

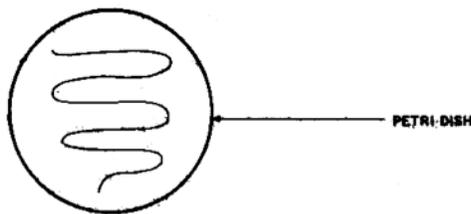
Name: _____ Pd: _____ Date: _____

Protection from Infection Activity: Student Procedure

1. Your teacher will divide your class into at least two groups of eight or more. One group is designated Group A, the other Group B.
2. Count off within your group and write your number on an agar plate using a wax pencil.
3. Wash your hands thoroughly.
4. If your number is 1, the instructor will give you a piece of candy soaked in the "contaminant," a yeast solution (a benign fungus). Roll it around in your right hand until your palm and fingers are very sticky. Put the candy in the disposal area designated by the instructor.
5. Group A - Shake hands with student number 2 in your group. Student 2 shakes hands with student 3, and so on, until all but the last person in the group has had a handshake. After shaking hands avoid touching or rubbing hand on pants or shirt.

Group B - Shake hands with student number 2 in your group. Student 2 shakes hands with student 3. Continue shaking hands through student 5. Student 5 should then wash his/her hands thoroughly in soap and water, scrubbing well. Student 5 then shakes hands with student 6, student 6 shakes hands with student 7, and so on, until all but the last person in the group has had a handshake.

6. Take a sterile cotton swab or inoculating loop, dip the cotton or loop end in the nutrient broth in the test tube, then swab your right hand with it. Carefully open your agar plate and gently rub the loop or streak the swab across the surface of the agar. Roll the tip as you streak to transfer as much of the material gathered from your hand as possible to the agar. Swab in a zigzag pattern (see diagram).



7. Place the swab or loop in the area designated for disposal or clean-up.
8. Cover the agar plate, turn it upside down (agar side up), and store it at room temperature (approximately 25°C) to incubate for 24 hours.
9. Wash your hands thoroughly, then rinse with a dilute solution of disinfectant, if available.
10. Predict the outcome of the experiment for each member of your group and be prepared to explain your reasoning for the prediction. Will the agar plate swabbed by student 6 in group A have more, less or the same amount of growth as student 1? Will the agar plate swabbed by student 6 in group B have more, less or the same amount of growth as student 1? What will the agar plate of the

- final student in your group who did not shake hands look like? What purpose does the agar plate of the final student serve?
11. After 24 hours of incubation, examine your plate and those of others in your group. Record whether or not there is growth on each of the plates and if so, how much (you can use a scale of +++, ++, +, or -). Be prepared to compare them to your predictions and explain your findings.
 12. Activity Extension - This activity can be used to test the effectiveness of antibacterial soaps (as compared to regular soap) and the effectiveness of hand washing procedures such as time of washing or scrubbing with a brush vs. just washing without scrubbing. To carry out these variations you will need more groups, one group for each variable.