

# Cholera and Enterotoxigenic *Escherichia coli* Travellers' Diarrhea Vaccine

Travel vaccines may be recommended or required for your trip. Vaccines help to prevent illnesses from bacteria and viruses. They reduce disease spread and can prevent complications and deaths from vaccine-preventable diseases.

## What are Cholera and enterotoxigenic *Escherichia coli* (ETEC) travellers' diarrhea?

Cholera and ETEC travellers' diarrhea (TD) are gastrointestinal bacterial infections. TD is the most common travel-related illness.

### Cholera:

Cholera is a serious bacterial infection caused by *Vibrio cholerae*. Cholera in travellers is very rare but can occur in some situations and can sometimes be life-threatening.

### Travellers' diarrhea:

TD is an infection that commonly causes frequent, loose, watery bowel movements. Enterotoxigenic *Escherichia coli* is one of the most common causes of TD.

## How are Cholera and ETEC travellers' diarrhea spread? Am I at risk?

Your risk for cholera and ETEC travellers' diarrhea depends on where you are travelling and what you are doing.

You are at risk of getting cholera or ETEC diarrhea if you eat or drink contaminated food/beverages. An infected person (who may not have symptoms) with poor hygiene (e.g., does not wash hands after using the bathroom) passes the infection to another person when handling food and water. Cholera can be spread by eating raw or undercooked food (especially fish and shellfish), or via untreated drinking water.

Cholera outbreaks are most frequently seen in tropical and sub-tropical regions, particularly in parts of Asia, Africa, and to a lesser degree, Central and South America.

High-risk areas for TD include developing countries in Latin America, Africa, Asia, and the Middle East.

## What are the symptoms of Cholera and ETEC travellers' diarrhea?

### Cholera:

It can take 2 hours to 5 days after a person ingests the cholera bacteria for symptoms to appear. Cholera infection is often mild or without symptoms. However, some people will experience severe, life-threatening symptoms such as: profuse watery diarrhea, vomiting, thirst, leg cramps, restlessness, or irritability.

### Travellers' diarrhea:

ETEC-associated TD develops suddenly and causes frequent, loose, and/or watery bowel movements. Episodes are most often mild and resolve in 3-7 days. Some episodes can be moderate (cramps, nausea) or severe (cramps, nausea, chills, severe thirst, inability to keep liquids down, blood in stool).

## How can Cholera and ETEC travellers' diarrhea infections be prevented?

**Choose food and drinks carefully.** Boil it, cook it, peel it, or leave it.

**Wash your hands**, especially after using the bathroom and before preparing and eating meals. Use hand sanitizer with at least 60% alcohol if handwashing is not possible.

**Get vaccinated** with Cholera/LT-ETEC vaccine if recommended by your health care provider. The vaccine helps you build your own protection against cholera and ETEC travellers' diarrhea. It is non-live and cannot cause cholera or TD.

- **The vaccine does not replace preventive hygiene measures and safe food and water precautions.** Take rehydration measures if diarrhea occurs (e.g., [oral rehydration solutions](#)).

Preventive medications (or medications to treat TD) are sometimes considered for travellers with pre-existing health conditions. Ask your health care provider for details.

## Can I get this vaccine for free?

The Cholera/LT-ETEC vaccine is sometimes recommended for travellers, but it is not available for free in Saskatchewan.

Talk to your health care provider about purchasing a Cholera/LT-ETEC vaccine.

Some private insurance may cover some or all of the cost of the vaccine. **The Saskatchewan Ministry of Health does not reimburse any costs associated with privately purchased vaccines.**

## Who should *not* get the Cholera/LT-ETEC vaccine?

- People who have had a serious or life-threatening reaction to a previous dose of Cholera/ETEC vaccine, or any ingredient in the vaccine
- Pregnant individuals (unless the risk of severe disease is high)
- Children < 2 years old

- People with gastrointestinal illness (symptoms may include nausea, vomiting, diarrhea, abdominal pain, fever) should postpone immunization.
- People who are seriously ill, with or without a fever, should postpone immunization.

## What are common reactions to the Cholera/LT-ETEC vaccine?

Side effects are usually mild and may include: nausea, diarrhea, abdominal pain, vomiting, and fever.

You can treat a fever (at least 6 to 8 hours after immunization) if you are uncomfortable and not sleeping.



### TREATING FEVERS AND PAIN:

**All ages:** acetaminophen (e.g., Tylenol®, Tempra®)

**6 months & older:** ibuprofen (e.g., Advil®, Motrin®)

**DO NOT** give acetylsalicylic acid (ASA) to anyone younger than 18 years due to the risk of Reye's syndrome.

## Who should I report reactions to?

Report any unexpected or adverse reactions to your doctor, nurse practitioner, pharmacist, or call 811 or 911 as soon as possible.

## What does the Cholera/LT-ETEC vaccine contain?

### DUKORAL®

Vial components (vaccine):

Four inactivated strains of *V. cholerae* bacteria and recombinant cholera toxin B subunit (rCTB).

Non-medicinal ingredients: disodium hydrogen phosphate, sodium chloride, sodium dihydrogen phosphate, water for injection.

Sachet components (effervescent powder):

Sodium hydrogen carbonate, citric acid, sodium carbonate, saccharin sodium, sodium citrate, raspberry flavour.

One dose of DUKORAL® contains approximately 1200 mg sodium.

## Important to Know

### DUKORAL®

#### Storage:

Store in the refrigerator before use. DO NOT FREEZE.

#### Preparation:

There are several steps to prepare the vaccine before taking. Carefully follow the instructions provided. After mixing, take the vaccine by mouth right away.

#### How to take:

- Do not eat or drink any other liquids, including water, for 1 hour before and after taking the vaccine mixture.
- Separate from other vaccines and medications by at least 1 hour.
- Separate dose from the oral typhoid vaccine (Vivotif®) by at least 8 hours.

## Primary schedule:

### Cholera prevention:

- **Adults and children 6 years and older:** TWO doses orally at least one week apart, but not more than 6 weeks apart.
- **Children 2 to 6 years:** THREE doses orally at least one week apart but not more than 6 weeks apart.

### LT-producing ETEC diarrhea prevention:

- **Adults and children 2 years and older:** TWO doses orally at least one week apart, but not more than 6 weeks apart.

## When to take:

- Take final dose at least one week before departure.

## Booster doses:

- Booster doses may be recommended for individuals who have taken DUKORAL® before and are travelling again. Talk to your health care provider for details.

## Immunization Records

Immunization records are stored in many different places in Saskatchewan. Your pharmacy vaccination may not appear on [MySaskHealthRecord](#) or other registries. Visit [medSask.usask.ca](http://medSask.usask.ca) for tips for locating your immunization records.

Keep **printed immunization records** provided by the pharmacy in a safe place for future reference and bring them to each vaccination visit.

## Mature Minor Consent

Minors that are mature and capable of understanding the benefits and risks of vaccination can provide their own consent to receiving a vaccine. Vaccine providers must ensure that vaccine recipients understand the benefits and risks for each vaccine and the risks of not getting vaccinated.

## REFERENCES:

Product monograph for [DUKORAL®](#)

Canadian Immunization Guide (CIg):

[Cholera and enterotoxigenic Escherichia coli \(ETEC\) travellers' diarrhea vaccine](#)

Government of Canada [Risks of cholera](#)

CDC Yellow Book [Travelers' Diarrhea, Cholera](#)

CDC Travelers' Health [Cholera](#)

CDC [Cholera](#)

HealthLinkBC [Travellers' diarrhea and cholera vaccine](#)

MyHealthAlberta [Travellers' Diarrhea](#)

IAMAT [How to prevent travellers' diarrhea](#)

TDN [Travellers' Diarrhea](#)

CIg: [Anaphylaxis and other acute reactions following vaccination](#)

CIg: [Immunization in pregnancy and breastfeeding](#)

SCPP Disclosure of the [Personal Health Information of Minors to Parents/Legal Custodians](#)