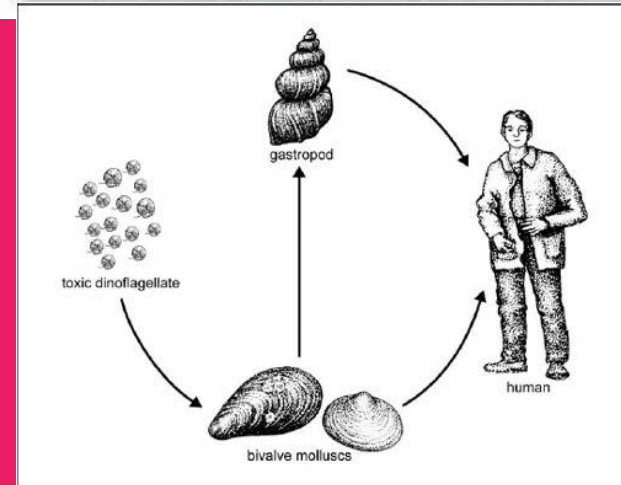


Diarrhetic Shellfish Poisoning

**By: Christina DeFlorio, Kassidy Kervin, and
Paola Mastroianni**

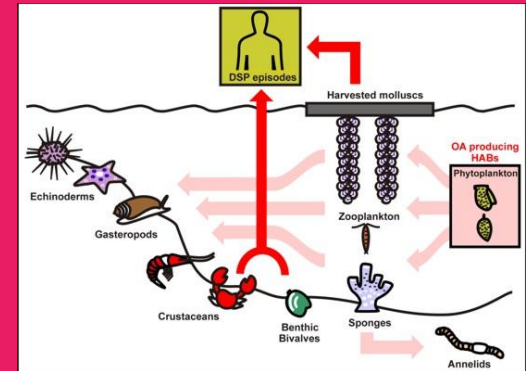
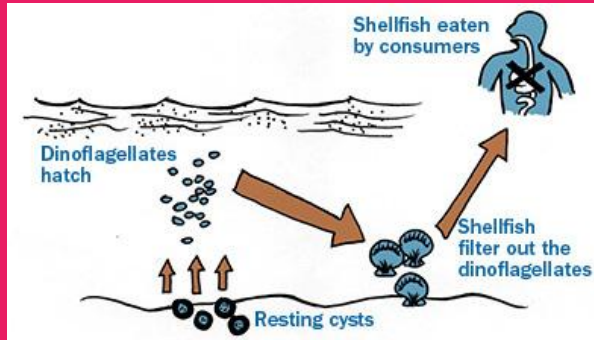
Background...What is DSP?

- DSP is one of the 4 recognized symptoms type of shellfish poisoning
- DSP is a gastrointestinal illness
- One of the most ill causing harmful algae blooms
- This harmful algae bloom does not affect the shellfish themselves, however it poorly affects the human who eats the shellfish that obtains this poisoning



How do shellfish become contaminated with DSP?

Shellfish are filter feeders. They pump water through their systems, filtering out and eating algae and other food particles. When shellfish eat biotoxin producing algae, the biotoxin can accumulate in their tissue. The average shellfish can filter up to 50 gallons of water per day.



What are the side effects/Symptoms?

- Symptoms of DSP include nausea, abdominal pain, vomiting, diarrhea, headache, chills, and fever
- DSP and its symptoms usually set in within about half an hour of ingesting infected shellfish, and last for about one day
- Risk of dehydration
- Anyone who eats DSP contaminated shellfish is at risk for illness
- Similar to symptoms of food poisoning



Where does this HAB occur?

- The earliest clinical reports of DSP were in the Netherlands in 1961
- 15 years later it occurred in Japan
- illnesses have been recorded on the East coast of the United States since 1980



Lynne Peeples

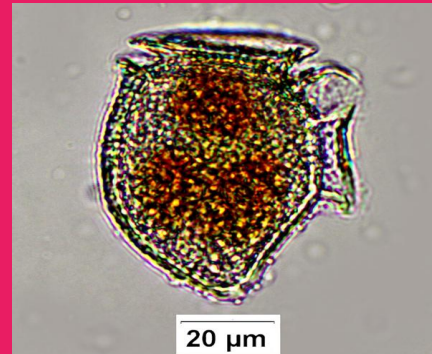
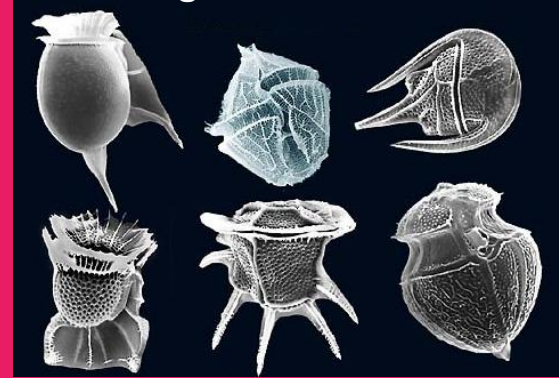
What species are affected?

- All clams, mussels, oysters, geoducks, and scallops are able to accumulate DSP toxin, but they're not harmed by the DSP
- Shellfish contaminated by DSP do not look or taste any different than shellfish that are safe to eat
- Cooking or freezing the shellfish does not kill or destroy the DSP

What causes Diarrhetic Shellfish Poisoning?

- Caused by the consumption of contaminated shellfish
- Okadaic acid contained in shellfish is a naturally occurring marine toxin or “biotoxin” that is created by microscopic algae
- This is specifically caused by a dinoflagellate called Dinophysis, shellfish then eat this toxin and obtain it

Dinoflagellate



Dinophysis

Ways to minimize/manage DSP & Future Ways

- Suspected cases of DSP should be reported to health authorities so that future cases can be prevented

Bibliography

- *Wikipedia*. Wikimedia Foundation, n.d. Web. 03 Dec. 2015.
- "Diarrhetic Shellfish Poisoning (DSP) from Okadaic Acid." :: *Washington State Dept. of Health*. N.p., n.d. Web. 03 Dec. 2015
- "Diarrhetic Shellfish Poisoning, Washington, USA, 2011 - Volume 19, Number 8-August 2013 - Emerging Infectious Disease Journal - CDC." *Diarrhetic Shellfish Poisoning, Washington, USA, 2011 - Volume 19, Number 8-August 2013 - Emerging Infectious Disease Journal - CDC*. N.p., n.d. Web. 03 Dec. 2015.