

## Life-Saving Blue Blood

If you have been to a beach on the Delaware Bay you may have stepped on one of these prehistoric creatures with many legs and a long pointy tale. What you might not know is that the blue-colored blood from a horseshoe crab is very vital in medical hygiene. When the blood is faced with toxins from bacteria amebocytes cells, colored blue from their copper based molecules, attack and surround the invading toxin and trap it inside a gel-like seal to keep it from spreading.

“Forty-five minutes of exposure to the crab’s blood is enough to reveal endotoxins from gram-negative bacteria which otherwise avoid detection, and is sensitive enough to isolate a threat the size of a grain of sand in a swimming pool. The Food and Drug Administration (FDA) requires intravenous drugs and medical equipment that come in contact with the body to be first passed through the crab’s blood, such as needles to surgical implants like pacemakers. This allows patients to survive these procedures” (Monks, 2014, p.5).

Scientists have now taken nature’s method and transformed it to a grand scale. “Now over 600,000 crabs are captured during the spring mating season, to donate around 30% of their blood in a handful of specialist facilities in the United States and Asia” (Monks, 2014, p.4). The blue blood is valued at \$60,000 per gallon and the global industry is worth \$50 million.

The blood is being used for other treatments such as fungal infections, and further research has found anti-viral and anti-cancer properties with the same principle of detecting and trapping threats.

The urgency of getting the blood might increase as the numbers of horseshoe crabs declines, for several reasons, with the largest population of horseshoe crabs living in the Delaware Bay reportedly reduced by 70% to 90% in the last 15 years” (Monks, 2014, p.13). The crabs’ blood is a very crucial part of current medicine and without it medicine could take a leap back into the past.

### Source:

Monks, K. (2014, September 4). Why this crab's blood could save your life.

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