



The Art and Science of Improving Lives  
Prosthetic and Orthotic Services

## **Double Wall Elevated Negative Pressure (ENP) Socket System Trouble Shooting Guide**

**This guide is designed to help you solve basic problems with your socket system focusing on the trouble shooting the seal that enables the system to maintain the seal. \*NOTE\* this is for your convenience and does not take the place of a follow up appointment with your Prosthetist. If you do repair your prosthesis using this guide we ask that you schedule a follow up appointment with your Prosthetist as soon as possible.**

### **Introduction**

The socket system that you have been fit with is the latest in prosthetic socket technology. Anatomical Designs INC has spent many hours refining its design to give you the most comfortable and functional prosthesis available. To understand how to trouble shoot your prosthesis you must understand how it works.

### **How It Works?**

Anatomical Designs INC Double Wall Negative Pressure (ENP) Socket System is designed to be the most functional and comfortable socket interface available. It works by placing your residual limb in a Total Surface Bearing Socket Interface. This socket is designed to place equal and even pressure to your whole residual limb. A silicone liner is used as a protective barrier between your residual limb and the inner socket. When the inner socket is donned, and the sealing sleeve reflected up, a sealed environment is achieved. As ENP or vacuum is applied, the silicone liner is pulled to the walls of the inner socket. At the same time your skin and soft tissue of your residual limb is expanded to follow the silicone liner. In doing this, your residual limb is placed in an environment of negative pressure, which provides a healthy environment for your residual limb.

### **What to do if you cannot achieve negative pressure?**

- 1) Make sure that the sealing sleeve is above the silicone liner.
- 2) Make sure the air wick (nylon or sock) is not extending past the sealing sleeve.
- 3) Make sure sealing sleeve is snug and in contact with your residual limb all the way around your leg.

### **Inspect sealing sleeve**

Inspect sealing sleeve for possible defects.

Reflect the sealing sleeve down onto the inner socket. This will place the gel material facing you. Inspect the gel material for defects such as cracks, tears, holes etc.

If defect is found:

- 1) Small defects can be repaired with super bonder or super glue. See repair manual for instructions on how to do this.
- 2) Replace sealing sleeve. See repair manual for instructions on how to do this.
- 3) If you are uncomfortable with replacing your sealing sleeve contact ADI for appointment and one of our team members will be happy to do this for you.

If sealing sleeve is in good shape the chances are the problem is in the valve.

### **Inspect valve assembly**

Anatomical Designs Inc. has used two different valve designs.

One design has a barb, small section of clear plastic tubing, then the valve.

- 1) Inspect the plastic tubing for tears at the attachment points.

If tear is found, remove tubing and trim tubing to remove tear.

Reassemble tubing and charge negative pressure.

- 2) If you are still unable to achieve negative pressure, remove valve from tubing and look through end to see if it is open. Valve should be closed, and you should be unable to see light through valve. An open valve means you can see light; which means there is an obstruction.

To remove the obstruction use a small pin to remove the obstruction.

If you are still unable to achieve negative pressure replace the valve. If you are uncomfortable with repairing or replacing your valve assembly please contact Anatomical Designs Inc. and one of our patient support representatives will be happy to schedule an appointment to repair the valve for you.

The second valve design has no plastic tubing and resembles a black button.

1) Inspect the valve by placing a flashlight inside the socket so that the light is aimed at the negative pressure port.

2) Look at the out side of the valve to see if light is shining through. No light means the valve is not obstructed and is in working order. If light can be seen then the valve is obstructed.

### To repair valve:

#### **Disassembly**

Use spanner wrench to remove valve from valve hosing.

Remove duck bill from valve.

Use small blunt object to remove obstruction.

#### **Reassembly**

Replace duck bill in valve.

Turn inner socket upside down.

Screw valve into housing finger tight.

Use spanner wrench to tighten.

**\*NOTE\* do not tighten more than ¼ turn.**

Don inner socket and apply negative pressure. After checking the sealing sleeve and valve assembly, if still unable to achieve negative pressure please contact Anatomical Designs LLC for follow up appointment.

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