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Gastric Cancer (PDQ®): Prevention Health Professional Version

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Summary of Evidence

[Dietary Factors and *Helicobacter pylori* Infection](#)
[Chemoprevention](#)

Note: Separate PDQ summaries on [Screening for Gastric Cancer](#)¹, [Gastric Cancer Treatment](#)², and [Levels of Evidence for Cancer Screening and Prevention Studies](#)³ are also available.

Dietary Factors and *Helicobacter pylori* Infection

Based on solid evidence, *Helicobacter pylori* is associated with an increased risk of gastric cancer.

Description of the Evidence

- **Study Design:** Evidence obtained from cohort or case-control studies.
- **Internal Validity:** Good.
- **Consistency:** Good, multiple studies.
- **Magnitude of Effects on Health Outcomes:** Increased risk, moderate magnitude.
- **External Validity:** Good.

Based on fair evidence, excessive salt intake and deficient dietary consumption of fresh fruits and vegetables are associated with an increased risk of gastric cancer. Dietary intake of vitamin C contained in vegetables, fruits, and other foods of plant origin is associated with a reduced risk of gastric cancer. Diets high in whole-grain cereals, carotenoids, allium compounds, and green tea are also associated with a reduced risk of this cancer.

Description of the Evidence

- **Study Design:** Evidence obtained from cohort or case-control studies.
- **Internal Validity:** Good.
- **Consistency:** Small number of studies.
- **Magnitude of Effects on Health Outcomes:** Small, difficult to determine.
- **External Validity:** Fair (populations vary greatly in their underlying nutritional status).

Chemoprevention

The evidence is inadequate to determine if dietary or antibiotic interventions will reduce the risk of developing gastric cancer. A chemoprevention trial in China reported a statistically significant reduction of gastric cancer mortality after supplementation with beta-carotene, vitamin E, and selenium.

In a randomized controlled trial, eradication treatment with a regimen of omeprazole, a combination of

amoxicillin and clavulanate potassium, and metronidazole twice daily for 2 weeks did not reduce the risk of gastric cancer during a 7.5-year period. In a subset of individuals without precancerous lesions at baseline, eradication of *Helicobacter pylori* decreased the risk of gastric cancer.

A randomized trial examining regression rates of metaplasia and/or atrophy with antibiotic and/or antioxidant therapy observed increased rates of regression for anti-*Helicobacter pylori* treatment and ascorbic acid and/or beta-carotene supplements.

Description of the Evidence

- **Study Design:** Evidence obtained from randomized controlled trials.
- **Internal Validity:** Fair.
- **Consistency:** Poor.
- **Magnitude of Effects on Health Outcomes:** Cannot determine.
- **External Validity:** Fair.

Table of Links

- 1 <http://cancer.gov/templates/doc.aspx?viewid=7523a557-6c77-4528-af79-cd69033ecae5&version=1>
- 2 <http://cancer.gov/templates/doc.aspx?viewid=74bd04b7-e9b2-47db-b634-93f8fbd71ee2&version=1>
- 3 <http://cancer.gov/templates/doc.aspx?viewid=9c2f4f5e-9500-4e7f-8c23-a4f141e05a98&version=1>