

Unpasteurized fruit/vegetable juices and ciders: A potential health risk

What is the difference between pasteurized and unpasteurized juice?

Pasteurized juices have been heat treated to destroy pathogens (germs) and microbes that can make us sick. This also allows the juice to keep longer as it destroys many of the microbes that can cause spoilage.

Raw freshly pressed or squeezed juices are not heat treated and are described here as unpasteurized. These products have a short shelf life of a few days. They must be kept refrigerated and consumed by the best before date.

What is the risk?

In Canada and the US, there were 29 recorded juice and cider outbreaks. These outbreaks caused foodborne illness in 1,700 people and 2 deaths over a 20 year period (1990-2010). Most of these outbreaks involved unpasteurized juices and ciders such as apple cider, orange juice and lemonades. Other fresh fruit juices such as pineapple, carrot, coconut, cane sugar, banana, acai and mixed fruit juices have also made people ill.

The most common pathogens in unpasteurized juice are *E. coli* O157 and O111, *Salmonella*, *Cryptosporidium* and norovirus. A few others include *Vibrio cholerae*, *Clostridium botulinum*, yeast and hepatitis A.

How serious is this problem?

This problem is very serious since these pathogens can cause more than just short-term diarrhea:

- *E. coli* O157:H7 can cause permanent kidney damage or, in some cases, death

- Hepatitis can cause liver damage
- Botulism impairs nerve signals and, in severe cases, causes death
- *Cryptosporidium* causes long term diarrhea

Who is at greatest risk?

People at higher risk of getting sick are:

- Infants
- Young children (5 years of age and under)
- Older adults
- Pregnant women
- People with weakened immune systems (such as those with HIV or those being treated for cancer)

These vulnerable groups should not drink unpasteurized juice.

Schools, child and adult day cares, hospitals and other facilities serving vulnerable groups should not sell or serve unpasteurized juice. Children on field trips to farms or farm markets should not be offered unpasteurized juice.

Where do pathogens like *E. coli* O157:H7 come from?

These pathogens are commonly found in cattle feces. Most *E. coli* O157:H7 outbreaks are linked to food or water that has been contaminated with cattle and animal feces. Fruit and vegetables can become contaminated during growing, harvesting, storage or processing.

How do I know if a juice is pasteurized?

Most juices sold in stores are pasteurized and will have the word "pasteurized" on the product label.

Freshly pressed or squeezed juices sold at juice bars or at roadside stands and farmers' markets are likely unpasteurized. The labelling of unpasteurized juice is voluntary. Check if the word "unpasteurized" is on the product label. If in doubt, ask the seller before deciding to buy and drink the juice.

Does pasteurization reduce the nutrients in juice?

Most commercially pasteurized juices are heated to about 85°C (185°F) for about 16 seconds to destroy the pathogens that may be present. These products are just as nutritious as if they were not heated. They taste good and last much longer than untreated juice.

Will refrigeration make the juice safe?

No. Refrigeration does not destroy pathogens, it only slows their growth. Unpasteurized juices have a short shelf life of only a few days. Refrigerate unpasteurized juices and consume them promptly.

How do I reduce the risk of illness?

- The best way to kill pathogens like *E. coli* O157:H7 and other bacteria is through pasteurization
- Boil or pasteurize raw juice and cider before consuming. To pasteurize juice at home, heat to 70°C for at least 1 minute
- Avoid serving unpasteurized juice and cider products to those most at risk (young children 5 years of age or under, pregnant women, the elderly and people with weakened immune systems)
- Ensure freshness and quality by refrigerating juice and cider products. Do not use them after the best before date

If you think drinking unpasteurized juice or cider may have made you ill, see a health care provider immediately and notify your local health authority. You can also call **8-1-1** to speak to a registered nurse or registered dietitian.

For more information

For more information about food safety, see the following:

- [HealthLinkBC File #03 Pasteurized and raw milk](#)
- [HealthLinkBC File #22 Home canning – How to avoid botulism](#)
- [HealthLinkBC File #59a Food safety: Easy ways to make food safer](#)