

### **Replacing ALZET® Osmotic Pumps for Extended Duration Studies**

ALZET pumps range in duration from 24 hours to 6 weeks. However, laboratory animals can be dosed for periods exceeding the duration of a single pump by serial implantation. The pump replacement procedure is relatively quick and simple. Refer to the guidelines listed below for more information.

#### **Replacing Subcutaneously Implanted ALZET Pumps**

Be sure to follow aseptic technique during the pump replacement procedure to eliminate the risk of infection. Anesthetize the animal using gas anesthesia (i.e., Isoflurane) or an injectable anesthetic. Make a suitable incision\* over the subcutaneous pocket containing the pump. Expose the pump by blunt-dissection using a hemostat. Remove the pump from the subcutaneous pocket. Flush the subcutaneous pocket with warm PBS. Insert the new, properly filled and primed, ALZET pump in the subcutaneous pocket\*\*, delivery portal first. Close the incision with wound clips or sutures.

#### **Replacing Subcutaneously Implanted ALZET Pumps Connected to a Catheter**

Via a catheter, ALZET pumps can deliver substances into the venous or arterial circulation, spinal cord, cerebral ventricles, solid brain tissues, or other organs. In chronic drug administration studies involving these applications, only the pumps are replaced to extend delivery while leaving the catheter in place. A suggested procedure is listed below.

Anesthetize the animal using either gas anesthesia (i.e., Isoflurane) or an injectable anesthetic. Make a suitable incision\* over the subcutaneous pocket containing the pump. Expose the pump by blunt-dissection using a hemostat. Clamp the catheter approximately 5-10 mm from the tip the pump's flow moderator (we recommend using a non-serrated micro-serrefine clamp). Using sterile scissors or sharp scalpel cut the catheter at approximately 1-2 mm from the tip of the flow moderator. Remove the pump from the subcutaneous pocket. Flush the subcutaneous pocket with warm PBS. Connect the new, properly filled and primed pump to the catheter and insert into the subcutaneous pocket\*\*, delivery portal first. Close the incision with wound clips or sutures.

*\*The original incision from the initial pump implantation surgery can be used (be sure to remove scar tissue from the edge of the incision for proper wound healing). Alternatively, a new incision, away from the original, can be made.*

*\*\*The original subcutaneous pocket from the initial pump surgery can be used for subsequent pump replacements (provided the location looks healthy). Alternatively, a new subcutaneous pocket, away from the original, can be made. For multiple pump replacements, some researchers alternate pump placement between two different sites.*

To speak with a technical support representative regarding your specific study, call 800-692-2990 or e-mail us at [alzet@direct.com](mailto:alzet@direct.com)