

## Undigested fruit, chewing gum and hair—the stony masses that might be growing in your stomach

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In the first Harry Potter novel, Professor Severus Snape hopes to embarrass Harry by quizzing him on the topic of bezoars. According to



Snape, they are stony masses found in the stomach of a goat that can act as an antidote for most poisons. Later in the series, bezoars come to the rescue of a poisoned Ron Weasley.

The name bezoar is a derivative of both the Persian and Arabic languages, translating as "antidote" and "against poisons"—which is probably where J.K. Rowling got her inspiration. But many Harry Potter readers may not have realized that bezoars aren't just <u>a product</u> of Rowling's imagination.

And while it's true they can be found in the stomachs of goats and <u>other</u> <u>animals</u>, humans can also develop bezoars—<u>albeit rarely</u>—in their stomachs, intestines, <u>gullets</u> and even <u>windpipes</u>.

Bezoars range in size and weight. In July 2024, a 16-inch mass of hair, weighing two pounds, was surgically removed from a 24-year-old woman's stomach in Manabi, Ecuador. In March 2024, doctors in Newcastle removed a 6-inch hairball from the stomach of a seven-year-old girl. According to reports, it covered 80% of her bowel.

Bezoars are often stony in their appearance, and can be made up of any material that won't be digested and absorbed through the gut wall. As a result, the material accumulates inside the lumen—the hollow space—of the gut, gradually increasing in size.

It takes <u>certain conditions</u> for someone to develop a bezoar—usually eating indigestible material while having a slow-moving digestive system, which means they are unable to move the material along the gut and out as feces.

## **Types of bezoar**

There's a wide range of bezoar types, typically classified according to



what they're made of. For example, there are plant-based <u>phytobezoars</u> —because <u>plant material</u> is comprised largely of cellulose, a compound indigestible to humans.

But eating the <u>persimmon fruit</u> can cause <u>diospyrobezoars</u>—a subset of phytobezoars caused specifically by excessive consumption of this fruit. Persimmons are particularly high in tannins that give them a bitter flavor, especially when they're unripe—and these tannins have been <u>identified as a high risk</u> for causing bezoars.

Many other materials can develop into bezoars. Fruit and vegetable fibers, milk, medicines and gums (such as swallowed <u>chewing gum</u>) can form an indigestible mass in the stomach, while the ingestion of inorganic materials such as paper, polystyrene and plastics can also cause bezoars. This is particularly associated with the condition <u>pica</u>, which describes a craving for inedible foods or those with no nutritional value most common among <u>pregnant women</u>.

Not all bezoars have to be stony. <u>Trichobezoars</u> are composed of ingested hair, which can accumulate in the body much like a hairball in a cat. This can lead to a condition known as <u>Rapunzel syndrome</u>, named after the fairytale heroine, where the bezoar grows in size and length over years of swallowing hair. Some patients require surgery to remove an extensive clump of hair from the bowel that's said to resemble Rapunzel's long plait.

## **Bezoars through the ages**

Stony bezoars removed from animals <u>were once popular</u> as collectors' items, mainly because they were believed to cure poisoning.

They are likely to have <u>existed as collectables</u> in the <u>Middle East</u> long before their arrival in medieval Europe. In those days of kings, lords and



merchants—many of whom were obsessed with the fear of being assassinated by poison—dropping a bezoar into one's drinking vessel became a <u>protective practice</u>. Unfortunately, it will have had zero success.

Nonetheless, bezoars continued to be <u>prized curiosities</u>. Some were made into jewelry, or <u>decorated with gold and gems</u> as part of a collection. Some medical museums, including the newly renovated <u>Hunterian Museum in London</u>, continue to have them on display.

## **Modern-day bezoars**

Like many stony masses in the body, such as gallstones and renal calculi, unless bezoars work their way into smaller spaces where they can get stuck, they may not trigger any symptoms—and can stay hidden for years.

If bezoars do cause problems, such as nausea, <u>abdominal pain</u> and vomiting—or even <u>gastric ulcers</u> or bleeding—they can be removed using a variety of methods. If the bezoar is small enough, it can be removed via an endoscope—a tool attached to a camera which can see into the gut to extract the stone. The removal of larger bezoars may require surgery.

One non-invasive method used to treat some bezoars, including persimmon stones, is to dissolve them with salt solutions, enzyme preparations and, surprisingly, <u>cola</u>.

However, the medical jury is out on the effectiveness of this dissolution of bezoars. And more worryingly, if these treatments can potentially dissolve a stone, what might they also be doing to your stomach?

If you're prone to bezoars, or you're worried about developing one, avoid



higher-risk foods such as persimmons, celery, pumpkin, prunes, and sunflower seed shells—and chew your food thoroughly before swallowing. Avoid swallowing indigestible nonfood items including hair, and seek medical advice if you're concerned about the condition pica.

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