

Read the passage carefully. Then answer the questions using clues and evidence from the text.

Invisible Invaders: Microplastics in Human Blood



For years, scientists have understood that microscopic plastic particles, known as microplastics, exist almost everywhere in our environment. They are in the oceans, in the soil, and even in the air we breathe. But in 2022, a groundbreaking study delivered a surprising and somewhat concerning discovery: microplastics were found circulating within human blood for the very first time.

Researchers collected blood samples from 22 healthy adult volunteers. To ensure accuracy, they took great care to avoid any plastic contamination from the sampling equipment itself. Each sample was then meticulously analyzed using highly sensitive techniques designed to detect even the tiniest fragments of plastic polymers, the building blocks of everyday plastics.



The results showed that 17 out of the 22 volunteers had microplastics in their blood. This meant that nearly 80% of the participants carried these synthetic particles within their circulatory systems. The most common type found was PET plastic, often used in drink bottles, followed by polystyrene, found in food packaging, and polyethylene, common in plastic bags.

This finding suggests that microplastics are not just passing through our digestive systems or being inhaled and expelled from our lungs. Instead, they are entering the bloodstream, implying a pathway for these particles to travel throughout the body. Scientists hypothesize that these particles could enter the body through food and drink, or by breathing in plastic dust from the air.



The study did not investigate the health impacts of these circulating microplastics. However, the presence of these foreign materials in blood raises many new questions for researchers. It prompts further investigation into how long microplastics remain in the body, where they might accumulate, and whether they could potentially affect human health over time. This discovery opens a new frontier in understanding the broader impact of plastic pollution.

COMPREHENSION QUESTIONS

- (1) **Based on the passage, what can be concluded about microplastics in the human body?**
- (A) Microplastics only enter the body through contaminated food.
 - (B) Microplastics are likely able to travel beyond the digestive and respiratory systems.
 - (C) The health effects of microplastics in blood are now fully understood.
 - (D) All plastic types are equally likely to be found in human blood.
- (2) **What does the passage suggest was the main reason researchers were careful to avoid plastic contamination during blood sampling?**
- (A) They wanted to prove that plastic equipment causes microplastic presence.
 - (B) They needed to ensure the detected microplastics came from the volunteers' bodies, not the sampling process.
 - (C) They were concerned about the safety of the volunteers.
 - (D) They believed microplastics could damage the blood samples.
- (3) **The author mentions that "17 out of the 22 volunteers had microplastics in their blood" most likely to show that...**



- (A) The study was too small to draw significant conclusions.
- (B) Microplastic presence in human blood is a relatively common occurrence.
- (C) Only a specific group of people are affected by microplastics.
- (D) The researchers made a mistake in their counting.

(4) Which statement is NOT well-supported by evidence from the passage?

- (A) Microplastics have been found in various parts of the environment for some time.
- (B) The study confirms that microplastics cause specific diseases in humans.
- (C) PET plastic is one of the more frequently detected types of microplastic in human blood.
- (D) Scientists have theories about how microplastics might enter the human bloodstream.

(5) What clues in the passage helped you infer that the discovery of microplastics in human blood is considered significant for future scientific research? Use at least two details from the passage to explain your reasoning.

