Community Resources for Immigrant and Refugee Youth
- Symptoms, signs and clinical problems: A tool for differential diagnosis
- Taking a History With Newcomer Children: A 1-Page Guide



*All children*

Complete screening assessments for:

- [Developmental](#)
- [Mental Health](#)

Hx/Px

Empty text box for history and physical

*Adolescents*

Complete screening assessment for:

- [Psychosocial](#)

Hx/Px

Empty text box for history and physical

3 Review results, test and/or treat as appropriate



A guide for health professionals working with immigrant and refugee children and youth



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## Medical Conditions

### Travel-related Illness

Key points

Travel-related illnesses in paediatric VFRs

Safe and healthy travel: Preventing illness while abroad

Selected resources

Other works consulted

References

## Related Topics

[Enteric Fever \(Typhoid Fever and Paratyphoid Fever\)](#)

[Malaria](#)

[Tuberculosis](#)

[Barriers and Facilitators to Health Care for Newcomers](#)

## Travel-related Illness

### Key points

- Travel-related illness in children and youth is an important public health issue.
- About half of all international travellers are people who visit friends and relatives abroad (known as "VFRs"). A substantial proportion of these travellers are children and adolescents.
- Paediatric VFRs include not only immigrant children and youth, but also Canadian-born children of immigrants.
- Paediatric VFRs account for a disproportionate number of travel-related hospitalizations. They are also less likely to have had pre-travel medical advice.
- A recent Canadian Paediatric Surveillance Program study confirmed that enteric fever and malaria were the most common travel-related illnesses in children and youth, and that most cases are preventable.<sup>1</sup>
- If you see immigrant families in your practice, ask whether they are planning to travel.
- Parents of paediatric VFRs need to be counselled on the importance of seeking evidence-based pre-travel advice, both for their children and themselves.
- Remember that information on travel risks changes regularly: clinicians should not hesitate to consult and/or refer families to travel medicine specialists.

Many immigrant families travel back to their home countries. This puts them at risk for illnesses they may not be exposed to in Canada.

Here is a snapshot of Canadians travelling abroad:

- About 7.4 million Canadians travel internationally each year.<sup>2</sup>
- About 300,000 of these international travellers are children.<sup>2</sup>
- About 3 million Canadian international travellers visit friends and relatives abroad each year, and approximately 100,000 of them are children. These people are known as "VFRs".<sup>3</sup>
- References to "paediatric VFRs" include not only immigrant children, but also Canadian-born children of immigrants.

## Medical Conditions

### Travel-related Illness

- Key points
- Travel-related illnesses in paediatric VFRs
- Safe and healthy travel: Preventing illness while abroad
- Selected resources
- Other works consulted
- References

## Related Topics

- Enteric Fever (Typhoid Fever and Paratyphoid Fever)
- Malaria
- Tuberculosis
- Barriers and Facilitators to Health Care for Newcomers

## Safe and healthy travel: Preventing illness while abroad

### Immunizations

No one immunization schedule will suit all travellers. Clinicians need to personalize vaccine schedules for individual patients, taking the following factors into account.<sup>6</sup>

- Age
- Immunization history
- Existing medical conditions
- Countries to be visited
- Length and nature of travel (e.g., rural vs. urban)
- Legal requirements for entry into countries
- Amount of time available before departure (ideally, travellers should be seen 6 months before leaving)

A number of organizations provide up-to-date information on health precautions and health risks for specific countries. [A list of links](#) is available in this guide.

Immunizations for travel can be **routine**, **recommended** or **required**.

- **Routine immunizations** for children and youth are funded through provincial/territorial health programs. Contact regional health authorities for up-to-date information.
- **Recommended travel vaccines** must be personalized to the individual traveller, as well as to the nature and duration of travel.
- **Required vaccines** are mandated by international law or needed to obtain a visa.

The Committee to Advise on Tropical Medicine and Travel (CATMAT) has a [statement on paediatric travellers \(2010\)](#)<sup>7</sup> that includes information about pre-travel immunization.

### Pre-travel preparation

Because vaccines may not be completely effective in preventing disease—and are not available for all travel-related diseases—travellers should take other preventive measures to stay healthy.

The PHAC's Committee to Advise on Tropical Medicine and Travel (CATMAT) has a number of [statements and recommendations on travel-related health](#), including preventive measures specific to children and youth.<sup>7,8</sup> These guidelines are summarized below.

When travelling with children, parents should bring [oral rehydration solutions](#) (to prevent dehydration due to diarrhea) and [anti-diarrheal medication](#) (for travellers' diarrhea). For some destinations, [anti-malarial medication](#) is essential. The PHAC provides useful information on what to include in a [travel health kit](#). A parent handout on [dehydration and diarrhea](#) is available from the Canadian Paediatric Society.

### Preventive measures for paediatric travellers<sup>7,8</sup>

[Personal protective measures](#) against insect-borne infections (e.g., malaria, dengue, yellow fever, Japanese encephalitis):



### 3 Review results, test and/or treat as appropriate

**General**

- [Anemia](#)
  - Microcytic/normocytic: Fe Studies; Hb electrophoresis, lead
  - Megaloblastic: Folate, B12
- [Eosinophilia](#)
  - Additional stool(s) for O+P as needed
  - Consider consulting with paediatric infectious diseases for further testing.
- [Positive TST/IGRA: CXR](#)
- [Review stool tests](#)
- [Review serologies](#)

Hb 90 + Low MCV  
Beta-thalassemia trait

Hep A Aby +ve

### 4 Additional screening

*All children*

- Assess and catch-up [immunizations](#)
- Screening tests not yet completed from [Initial Assessment](#)

*Applicable only to select groups*

- [Malaria smears/RDT](#): if febrile, from endemic area (including future visits)

Comments

### 5 Next Steps:

- Referral to [community agencies and social services as needed](#)
- Schedule a follow-up appointment for 1 month

Notes on follow-up visit 1



6 months later, the mother returns with the child. He has been febrile for 5 days along with headache, abdominal pain + initial diarrhea, starting 2 wks after returning home from India. They had decided against going to a travel clinic prior to the trip because of cost.

He has a temp of 40C, looks ill, with tenderness in the RUQ. How do you approach this problem?

*Go to Signs and Symptoms page...*





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## Symptoms, signs and clinical problems: A tool for differential diagnosis

Common symptoms and laboratory findings that may be encountered among immigrant and refugee children arriving in Canada are provided below. Select from these options to perform a search for possible differential diagnoses.

[Read Instructions](#)

Find diseases and conditions that contain any of these symptoms:

<input checked="" type="checkbox"/> Abdominal pain	<input type="checkbox"/> Anemia	<input type="checkbox"/> Arthralgia / Myalgia	<input type="checkbox"/> Cough	<input checked="" type="checkbox"/> Diarrhea	<input type="checkbox"/> Eosinophilia
<input checked="" type="checkbox"/> Fever	<input type="checkbox"/> Headache / Seizure	<input type="checkbox"/> Hematuria	<input type="checkbox"/> Hepatomegaly / Splenomegaly	<input type="checkbox"/> Lymphadenopathy	<input type="checkbox"/> Retinitis / Conjunctivitis
<input type="checkbox"/> Skin lesions / Rash					

Show only results that have *all* my selections.

[Search](#)

**No diseases or conditions found.**

### References

- Cook GC, ed. *Manson's Tropical Diseases*, 23rd edn. New York: W.B. Saunders, 2013.
- Jong EC, Keystone JS, McMullen R, eds. *Travel medicine advisor* (updated yearly). American Health Consultants Inc., P.O. Box 740056, Atlanta, GA 30374.
- Magill AJ, Ryan ET, Hill D, Solomon T, eds. *Hunter's Tropical Medicine and Emerging Infectious Disease*, 9th edn. London, New York: Saunders, Elsevier, 2013.
- Stanfield P, Brueton M, Chan M, et al (eds). *Diseases of Children in the Subtropics and Tropics*, 4th edn. London, U.K., Edward Arnold, 1991.
- Wilson ME. *A World Guide to Infectious Diseases, Distribution, Diagnosis*. London, New York: Oxford University Press, 1991.

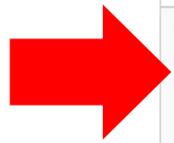
### Possible Differential Diagnoses

For all of: Abdominal pain, Diarrhea, Fever,  
Results: 7

Note: These search results are not all-inclusive lists. They are intended to provide some important possibilities to consider in children new to Canada, the differential diagnoses. Remember to consider illnesses common in Canada as well vaccine-preventable illnesses.

CBC normal  
LFTs 1.5x normal  
Malaria RDT neg  
Blood cultures done  
Stool C+S,O+P done

#### More common diseases to consider



✓	Disease / Condition	Distribution	Clinical Clues	
<input type="checkbox"/>	<i>Entamoeba histolytica</i>	Worldwide, but more common in tropical regions	<b>Signs and Symptoms</b> Mucoid/bloody diarrhea that may progress to dysentery; most common extraintestinal disease is liver abscess.	<b>Other</b> Incubation: Intestinal disease 2-4 weeks to months; liver abscess months to years after exposure.
<input type="checkbox"/>	Enteric Fever	Highest rates in South and Southeast Asia.	<b>Signs and Symptoms</b> Fever, constipation or diarrhea, abdominal pain, enlarged liver/spleen, skin rash (rose spots; first week of illness).	<b>Other</b> Transmission: Ingestion (contaminated food or water); Person-to-person
<input type="checkbox"/>	<i>Giardia lamblia</i>	Worldwide	<b>Signs and Symptoms</b> Acute watery diarrhea may progress to protracted foul smelling diarrhea with abdominal distension, cramps, bloating, flatulence, anorexia.	<b>Other</b> Oral ingestion of cysts in contaminated water
<input type="checkbox"/>	Strongyloidiasis (a roundworm infection)	Tropics / subtropics	<b>Signs and Symptoms</b> Often minimally or a-symptomatic. Vague abdominal pain; occasional diarrhea; transient perianal / truncal serpiginous rash; eosinophilia. During larval lung migratory phase, may have cough. Fever may occur in immunocompromised children.	<b>Other</b> Transmission: Penetration of intact skin by larvae on contact with contaminated soil. Risk of hyperinfection or dissemination in hosts who are immunosuppressed or have HTLV 1/2, with high mortality risk.
<input type="checkbox"/>	Viral gastroenteritis	Worldwide	<b>Signs and Symptoms</b> Watery stools	<b>Other</b> Usually short period unless individual is immunocompromised (e.g., rotavirus, cytomegalovirus).

#### Less common diseases to consider



## Medical Conditions

### Enteric Fever

Key points

Epidemiology

Risk factors

Clinical clues

Severity of infection

Diagnosis

Management

Prevention

Selected resources

References

## Related Topics

Travel-related illness

Tuberculosis

Malaria

Depression in Children and Youth

antimicrobial therapy. The duration of hospitalization will depend on the clinical course and site of infection.

### Antimicrobial therapy

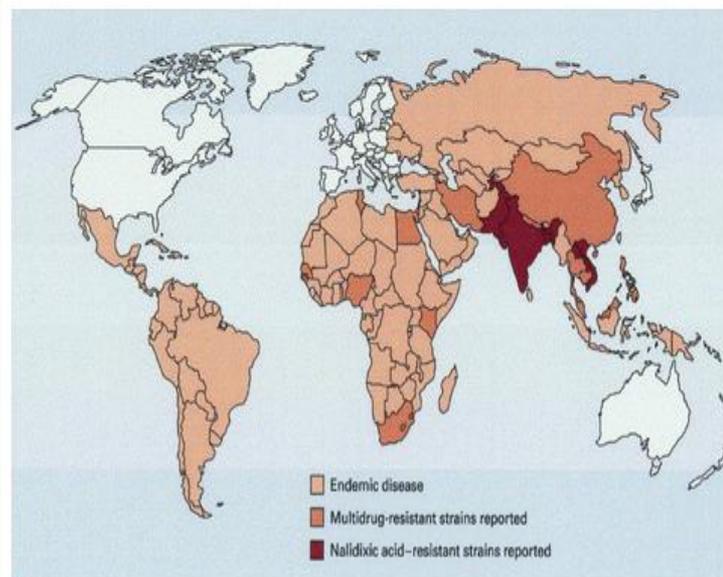
Specific antimicrobial therapy shortens the clinical course of typhoid fever and reduces the risk of death. Strains acquired in developing countries are often resistant to many antibiotics (see map), but are usually still susceptible to ceftriaxone.

Resistance of *S. typhi* to the fluoroquinolones (such as ciprofloxacin) is highest in Asia and increasing in other areas.

Empirical parenteral ceftriaxone antibiotic therapy may be replaced with ampicillin, cotrimoxazole, azithromycin or ciprofloxacin if bacteria are susceptible, but also depends on the site of infection, the host and the clinical response. Advantages of ciprofloxacin are that for susceptible *S. typhi*, there is faster resolution of the fever, fewer relapses and a lower rate of stool carriage. Fluoroquinolones are not approved for use in children younger than 18 years of age. However, a potential indication for ciprofloxacin would be in multi-drug-resistant *Salmonella* species.<sup>2,7,8</sup> In uncomplicated cases where *Salmonella typhi* or *Salmonella paratyphi* is resistant to ciprofloxacin, azithromycin may be the most potent oral antibiotic if the organism is sensitive.

Antibiotic treatment for 10 to 14 days is recommended for enteric fever, although shorter courses (7 to 10 days) have been effective in uncomplicated enteric fever. Meningitis should be treated for at least 4 weeks, osteomyelitis for 4 to 6 weeks.<sup>9</sup>

Figure 2: Global distribution of resistance to *S. enterica* serotype Typhi (1990–2002). Shaded areas show disease endemicity.



# Question for Participants

Have you had a child who was a migrant OR the offspring of migrants who returned from visiting friends and relatives with any of the following?

- Malaria
- Enteric fever (typhoid)
- Dengue

# Case 3

A 10 yr old girl presents to your office. She recently immigrated from Medellin, Colombia. Her family are economic migrants. Her mom is a Hepatitis B carrier, but the child received HBIG and HBVx3 at birth.



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### 3 Initial screening

All children

#### General

- Complete blood count (CBC) with differential

#### Serology

- [Hep A IgG](#)
- [Hep B sAg](#)
- [HepBsAb](#)
- [Syphilis ≥ 15 years](#)
- [VZV IgG ≥ 13yrs](#)

#### Microbiology

- [Stool ova & parasite \(O&P\) 2 samples](#)
- [TB testing \(TST or IGRA\)](#)

Comments

|

Applicable only to select geographic/genetic groups



Applicable only to select geographic/genetic groups

### Region

Africa  [Hb electrophoresis](#)  [G6PD](#)  [Strongyloides](#)  [Schistosomiasis](#)

- North Africa  [Hep C](#)
- Sub-Saharan Africa  [Human Immunodeficiency virus \(HIV\)\\*](#)

Asia  [Hb electrophoresis](#)  [G6PD](#)  [Hep C](#)

- Central Asia  [HIV\\*](#)  [Hep C](#)
- South-East Asia  [Strongyloides](#)

Middle East  [Hb electrophoresis](#)  [G6PD](#)  [Hep C](#)

Caribbean  [HIV\\*](#)  [Hb electrophoresis](#)

Eastern Europe  [Hep C](#)

\* Test for HIV if from this region and when any one of the following are present:

- ≥15 yr
- infected/deceased parent or sibling
- suspected sexual abuse
- history of blood product transfusion
- not accompanied by birth mother



## 4 Additional testing to consider

### General

- Blood urea nitrogen (BUN)
- Creatinine (Cr)
- Liver function tests (LFTs)
- Thyroid-stimulating hormone/ thyroxine (TSH/T4)
- [Fe/Ferritin](#)
- [Vitamin D](#)
- Lead
- Urinalysis (U/A)
- [Chest XRay \(CXR\)](#)

### Serology

- [HIV serology](#) : clinical manifestations (any region)
- [Syphilis](#) : If suspicion of sexual assault or congenital infection

### Microbiology

- [Malaria smears/Rapid Diagnostic Test \(RDT\)](#) : If febrile, from endemic area (including visits to area) up to 12 months

## 5 Next Steps:

- Referral to [community agencies and social services as needed](#)
- Schedule a follow-up appointment in 2 -7 days (2-3 days if TST done).



### 3 Review results, test and/or treat as appropriate

**General**

- Anemia**
  - Microcytic/normocytic: Fe Studies; Hb electrophoresis, lead
  - Megaloblastic: Folate, B12
- Eosinophilia**
  - Additional stool(s) for O+P as needed
  - Consider consulting with paediatric infectious diseases for further testing.
- Positive TST/IGRA: CXR**
- Review stool tests**
- Review serologies**

Plt 100  
ALT 2X NI  
HBsAg +ve  
HBsAb -ve

### 4 Additional screening

*All children*

- Assess and catch-up [immunizations](#)
- Screening tests not yet completed from [Initial Assessment](#)

*Applicable only to select groups*

- [Malaria](#) smears/RDT: if febrile, from endemic area (including future visits)

Comments

### 5 Next Steps:

- Referral to [community agencies and social services as needed](#)
- Schedule a follow-up appointment for 1 month

Prior to the 2<sup>nd</sup> follow-up visit you get a call from the Emergency Department of your local hospital. Your patient has presented with afebrile generalized seizures.



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## Possible Differential Diagnoses

**For all of: Headache / Seizure,**  
**Results: 8**

Note: These search results are not all-inclusive lists. They are intended to provide some important possibilities to consider in children new to Canada, in order to expand the differential diagnoses. Remember to consider illnesses common in Canada as well vaccine-preventable illnesses.

### Do not miss

✓	Disease / Condition	Distribution	Clinical Clues	Detailed Information	
<input type="checkbox"/>	Cysticercosis (Infection of tissues with <i>Taenia solium</i> larval disease)	Worldwide. Cysticercosis is highly endemic in Latin America, sub-Saharan Africa, and South and Southeast Asia.	<p><b>Signs and Symptoms</b></p> <p>Variable and depends on location of cysts and inflammatory response. Neurocysticercosis is the most serious disease, manifesting as headache, seizures, altered mental status. Other manifestations include subcutaneous mobile cysts and eye abnormalities.</p>	<p><b>Other</b></p> <p>Ingestion of eggs of the pork tapeworm (<i>T. solium</i>). Eggs are found only in human feces. A carrier can shed eggs into the environment in stool or transmit them on unwashed hands and fingernails.</p>	More information about <a href="#">cysticercosis and taeniasis</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	HIV/AIDS Human immunodeficiency virus infection / Acquired Immunodeficiency Syndrome	Worldwide (HIV-1), west / central Africa (HIV-2)	<p><b>Signs and Symptoms</b></p> <p>Mononucleosis-like illness in acute HIV infection, followed by progression to AIDS over time, marked by recurrent infections, failure to thrive, chronic diarrhea, lymphadenopathy, hepatosplenomegaly, lymphocytic interstitial pneumonia, opportunistic infections (e.g. PJP, recurrent salmonellosis, CMV retinitis, etc) lymphoid interstitial pneumonitis (LIP).</p>	<p><b>Other</b></p> <p>Transmission: Perinatal; sexual; exposure to infected blood products, organs (transplanted) or needles.</p>	More information on <a href="#">HIV/AIDS</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Malaria	Tropics /Subtropics	<p><b>Signs and Symptoms</b></p> <p>Fever, rigors, sweats, headaches, seizures, pallor, enlarged liver/ spleen, nausea and vomiting, diarrhea, hematuria.</p>	<p><b>Other</b></p> <p>Travel to or previous residence in endemic region; usually presents within 3 months of leaving the endemic area, except for <i>P. vivax</i> and <i>P. ovale</i>, which may present a year later or more. No (or inadequate) chemoprophylaxis.</p> <p>Transmission: Bite of infected <i>Anopheles</i> mosquitoes.</p>	More information about <a href="#">Malaria</a> is available from <a href="#">kidsnewtocanada.ca</a> .
<input type="checkbox"/>	Tuberculosis	Worldwide; highest rates in Africa, Southeast Asia, Asia,	<p><b>Signs and Symptoms</b></p> <p>Fever, cough, night sweats, weight loss, failure</p>	<p><b>Other</b></p> <p>Travel to or previous residence in endemic</p>	More information about <a href="#">tuberculosis</a> is



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### Infectious Diseases

- Chagas Disease
- Cysticercosis and Taeniasis
- Dengue
- Enteric Fever
- Gastrointestinal parasites - an overview
- Gastrointestinal parasitic infections
- Health Information by Region
- Helicobacter pylori
- HIV/Aids
- Malaria
- Onchocerciasis
- Tuberculosis
- Travel-related Illness

### Malnutrition

- About Malnutrition
- Folic Acid Deficiency
- Iodine Deficiency
- Iron Deficiency
- Vitamin A Deficiency
- Vitamin B12 Deficiency
- Vitamin D Deficiency
- Zinc Deficiency

### Hereditary Anemias

- Hereditary Anemias
- G6PD Deficiency
- Sickle Cell Disease
- Thalassemia

## Possible Differential Diagnoses

For all of: Headache / Seizure,  
Results: 8

Note: These search results are not all-inclusive lists. They are intended to provide some important possibilities to consider in children new to Canada, in order to expand the differential diagnoses. Remember to consider illnesses common in Canada as well vaccine-preventable illnesses.

### Do not miss

✓	Disease / Condition	Distribution	Clinical Clues	Detailed Information

## Medical Conditions

### Cysticercosis and Taeniasis

Key points

Taeniasis: Introduction

Taenia: Life cycle

Taeniasis: Diagnosis

Taeniasis: Treatment

Cysticercosis: Life cycle

Cysticercosis: Acquisition

Cysticercosis: Epidemiology

Cysticercosis: Clinical clues

Cysticercosis: Diagnosis

Cysticercosis: Treatment

Cysticercosis: Prognosis

Cysticercosis: Prevention

References

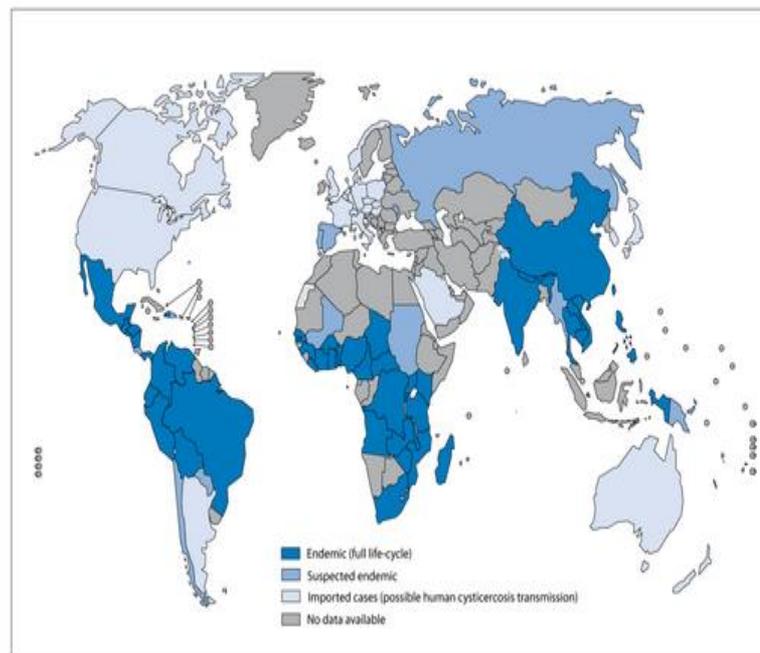
## Related Topics

Travel-related illness

## Cysticercosis: Epidemiology

Between 50 and 100 million people worldwide are thought to be infected with cysticercosis. Cysticercosis is highly endemic in Latin America, sub-Saharan Africa and South and Southeast Asia, as well as parts of Korea, China, Indonesia and Papua New Guinea.<sup>2</sup>

Figure 5. Countries and areas at risk of cysticercosis, 2009



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 2010. All rights reserved.

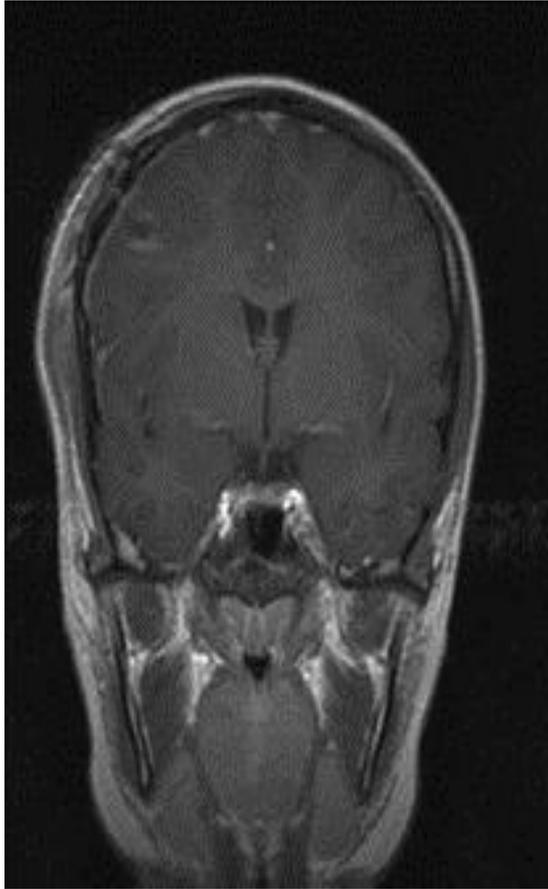
Data Source: World Health Organization  
Map Production: Control of Neglected  
Tropical Diseases (CNTD)  
World Health Organization



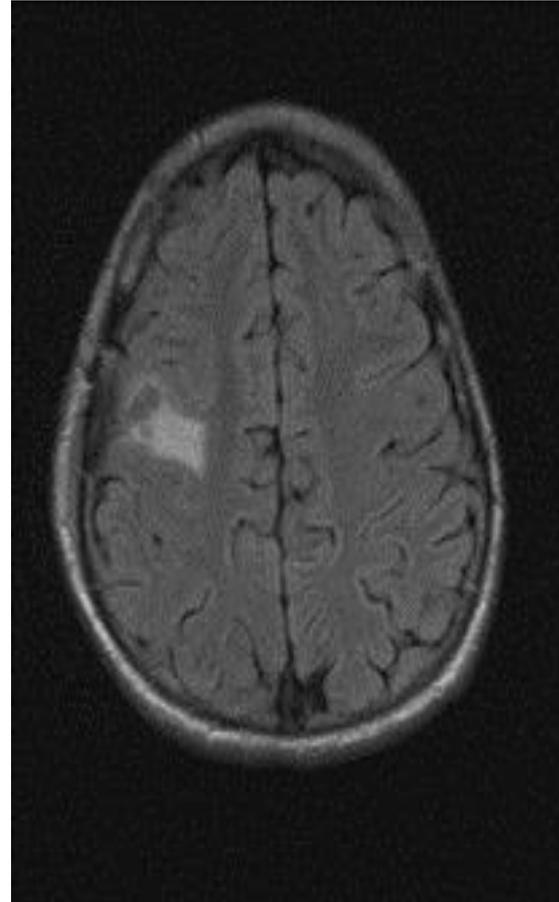
Source: Reproduced, with the permission of the publisher, from [Working to overcome the global impact of neglected tropical diseases: First WHO report on neglected tropical diseases, 2010](#). Geneva, WHO, 2010 ([http://www.who.int/neglected\\_diseases/2010report/en/](http://www.who.int/neglected_diseases/2010report/en/), accessed 04 March 2014).

In the developing world, neurocysticercosis is a common infection of the human central nervous system (CNS) and the most frequent preventable cause of epilepsy. Increasing migration from and travel to disease-endemic regions, means that neurocysticercosis is being seen more often in industrialized countries.

# CT Scan Results



T1 w contrast



Flair

## Medical Conditions

### Cysticercosis and Taeniasis

- Key points
- Taeniasis: Introduction
- Taenia: Life cycle
- Taeniasis: Diagnosis
- Taeniasis: Treatment
- Cysticercosis: Life cycle
- Cysticercosis: Acquisition
- Cysticercosis: Epidemiology
- Cysticercosis: Clinical clues
- Cysticercosis: Diagnosis
- Cysticercosis: Treatment
- Cysticercosis: Prognosis
- Cysticercosis: Prevention
- References

## Related Topics

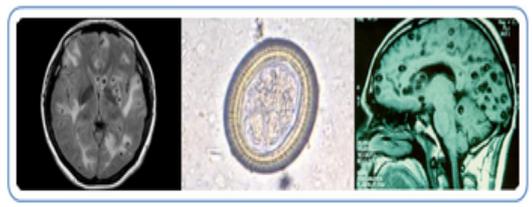
Travel-related illness

## Cysticercosis: Clinical clues

The time between infection and onset of symptoms is variable and people infected with cysticercosis can remain asymptomatic for years.

Clinical manifestations are also variable and depend on the location of the cysticerci and the host's inflammatory response.<sup>2</sup>

Figure 6. Neurocysticercosis lesions in the brain



Sources: (L to R) Westchester Medical Centre; Centers for Disease Control and Prevention, Public Health Image Library (PHIL); Cysticercoses Working Group in Peru: [www.cdc.gov/parasites/cysticercosis/index.html](http://www.cdc.gov/parasites/cysticercosis/index.html)

Most symptoms are caused by inflammation around a degenerating or dying cyst, although calcified (dead) cysts can also serve as a seizure focus and enlarging, viable (live) cysts can cause symptoms due to mass effect. Symptoms and signs are listed in Table 1 and described below.

Table 1. Symptoms and signs of cysticercosis

More common	Less common
<ul style="list-style-type: none"> <li>• Severe headaches</li> <li>• Seizures</li> <li>• Altered mental status</li> <li>• Diffuse cerebral edema</li> <li>• Intracranial hypertension</li> <li>• Cerebral infarction</li> <li>• Cysts</li> </ul>	<ul style="list-style-type: none"> <li>• Obstructive hydrocephalus</li> <li>• Chronic meningitis</li> <li>• Cranial nerve abnormalities</li> <li>• Behavioural disturbances</li> <li>• Gait disturbance</li> <li>• Transverse myelitis</li> <li>• Pseudohypertrophy or weakness</li> <li>• Decreased visual acuity or visual field defects</li> </ul>

The infection location that most often, and seriously, prompts medical consultation is the brain. Some patients, including children, experience severe headache (resembling a tension headache or migraine) as their only symptom.<sup>2</sup>

Epilepsy is present in 70% to 90% of symptomatic patients. Onset typically occurs from 5 to 40 years of age, but seizures have been noted in infants. Seizures are usually focal with secondary generalization, although they can also be focal or generalized.<sup>2</sup>

**Neurocysticercosis** can present with signs or symptoms of raised intracranial pressure and altered mental status. Diffuse cerebral edema caused by multiple inflamed cysticerci is known as cysticercal encephalitis.<sup>2</sup> Intracranial hypertension, the

## Medical Conditions

### Cysticercosis and Taeniasis

#### Key points

Taeniasis: Introduction

Taenia: Life cycle

Taeniasis: Diagnosis

Taeniasis: Treatment

Cysticercosis: Life cycle

Cysticercosis: Acquisition

Cysticercosis: Epidemiology

Cysticercosis: Clinical clues

Cysticercosis: Diagnosis

Cysticercosis: Treatment

Cysticercosis: Prognosis

Cysticercosis: Prevention

References

## Related Topics

Travel-related illness

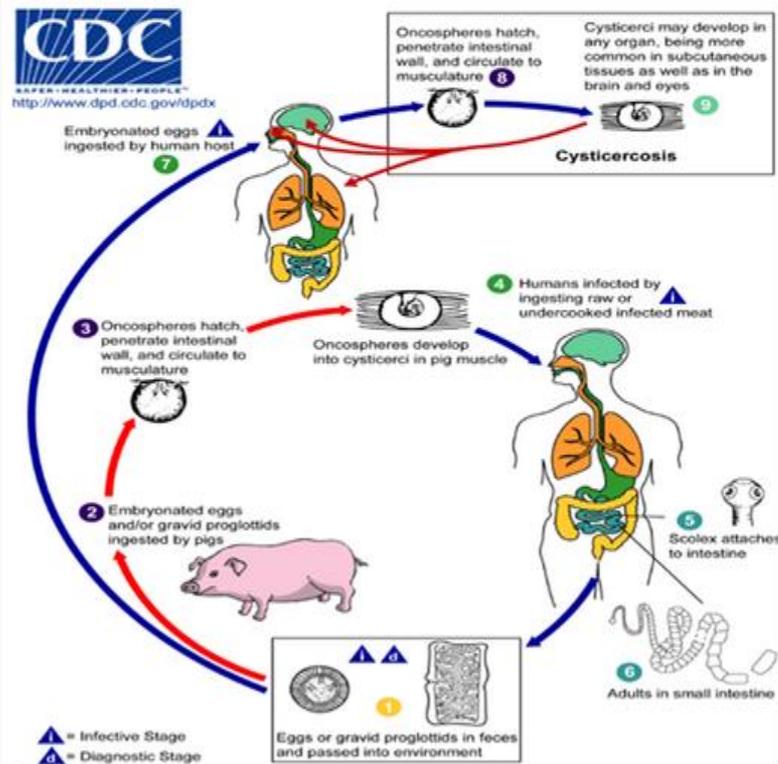
Treatment with oral praziquantel or niclosamide is highly effective for eradicating infection with the adult tapeworm.

Praziquantel (5 mg/kg to 10 mg/kg, one dose) should be taken with liquids during a meal. Consultation with a paediatric infectious disease specialist is advisable because neither agent is licensed or commercially available in Canada. An application to Health Canada's Special Access Programme (SAP) is required.

## Cysticercosis: Life cycle

*T. solium taeniasis* (from pork) is of greater public health concern than *T. saginata* because, left untreated, it can cause cysticercosis, a serious parasitic disease.<sup>1</sup>

Figure 4: Life cycle of cysticercosis



# Conclusions

- Extensive information on CKNC
- Several tools to utilize + synthesize
- E-Checklist: guide to individual child



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# As a result of participating, how you will use this information in your work?

- Visit the Caring for Kids New to Canada website (www.kidsnewtocanada.ca)
- Share information from the presentation with my colleagues
- Recommend that colleagues visit the website
- Use it to support an existing initiative
- Use it to start a new initiative

<https://www.surveymonkey.com/s/CKNC-June10>

# Questions?



**[www.kidsnewtocanada.ca](http://www.kidsnewtocanada.ca)**

Tell us what you thought about this webinar:

<https://www.surveymonkey.com/s/CKNC-June10>