TRANSFERS FROM AN AGAR SLANT USING AN INOCULATING LOOP OR NEEDLE

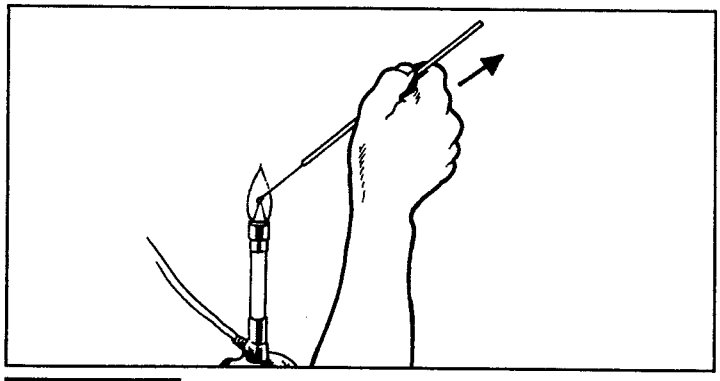

FIGURE 1-4a Flame the Loop/Needle
[**Note**: *Since loops and needles are handled in the same way, we refer only to a loop in the following instructions for ease of reading.*] Sterilize the loop by incinerating it in the Bunsen burner flame. Hold the handle like a pencil in your dominant hand and relax! Pass it through the tip of the inner cone of flame (the hottest part) holding it at an angle with the loop end pointing downward. Begin flaming about 2 cm up the handle, then proceed down the wire by pulling the loop backwards through the flame until the entire wire has become red-hot. Flaming in this direction limits aerosol production by allowing the tip to heat up more slowly than if it were thrust into the flame immediately.

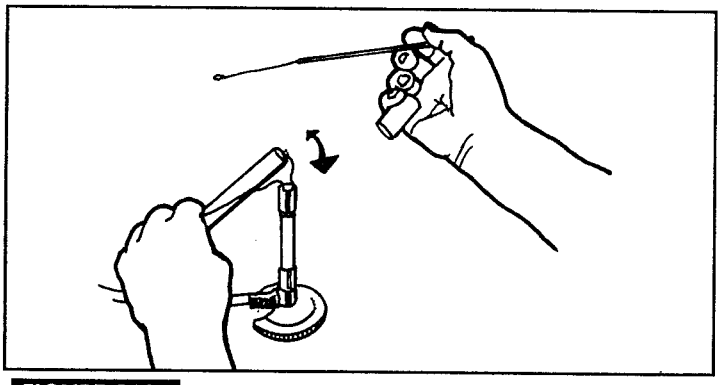

FIGURE 1-4c Sterilize the Tube
Pass the lip of the tube quickly through the flame two or three times to sterilize the glass and the surrounding air. The tube should be held on an angle to prevent contamination from above. Keep your loop hand still.

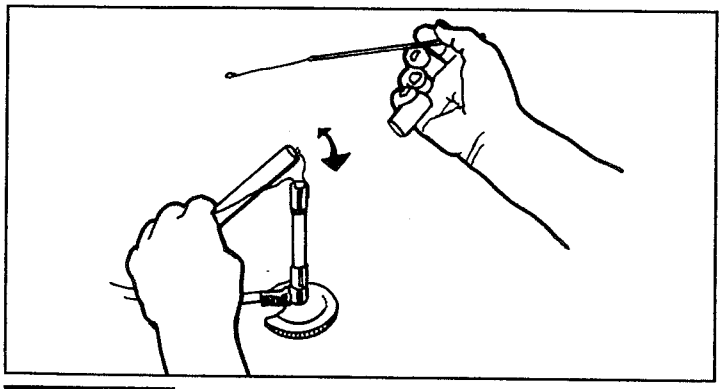

FIGURE 1-4e Sterilize the Tube Again
Flame the tube lip as before. Keep your loop hand still.

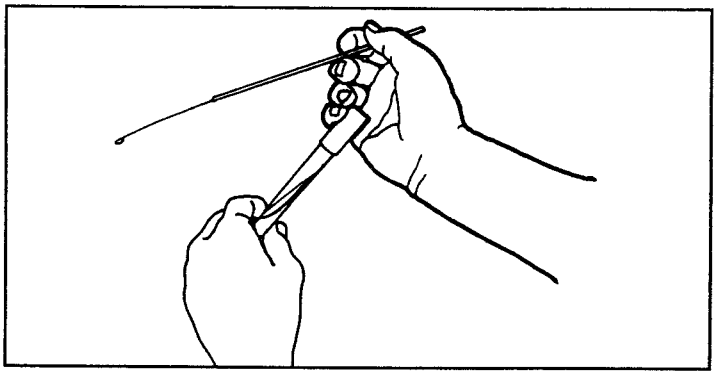

FIGURE 1-4b Hold the Cap in Your Pinkie Finger
While keeping your loop hand still, bring the culture tube towards it. Use the pinkie finger of your loop hand to remove and hold its cap. (The cap should be loosened prior to the transfer, especially if it's a screw top cap.)

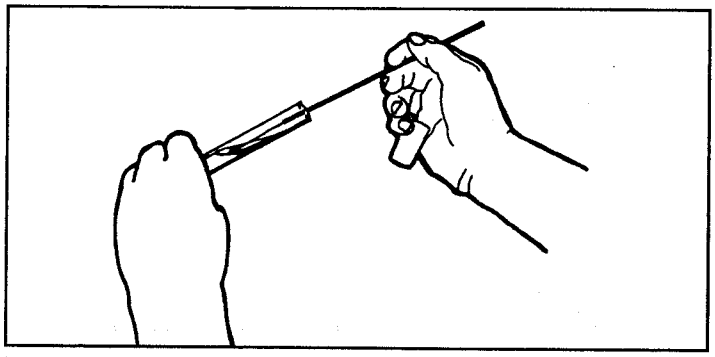

FIGURE 1-4d Harvest the Growth
With the agar surface facing upward, hold the open tube at an angle to prevent aerial contamination. Holding the loop hand still, move the tube up the wire until the wire tip is over the desired growth. Touch the loop to the growth and obtain the smallest visible mass of bacteria. Then, holding the loop hand still, *remove the tube* from the wire. Be especially careful when removing the tube not to catch the loop tip on the tube lip. This springing action of the loop creates bacterial aerosols.

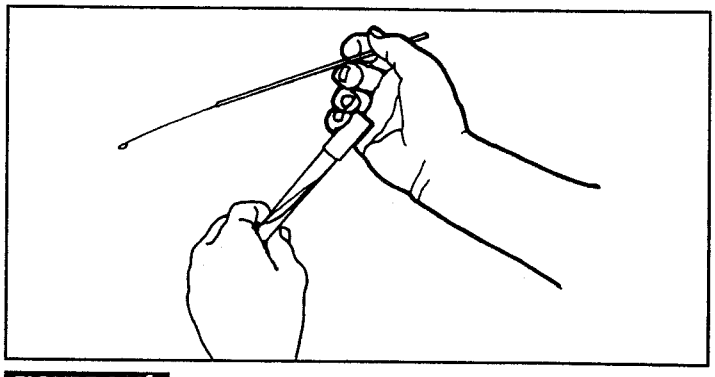

FIGURE 1-4f Replace the Cap
Keeping the loop hand still (remember, it has growth on it), move the tube to replace its cap. The cap at this point doesn't need to be on firmly — just enough to cover the tube. What you do next depends on the medium to which you are transferring the growth. Please continue with the appropriate inoculation section.

TRANSFERS FROM A BROTH CULTURE USING AN INOCULATING LOOP OR NEEDLE

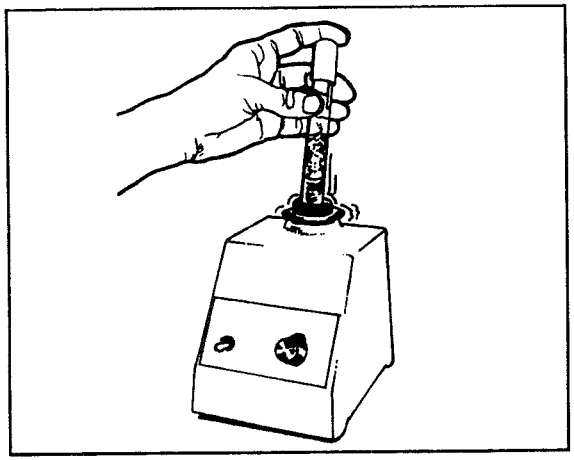

FIGURE 1-5a Suspend the Bacteria in the Broth (One Method)
Growth may be suspended in the broth with a vortex mixer. Be sure not to mix so vigorously that broth gets into the cap or that you lose control of the tube. It's best to start slowly, then gently increase the speed until the tip of the vortex reaches the bottom of the tube.

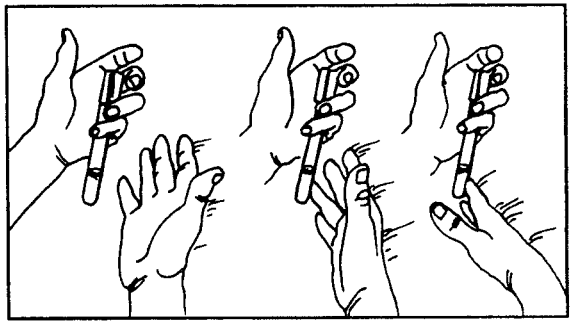

FIGURE 1-5b Suspend the Bacteria in the Broth (Another Method)
The broth may also be agitated by drumming your fingers along the length of the tube several times. Be careful not to splash the broth into the cap or lose control of the tube.

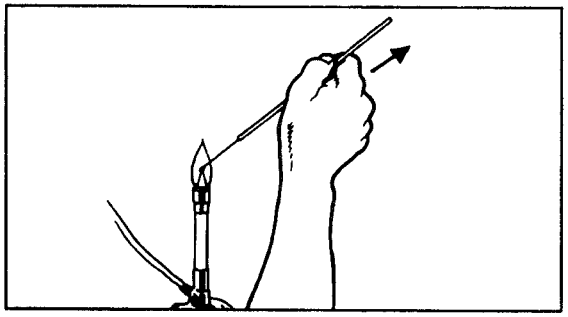

FIGURE 1-5c Flame the Loop
[**Note:** *Since loops and needles are handled in the same way, we refer only to a loop in the following instructions for ease of reading.*] Sterilize the loop by incinerating it in the Bunsen burner flame. Hold the handle like a pencil in your dominant hand and relax! Pass it through the tip of the inner cone of flame (the hottest part) holding it at an angle with the loop end pointing downward. Begin flaming about 2 cm up the handle, then proceed down the wire by pulling the loop backwards through the flame until the entire wire has become red-hot. Flaming in this direction limits aerosol production by allowing the tip to heat up more slowly than if it were thrust into the flame immediately.

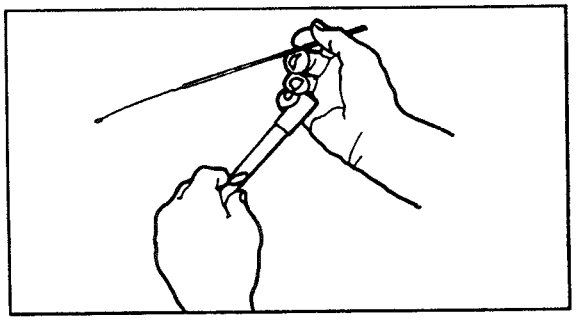

FIGURE 1-5d Hold the Cap in Your Pinkie Finger
While keeping your loop hand still, bring the culture tube towards it. Use the pinkie finger of your loop hand to remove and hold its cap. (The cap should be loosened prior to the transfer, especially if it's a screw top cap.)

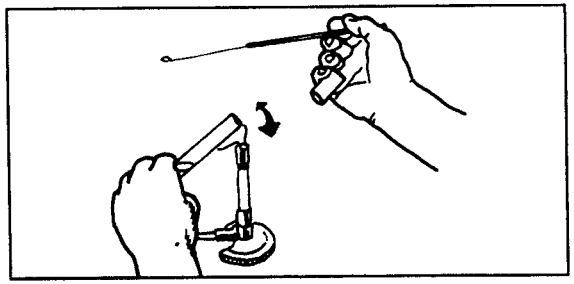

FIGURE 1-5e Sterilize the Tube
Pass the lip of the tube quickly through the flame two or three times to sterilize the glass and the surrounding air. The tube should be held on an angle to prevent contamination from above. Keep your loop hand still.

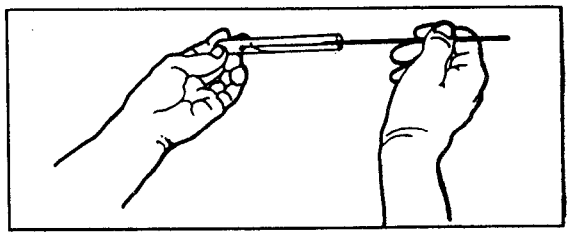

FIGURE 1-5f Harvest the Growth
Hold the open tube at an angle to prevent aerial contamination. Holding the loop hand still, move the tube up the wire until the tip is in the broth. Continuing to hold the loop hand still, *remove the tube* from the wire. Be especially careful when removing the tube not to catch the loop tip on the tube lip. This springing action of the loop creates bacterial aerosols.

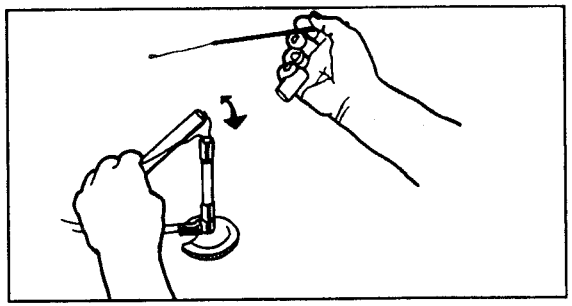

FIGURE 1-5g Sterilize the Tube Again
Flame the tube lip as before. Keep your loop hand still.

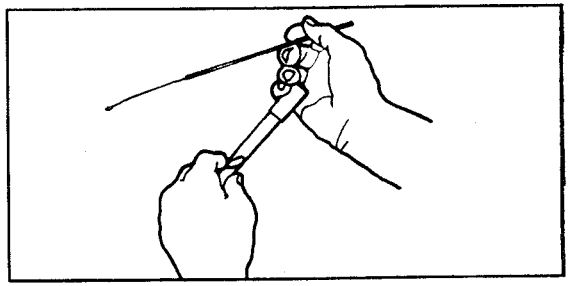

FIGURE 1-5h Replace the Cap
Keeping the loop hand still (remember, it has growth on it), move the tube to replace its cap. The cap at this point doesn't need to be on firmly — just enough to cover the tube. What you do next depends on the medium to which you are transferring the growth.