Activity 2: Cross-contamination

This short practical activity simulates the transmission of a pathogen, or a contaminant, between people.

Many pathogens and contaminants are easily spread. Without adequate control measures, these substances can lead to illness and disease, or the contamination of a product with unwanted substances.

Equipment

* Boiling tubes containing milk (one has been ‘infected’ with starch)
* Eye protection
* Beaker
* Stirring rod
* 0.1M iodine solution

Safety

Students with milk allergies should not take part in this activity.

Use of iodine – see [CLEAPSS Student Safety Sheet 56](https://science.cleapss.org.uk/resource/sss056-iodine.pdf).

Procedure

1. Collect one boiling tube from the rack.
2. Introduce yourself to another member of the group and simulate making contact (e.g. shaking hands) by:

a. pouring both of your milk solutions into a beaker

b. mixing the solutions well, by stirring for 10 seconds

c. re-dividing the solution you have made evenly between the two boiling tubes.

(This step must be carried out a workstation and any spillages cleaned up with a paper towel).

1. When told to by your teacher, move on to ‘meet’ another person. Repeat steps 2 and 3 until you have met five people.
2. Wearing eye protection, line up with the other students in the class.
3. Your teacher will add a few drops of iodine to each boiling tube. A dark blue-black colour indicates you have been infected.
4. After testing, dilute the solution in your boiling tube with water and pour down the drain.