Activity to simulate STD transmission (also called Hook Activity)

I like to do this activity with my anatomy/physiology students (junior and seniors) after we have discussed STDs and their transmission. It makes a big impression.

Materials

Clear plastic cups (1 fluid ounce); one per student

Phenolphthalein – enough for a “squirt” (about 3-5 drops) per cup

Base Solution (NaOH or KOH); use a 0.5M solution. I use 8g NaOH in 400ml water

Procedure

Fill all students’ cups half full with water except for 2-3 cups (depending on class size). Fill 2-3 cups per class with NaOH solution instead of water. Both are clear so students will not be able to tell them apart. Note which 2-3 students pick up the cups with NaOH in them. Do not tell students who have what cups.

Explain to your students that 1 in 4 sexually active teenagers become infected with a STD each year and that the CDC states that the average number of sexual partners for sexually active teens is 3 partners.

Tell your students that they will exchange fluids with three other students only. I always tell them they have to mingle and exchange with students from all over the room (not just their neighbors). One person will pour their cup fluid into another student’s cup and then that student will pour half back to their partner. They will do this again two more times. Tell them they need to remember who they exchanged with and in what order. When they are done, have them all go back to their desks and sit down. Take a bottle of phenolphthalein and add a few drops to each person’s cup at their desk. A “positive test” will turn Bright PINK. A “negative test” will remain clear. The majority of the cups will all be pink if they exchanged correctly.

I have them write their names on the board with a positive or negative sign when done. Ask them to figure out who the original three infected persons were using this data. This always seems to really grab their attention and they work hard trying to figure it out.

If you let them use the board to help figure this out, you will see student leaders emerge and reasoning skills abound.