

# Gastrointestinal and respiratory disease epidemiology: Overview.

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## Abstract

To determine whether tap water can be a substantial source of sickness, prospective epidemiologic studies have been conducted since 1989. In order to get rid of microorganisms that might have survived treatment, these research compared groups of families drinking tap water to families drinking tap water that had undergone reverse osmosis. In order to eliminate confounding variables, studies have concentrated on a single water treatment facility and distribution system. The water that the treatment facility produces complies with all Canadian, American, and Quebec laws. All studies rely on lengthy (16 to 18 month) periods of observation of randomly selected families assigned to observation groups.

**Keywords:** Drinking water, Health risk, Economic, Impact, Public health, Gastrointestinal illness.

## Gastric Disease

Gastric diseases refer to diseases affecting the stomach. Inflammation of the stomach by infection from any cause is called gastritis, and when including other parts of the gastrointestinal tract called gastroenteritis. When gastritis persists in a chronic state, it is associated with several diseases, including atrophic gastritis, pyloric stenosis, and gastric cancer. Another common condition is gastric ulceration, peptic ulcers. Ulceration erodes the gastric mucosa, which protects the tissue of the stomach from the stomach acids. Peptic ulcers are most commonly caused by a bacterial *Helicobacter pylori* infection. Epstein-Barr virus infection is another factor to induce gastric cancer [1].

As well as peptic ulcers, vomiting blood may result from abnormal arteries or veins that have ruptured, including Dieulafoy's lesion and Gastric antral vascular ectasia. Congenital disorders of the stomach include pernicious anaemia, in which a targeted immune response against parietal cells results in an inability to absorb vitamin B12. Other common symptoms that stomach disease might cause include indigestion or dyspepsia, vomiting, and in chronic disease, digestive problems leading to forms of malnutrition. In addition to routine tests, an endoscopy might be used to examine or take a biopsy from the stomach [2].

## Intestinal disease

The small and large intestines may be affected by infectious, autoimmune, and physiological states. Inflammation of the intestines is called enterocolitis, which may lead to diarrhea.

Acute conditions affecting the bowels include infectious diarrhea and mesenteric ischaemia. Causes of constipation may include faecal impaction and bowel obstruction, which

may in turn be caused by ileus, intussusception, and volvulus. Inflammatory bowel disease is a condition of unknown aetiology, classified as either Crohn's disease or ulcerative colitis, that can affect the intestines and other parts of the gastrointestinal tract. Other causes of illness include intestinal pseudoobstruction, and necrotizing enterocolitis [3].

Diseases of the intestine may cause vomiting, diarrhoea or constipation, and altered stool, such as with blood in stool. Colonoscopy may be used to examine the large intestine, and a person's stool may be sent for culture and microscopy. Infectious disease may be treated with targeted antibiotics, and inflammatory bowel disease with immunosuppression. Surgery may also be used to treat some causes of bowel obstruction.

## Small intestine

The small intestine consists of the duodenum, jejunum and ileum. Inflammation of the small intestine is called enteritis, which if localised to just part is called duodenitis, jejunitis and ileitis, respectively. Peptic ulcers are also common in the duodenum [4].

Chronic diseases of malabsorption may affect the small intestine, including the autoimmune coeliac disease, infective tropical sprue, and congenital or surgical short bowel syndrome. Other rarer diseases affecting the small intestine include Curling's ulcer, blind loop syndrome, Milroy disease and Whipple's disease. Tumours of the small intestine include gastrointestinal stromal tumours, lipomas, hamartomas and carcinoid syndromes.

Diseases of the small intestine may present with symptoms such as diarrhoea, malnutrition, fatigue and weight loss. Investigations pursued may include blood tests to monitor nutrition, such as iron levels, folate and calcium, endoscopy

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and biopsy of the duodenum, and barium swallow. Treatments may include renutrition, and antibiotics for infections [5].

## Conclusion

Diseases of the hepatobiliary system affect the biliary tract (also known as the biliary tree), which secretes bile in order to aid digestion of fats. Diseases of the gallbladder and bile ducts are commonly diet-related, and may include the formation of gallstones that impact in the gallbladder (cholecystolithiasis) or in the common bile duct (choledocholithiasis).

Gallstones are a common cause of inflammation of the gallbladder, called cholecystitis. Inflammation of the biliary duct is called cholangitis, which may be associated with autoimmune disease, such as primary sclerosing cholangitis, or a result of bacterial infection, such as ascending cholangitis.

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