

Abnormal Cell Growth Demonstration

Objective: To demonstrate abnormal cell growth.

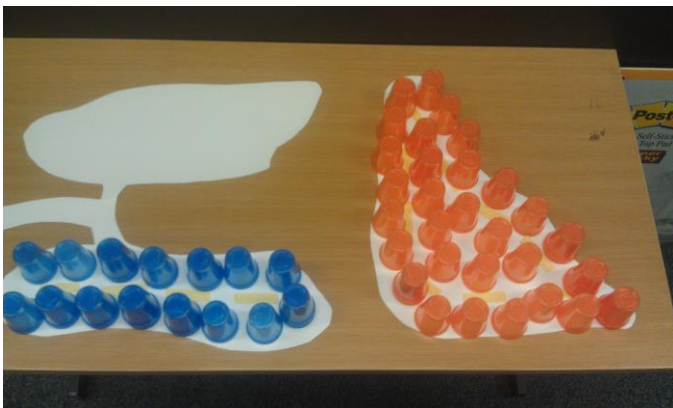
Helpful Materials*: Large paper cutout of a lung and liver with yellow-dashed lines (to represent road lines), two packets of Solo cups in two different colors, a few solo cups from both colors should be marked with a red "X."

*NOTE: This activity can also be done at an individual level with the smaller liver and lung cutouts and ketchup cups.

Directions: Have participants sit in a circle surrounding the two organs: lungs and liver. If there are more than 10 participants, separate them into groups. Give each group (or two different participants) a different color of Solo cups. The Solo cups represent cells.

Say: The Solo cups represent the cells of our organs. Our cells are arranged in an orderly fashion, much like our highway systems.

Have the participants put the cells in small stacks on the "highway" in an orderly fashion.



Say: Cells are constantly copying themselves to replace old, damaged cells. Normally cells grow, copy and die in an orderly fashion, much like cruise control. Each stack of cups represents the infinite number of times that a cell can copy.

Have the participants take a cell off the top of the stack to demonstrate that cells usually copy in an orderly fashion.

Say: Sometimes the cell's copying instructions (DNA) can be damaged by a "hit". This can result in a mutation, or a change in the cell structure. A hit can come from what we are exposed to (environmental, viruses, etc), or how we live (diet, tobacco, alcohol, etc).

Have participants simulate a hit, like smoking, to one cell by crushing the cup.

Say: Generally our body responds by either the cell self-destructing, or the immune system destroying the mutated cell. In some cases, the mutated cell doesn't die but begins to reproduce (copy) at a faster rate. The mutated cell produces more mutated copies of itself. Think of it like a Xerox machine: if you make a copy with a smudge on it, all the future copies will have that same smudge.

Have participants simulate mutated (crushed) cups copying at a fast, uncontrolled rate.

Say: The risk of those mutated cells developing into cancer depends on the number of hits, their frequency and their intensity. So if you smoke a lot and do it often, your risk of a cancerous cell

mutation may be higher.



The facilitator can add cups with the red “X” to denote a cancerous mutation to one of the cell masses.



Say: Uncontrolled cell growth is like an accelerating car. The gas pedal is stuck in acceleration mode. Cells are reproducing at a faster rate than needed. If there are too many cells on the “road,” a pile up happens. This pile up is called a tumor. Tumors can be benign or malignant, which means non-cancerous or cancerous. As you can see here, one of the pile ups has cancer cells and the other doesn’t. The one that doesn’t is benign. The one that does is malignant.

Have each group (or each participant) deconstruct the abnormal cell growth demonstration and re-teach it back to others.