



Helicobacter pylori

General Information

Helicobacter pylori is a Gram-negative, microaerophilic, motile bacterium that causes gastritis and peptic ulcers. It has been identified as a Class I human carcinogen by the World Health Organization (WHO).

Host Range

Humans and animals

Incubation Period

Unknown; symptoms have been observed 3-4 days after ingestion.

Survival Outside Host

H. pylori is highly adapted to gastric mucosa and does not survive well outside its host.

Laboratory Hazards

Ingestion. Transmission is thought to be by the fecal-oral or oral-oral route.

Symptoms of Exposure

Abdominal pain, nausea, loss of appetite, excessive burping, vomiting, diarrhea, fatigue

Lab Acquired Infections (LAIs)

None reported.

Personal Protective Equipment



Disinfection & Inactivation

10% bleach, 70% ethanol >3min

Waste Management

Refer to [USC's Biological and Infectious Waste Management Plan](#).

Lab Containment

Biosafety Level 2 (BSL-2) for activities with materials and cultures known or reasonably expected to contain *H. pylori*.

Processes for containment of potential aerosols or droplets should be incorporated into procedures such as blending, homogenization, or vortexing gastric specimens.

Animal Containment

Animal Biosafety Level 2 (ABSL-2) for activities with experimentally infected animals.

Medical Surveillance/Treatment

Surveillance: presence confirmed by culture, blood antigen detection, or urease detection

Prophylaxis: proton pump inhibitor or antibiotics if early symptoms are experienced

Vaccines: none

Treatment: antibiotics in combination with proton pump inhibitor or bismuth compound

Spill Procedures

See [USC Biological Spill Procedures](#)

Exposure Procedures

See [USC Protocol for Post Exposure Evaluation and Follow-up](#). Use of sharps should be strictly limited. A biosafety cabinet should be used when there is a potential to create aerosols or droplets.

References

Biosafety In Microbiological and Biomedical Laboratories (BMBL) 6th Ed., Centers for Disease Control and Prevention, National Institutes of Health

Public Health Agency of Canada. *Helicobacter pylori*. <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/helicobacter-pylori.html>

Rutala, W.A., Weber, D.J., and the HICPAC (2017) Guideline for Disinfection and Sterilization in Healthcare Facilities (2008)