

## Unit 4 IP Case Study 1 (Heart Attack)

*Atherosclerosis* is the narrowing of the arteries caused by the accumulation of fatty deposits on the arterial walls. On June 22, 2002, the St. Louis Cardinals were preparing for their upcoming baseball game against the Chicago Cubs. Concern arose when their prized pitcher, 33-year-old Darryl Kile, did not show up for practice. Soon after, he was found in his hotel room, where he had died in his sleep. It was discovered that the cause of death was related to three of his coronary arteries being 80–90% blocked as a result of atherosclerosis, which ultimately caused him to suffer a heart attack. (Altman, 2002)

Address the following regarding this case study:

1. Provide a description of how the heart functions. Based on this, explain why atherosclerosis would result in a heart attack.
2. How are arteries different from veins and capillaries? Describe the functions of arteries, veins, and capillaries.
3. Vertebrates and some invertebrates have a closed circulatory system; most invertebrates have an open circulatory system. Describe both open and closed circulatory systems. Explain the advantage of having a closed circulatory system over an open circulatory system.

**Please see assignment details for deliverable and formatting guidelines.**

### Reference

Altman, L. K. (2002, June 25). BASEBALL; heart disease can hit even the young, like Kile. *The New York Times*. <https://www.nytimes.com/2002/06/25/sports/baseball-heart-disease-can-hit-even-the-young-like-kile.html>