

# Helicobacter pylori infection linked to decreased iron levels in otherwise healthy children

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Children without previous iron deficiencies or anemia who remained infected with *Helicobacter pylori* (*H. pylori*) had significantly lower levels of iron compared to children who had the infection eradicated, according to researchers at The University of Texas Health Science Center at Houston (UTHealth).

"Half of the world's population is infected with *H. pylori* and most of the individuals are asymptotically infected, according to several surveys," said Victor Cardenas, M.D., Ph.D., lead investigator of the study and associate professor of epidemiology at The University of Texas School of Public Health El Paso Regional Campus, part of UTHealth. "What we learned in this study is not only does *H. pylori* cause iron deficiency anemia and iron-deficiency, but that even among children who do not have these conditions, their levels of iron are lower than otherwise healthy children." The research is published in the March issue of the *Journal of Pediatric Gastroenterology and Nutrition*.

Researchers investigated the link between *H. pylori* infection and iron levels in non-iron-deficient preschool and school age children in El Paso and found the infection causes a decrease in the levels of iron in children who do not have anemia or an iron deficiency. The bacterium *H. pylori* infects the lining of the stomach resulting in chronic swelling of tissue, a condition known as gastritis. *H. pylori* is also a major cause of peptic ulcer disease and the cause of most cancers of the stomach, according to

the World Health Organization.

"Iron is an essential nutrient which supports several body functions and exists in small amounts in the body, but it is also required by bacteria such as *H. pylori*," said Cardenas. "The infection decreases the body's natural progression of making iron." According to Cardenas, this is the first study conducted in the contiguous U.S. to examine the role of the infection on the levels of iron levels in asymptomatic children.

Over time markers of iron stored in the body increased in children no longer infected. However, children who remained infected lagged in levels of one marker, serum ferritin, at their six month follow-up. The protein serum ferritin measures the amount of iron stored in your body, according to the National Institute of Health.

"Previous research has shown that iron levels correlate with several body functions including brain activity and have well documented long-term health consequences such as increased morbidity and mortality and loss of productivity," said Cardenas. "There is a need to research the long-term consequences of asymptomatic *H. pylori* infections in those without an [iron deficiency](#) because the effect we found could be present among those with normal [iron levels](#)."

Cardenas and his team used a previously tested therapy, which consisted of one antacid plus one antibiotic for five days, followed by the antacid plus two antibiotics for another five days. While previous studies resulted in high rates of success in eradicating *H. pylori*, only half of the [children](#) given the active medications in Cardenas' study had their infection eradicated, a disappointing result, he said.

Cardenas questions whether asymptomatic *H. pylori* infections have any significant health consequences. "We want to further investigate if there is a relation between variations of the bacteria strains and iron in adults,"

said Cardenas.

Provided by University of Texas Health Science Center at Houston

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