

# AMPUTATION

## Physical Simulation

**Materials needed:** wrenches, screw drivers, nuts, bolts, screws, predrilled wood board, elastic bandage wrap (optional)

**Time required:** 15 minutes

- 5 minutes per student for actual hands-on work
- 10 minutes group instruction, divided into introduction and follow-up

If necessary, divide students into groups of three to work the exercise, with one student in each group assuming the disability.

Students will use the board to simulate the activity of an amputee performing regular farm tasks.

Have students place their dominant hands in their pockets for the duration of the simulation. Students should place the bolt through the board and attach the nut, tightening it securely. They can also attempt to fasten the screw in the board. If you have access to small farm equipment or a garden tractor, students can attempt a PTO hook up or place a bolt on the machinery using only one hand.

An excellent way to engage students in the activity is to have a time competition. Assign students to teams. Have one team “lose” their dominant hands by keeping them in a fist or wrapping it in a closed position with an elastic bandage (simulates an amputation below the elbow). The other team simulates loss of the entire arm by placing the hand in the pocket and not using the arm at all. Have the teams compete in doing the tasks. Add a team where all members are allowed to use both hands, and repeat the competition. Encourage all team members to coach each other in doing the task. This exercise will allow the students to experience the frustration of trying to complete a simple farm task, figure out how to do the task, and understand the actual time it takes to complete the task.

After students have had a few minutes to work at the simulation board, discuss with them their success at performing the tasks and the level of difficulty in completing each procedure.

As a final illustration of how amputation affects all aspects of life, have the students tie their shoes with one hand.

If you have access to a below-elbow prosthesis (usually obtainable from a local prosthetic shop or from a local farmer in the community with a below-elbow amputation), have students wear the prosthesis and try to do the tasks. Have the students describe the weight, feel, and body image when using the prosthesis.

Use general questions from “Tips on Using Physical Simulations” to guide discussion.

**NOTE:** This exercise is easily converted to a peer project or is good to use with community groups. You might want to consider constructing a “work board” so participants can work at levels more realistic for farm repair. The board can be made of plywood with work boards attached for mounting bolts and screws. Avoid the use of hammers and nails due to the possibility of injury to the participants.

Additional suggested activities: changing a utility trailer tire (excellent to demonstrate how balance is affected by limb loss), simulating tractor driving (with the tractor off) by having someone direct the student to change gears, switch PTO, and work levers.