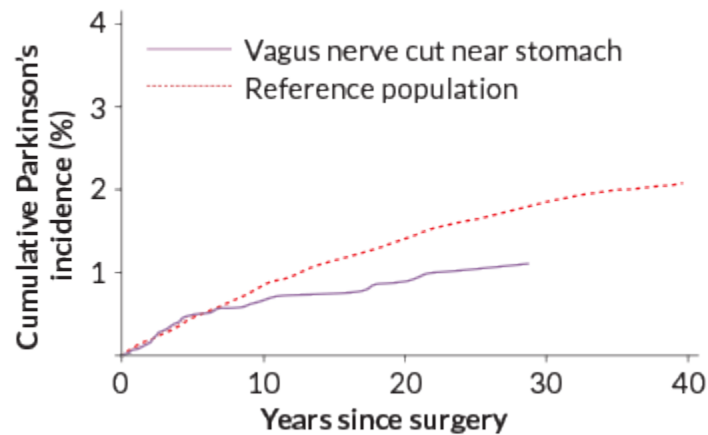


## Analyze This! Q

**Directions:** Study the graph “Parkinson’s risk is lower in patients with a cut vagus nerve” in the *Science News* article “[Parkinson’s pathways](#)” and answer the following questions.

**Read the figure: Parkinson’s risk is lower in patients with a cut vagus nerve**



**Radical protection** Because the vagus nerve is a route to the brain, scientists wondered if a severed vagus nerve helped protect against Parkinson's. In one study, patients who had undergone one type of vagotomy had lower disease incidence starting five years later than people who did not have the surgery. Source: B. Liu et al/*Neurology* 2017

**1. What variable is plotted on the x-axis of the graph? Make sure to include the unit of measurement for the variable.**

**2. What variable is plotted on the y-axis of the graph? Make sure to include the unit of measurement for the variable.**

**3. What do the lines represent?**

**Interpret the graph:**

**4. According to the graph, what benefit is associated with the cut vagus nerve?**

**5. How long does it take for the cut vagus nerve to make an apparent difference in the cumulative Parkinson's incidence?**

**Connect the graph to the article:**

**6. What relationships might be further investigated based on the data given in the graph?**

**7. How does this figure support the general ideas in "Parkinson's pathways?"**

**Analyze beyond the article:**

**8. What other observational study could you run in an attempt to understand Parkinson's risk in relation to the gut?**