

## **Knowledge Domain: Electrical Simple**

### **Unit: Connectors**

#### **Skill: Loose Connectors**

#### **Tools and Parts Required:**

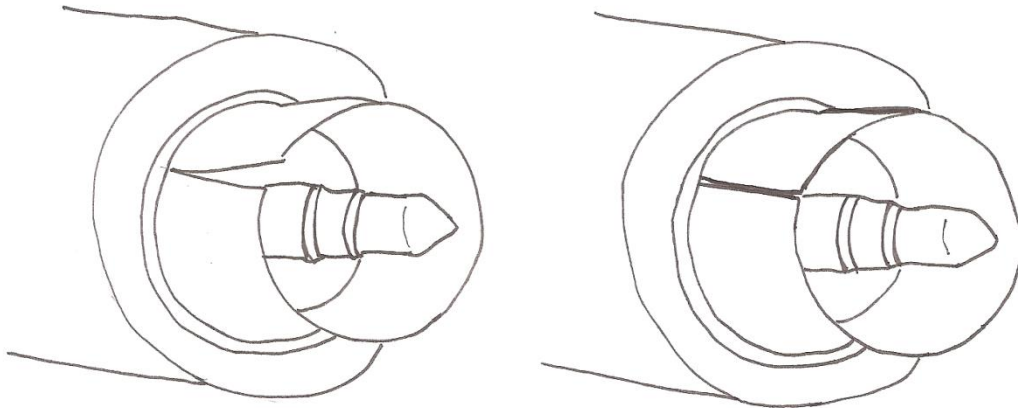
- 1) Loose Connector
- 2) Damp cloth
- 3) Pliers (preferably needle nose pliers)
- 4) Screwdriver (optional)

#### **Introduction**

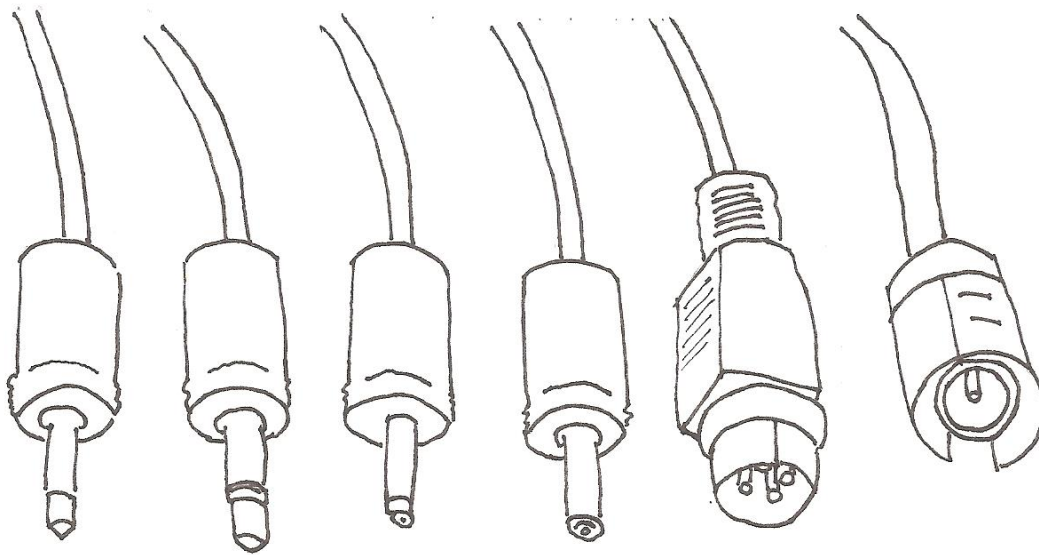
Medical devices often have many connectors. Connectors connect a machine to a monitor, a probe, or a power source. If any connectors are loose, the machine may not function properly. This unit explains how to repair a loose connector.

#### **Example**

Below is a picture of a loose connector before (left) and after (right) repair. This connector had a bent housing. The housing was adjusted to tighten the connector.



Some connectors have pins and some do not. Below are examples of common connectors:



### Identification and Diagnosis

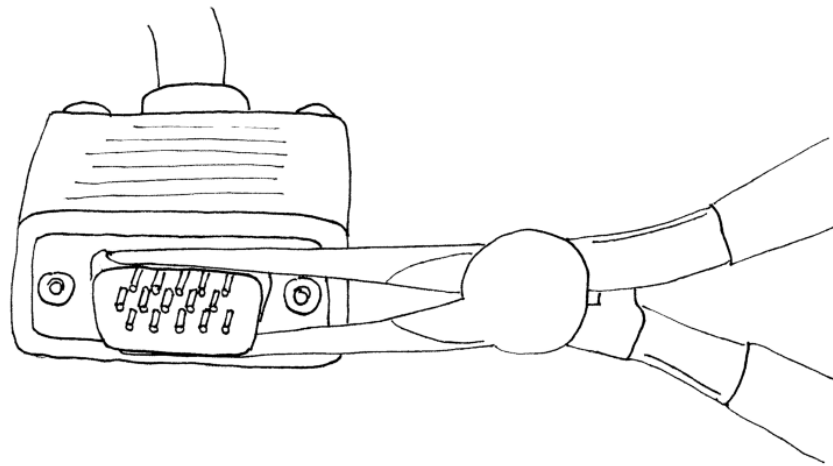
A loose connector will not function well. A loose connector from a power source will not power the machine consistently. A loose probe connector will not send information from the probe to the machine. You may identify a loose connector visually. The housing may be bent. The connector may not fit tightly into the machine.

For connectors with multiple pins: If there is a missing pin, the connector may still function. Not all pins are actively used to transmit information. If one of the active pins is missing, refer to *Electrical Simple-Connectors-Replacing Pins*. If you cannot replace the pins, the connector must be replaced.

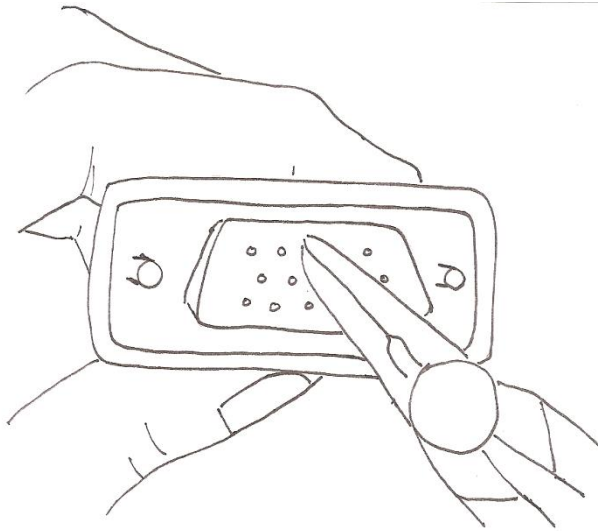
### Procedure

1. Unplug both ends of the cable. Never work with powered wires. Try the following steps in any order. Try as many steps as needed. After each step, test your connector with the machine.
2. Dirty pins may cause a poor connection. If you have pins, wipe the pins with a damp cloth. Dry off the pins.
3. Some plugs have screws on either side. Tighten the screws. If the screws are missing, replace the screws.

4. Check if the metal housing is loose. If so adjust the metal housing using pliers. The housing should fit tightly with the corresponding end.



5. Use pliers to bend the pin(s) slightly. Bent pins will touch the sides of the female connector. Be careful not to over-bend the pins. They can break.



### **Exercise**

Your instructor will provide you with a loose connector. Repair the connector and test it with the machine if available.

Your instructor must verify your work before you continue.

**Preventative Maintenance and Calibration**

Always disconnect plugs and connectors by pulling on the connector housing. Never pull on the cord.

Always calibrate every medical device before returning it to use.