

Cyclosporiasis Outbreak: Stay Safe, Enjoy Summer Produce

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Summer brings an abundance of fresh produce, but it also ushers in the annual concern of foodborne illnesses, particularly cyclosporiasis. This parasitic infection, caused by *Cyclospora cayetanensis*, frequently surfaces during warmer months, often linked to contaminated fruits and vegetables. Understanding the pathogen and implementing simple preventive measures can mitigate risk.

KEY TAKEAWAYS

- **The Pivot:** Cyclosporiasis outbreaks are a predictable summer event, demanding heightened vigilance in produce handling.
- **The Data:** The incubation period for *Cyclospora* infection typically ranges from 2 to 14 days, with symptoms lasting weeks if untreated.
- **The Action:** Clinicians should advise patients on thorough washing of all produce, regardless of source, and consider trimethoprim-sulfamethoxazole for suspected cases.

Cyclosporiasis is an intestinal illness caused by the microscopic parasite *Cyclospora cayetanensis*. Humans acquire the infection by consuming food or water contaminated with oocysts. These oocysts are not immediately infectious when shed in faeces; they require an external maturation period, typically days to weeks, in warm, moist conditions. This characteristic makes fresh produce, often grown in environments susceptible to faecal contamination and then consumed raw, a common vehicle for transmission.

The parasite infects the small intestine, leading to symptoms that can range from mild to severe. Patients typically present with watery diarrhoea, often explosive, accompanied by abdominal cramps, nausea, vomiting, loss of appetite, weight loss, and fatigue. Fever is uncommon. The incubation period usually spans 2 to 14 days, but symptoms can persist for weeks or even months if untreated, sometimes relapsing. This prolonged and relapsing course distinguishes it from many other acute gastroenteritis pathogens, posing a diagnostic challenge for clinicians if not specifically considered.

Preventing and Treating Cyclosporiasis

Diagnosis of cyclosporiasis relies on identifying *Cyclospora* oocysts in stool samples. Multiple stool samples may be necessary due to intermittent shedding. Specific laboratory techniques, such as modified acid-fast staining or molecular methods like PCR, are often required to detect the oocysts, which can be difficult to spot with routine microscopy. Once diagnosed, the treatment of choice is trimethoprim-sulfamethoxazole (TMP-SMX). For adults, the recommended dosage is 160 mg/800 mg TMP-SMX orally twice daily for 7 to 10 days. Paediatric dosing is 5 mg/kg TMP and 25 mg/kg SMX orally twice daily for 7 to 10 days. Patients with sulfa allergies pose a therapeutic dilemma, as alternative treatments are

less effective. Ciprofloxacin has shown some activity, but it is not considered first-line.

The primary strategy for preventing cyclosporiasis involves meticulous food and water hygiene. This is particularly relevant for produce that is consumed raw, such as berries, leafy greens, and herbs. The oocysts are resistant to routine chlorination, a common method for disinfecting drinking water, which underscores the difficulty in eradicating them from contaminated sources. Freezing or heating to sufficient temperatures can kill the parasite, but these methods are not always practical for fresh produce. Therefore, the focus shifts to preventing contamination at the source and thorough washing by the consumer.

Consumers should wash all fruits and vegetables thoroughly under running water, even if they plan to peel them.

Scrubbing firm produce with a clean vegetable brush can help dislodge oocysts. Leafy greens should be separated and rinsed individually. While washing reduces the risk, it does not eliminate it entirely, as *Cyclospora* oocysts can adhere tenaciously to produce surfaces. This limitation means that vigilance in sourcing and handling produce from known outbreak areas is also critical. Public health advisories often identify specific types of produce or geographic regions linked to outbreaks, and clinicians should be aware of these alerts to counsel patients effectively.

The challenge in preventing cyclosporiasis outbreaks lies in the global food supply chain. Produce often travels long distances, passing through multiple hands and environments before reaching the consumer. Contamination can occur at any point: during cultivation through contaminated irrigation water or fertiliser, during harvesting by infected workers, or during processing and packaging. The lack of a readily available and effective disinfectant for fresh produce that kills *Cyclospora* oocysts without compromising food safety or quality means that prevention relies heavily on good agricultural practices and consumer awareness. The open-label nature of consumer behaviour is the obvious caveat to any public health campaign. People often believe a quick rinse is sufficient, or that pre-washed produce is entirely safe. Still, clinicians play a vital role in educating patients, especially those who are immunocompromised or travelling to endemic areas. Advising patients to avoid unwashed produce, particularly during peak summer months, and to be cautious with water sources in regions with poor sanitation, can reduce individual risk. The long duration of symptoms and potential for relapse mean that a high index of suspicion is warranted for patients presenting with prolonged watery diarrhoea, especially if they report recent consumption of fresh produce or travel history. Early diagnosis and treatment not only alleviate patient suffering but also prevent further spread within communities.

CLINICAL IMPLICATIONS

The annual recurrence of cyclosporiasis outbreaks linked to fresh produce is a predictable nuisance for public health and a genuine concern for patients. Clinicians should anticipate these cases during summer, particularly when patients present with prolonged, watery diarrhoea that does not respond to typical empiric treatments for bacterial gastroenteritis. A specific stool test for *Cyclospora* is not always part of a routine panel, but it should be requested when the clinical picture fits.

The reliance on trimethoprim-sulfamethoxazole as the sole effective treatment highlights a vulnerability. For patients with sulfa allergies, therapeutic options are limited and less efficacious, leaving them with prolonged illness. This gap in the pharmacopeia warrants further research into alternative anti-parasitic agents that target *Cyclospora* specifically.

For the food industry, these outbreaks underscore the persistent challenges in ensuring produce safety across

complex supply chains. Despite efforts, contamination pathways remain. Consumers, in turn, must internalise that 'pre-washed' does not mean 'parasite-free,' and that thorough washing at home is a non-negotiable step, even if it offers imperfect protection.

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