Case 2: The Case of the Cross-Dressing Carp

Session Objectives

Students will be able to:

- Define gynecomastia
- Define graywater
- Describe ways in which pharmaceutically active compounds might be released into the environment and pose human health problems
- They will also, individually, practice applying their knowledge and deductive skills to solve a mystery

In this session students will watch a video (an episode from the 2008 season of CSI) and answer questions about it. At the end you will recap with a short discussion based on some questions that will connect this session to the previous and following ones.

What do gynecomastia, the common carp, and graywater have to do with one another?

What happens when detectives make assumptions, and industry uses its weight to make accusations and construct coverups?

To get the answers to these and many other questions, answer the questions below while you watch The Case of the Cross-Dressing Carp.

1. What are they showing in the opening shots?
2. What do the detectives find at the crime scene?
3. What is their initial hypothesis?
4. What other evidence do they find? What conclusions does this suggest?
5. The other investigation is fun, but not really relevant to us.
6. What do the detectives find at the house, and from talking to the mother?
7. What grade would you give them for their handling of the investigation so far?
8. What does the tox-screen tell them? What do they find out from interviewing the guy who had texted the victim?
9. Do you think real detectives are as quick with the puns and innuendoes as these guys?
10. What evidence do they get from physical evidence at the scene?
11. What information do they get from interviewing the suspect?
12. What do they find when they go to re-interview the other suspect?
13. What evidence do they find there?
14. Why would he be giving hormones to fish?
15. How romantic do you think the bee scene is?
16. What is the detectives’ current hypothesis?
17. What do they find in the fish? What do they decide based on that?
18. What do they find out about the hydrology of the development?
19. What do they find out from them tests on the samples and the fish?
20. Who do they think shot the scientist?
21. What does the water treatment manager say in their interview?
22. What does the physical evidence from the murder of the scientist tell them?
23. Who killed him? Why?
24. Is there enough evidence to prosecute anyone, or to take any action?
CAPTION: 17-β Estradiol is the primary female hormone, commonly known as estrogen  
CREDIT: ChemIDPlus, National Library of Medicine

CAPTION: Ethinyl Estradiol is the most common orally-active form of synthetic estrogen  
CREDIT: ChemIDPlus, National Library of Medicine

CAPTION: Bisphenol A was originally synthesized as an artificial estrogen and is now used to make polycarbonate plastics  
CREDIT: ChemIDPlus, National Library of Medicine
CASE ASSIGNMENT

Recap by discussing the following questions:

1. What in this video was like our discussions last week?
2. Do you think the scenario was realistic--could people really develop health problems from consuming graywater?
3. Do you think human health is being affected by endocrine disruption?