



**Expect Service**

**Radiation Products Design Inc**

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## INSTRUCTIONS

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### RPD INFORMATION

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### RPD PRODUCT INFORMATION

| <b>Item Number</b> | <b>Description</b>                   |
|--------------------|--------------------------------------|
| 970-439            | 10" Curved Forceps                   |
| 970-441            | 10" Tweezers                         |
| 970-442            | 12" Tweezers                         |
| 970-952            | Forceps, Straight, Serrated - 9 1/2" |
| 970-960            | Forceps, Curved, Serrated - 9 1/2"   |
| 970-978            | Forceps, Straight, Smooth - 9 1/2"   |
| 970-986            | Forceps, Curved, Smooth - 9 1/2"     |
| 1006-01            | Scissors, 5 1/2" L                   |

## **STERILIZATION OF INSTRUMENTS**

### **PREPARATION FOR STERILIZATION**

Instruments needed for specific purposes should be selected and assembled in single units of sets following written procedures.

When assembling trays, hinged instruments should be in an open position, and in some cases, placed on pins or stringers, so that the sterilizing agent will come in contact with all surfaces.

Any instruments having removable parts should be disassembled.

Place heavy instruments on the bottom of trays and instruments with concave surfaces should be placed down.

Instrument trays should always be packaged in two wrappers, wrapped package within a wrapped package. The wrappers may be two double thickness woven cloth wrappers or two good quality non-woven wrappers.

Single unit instruments should be hermetically sealed in a plastic-paper peel down pouch of 2-3 mil. Thickness. It has been recommended that two pouches be used.

### **PROPER LOADING OF STERILIZER RACKS**

Single unit instruments packaged in plastic-paper pouches should be placed on their sides, in an upright position, for steam penetration.

Treatment trays which do not have perforated bottoms, should be placed on edge to allow steam to reach all surfaces, thus eliminating trapped moisture and allowing proper drying.

Instruments sets in mesh bottom trays should be placed flat on the sterilizer rack. This allows the steam to flow through and the instruments to remain in place.

## **STERILIZATION - STEAM**

Steam under pressure is a fast, economical means of sterilization and should be used for heat resistant instruments whenever possible.

If a gravity discharge type sterilizer is used, double wrapped instruments should be exposed 30 minutes at 250° F (121° C). At the end of exposure time the instruments should remain in the sterilizer for 15 minutes with the door open about ¼" to ensure thorough drying. When a high-speed pressure sterilizer adjusted for 27 pounds of pressure is used, the exposure time is 15 minutes at 270° F (132° C). In a prevacuum high temperature sterilizer, the exposure time is 4 minutes at 272° - 275° F (133° - 135° C) Unwrapped instruments require an exposure time of 15 minutes at 250° - 254° F or 3 minutes at 270° F.

Instruments should not be autoclaved following a load of saline solution. If the saline is still in vapor form, this would cause hydrochloric acid to form in the steam and damage the instruments.

Scale and mineral deposits occasionally build up in the sterilizer.

The chamber may be cleaned with a mild abrasive or the inner surfaces may be wiped down with acetic acid (a mixture of vinegar and water of equal parts). A regular schedule for autoclave maintenance should be established.

## **ETO STERILIZATION**

Instruments that are heat sensitive and/or moisture sensitive such as scopes and those containing sharp points or blades or materials other than metal, should be sterilized with ethylene oxide gas.

Temperature ranges from 85° F (30° C) to 135° F (58° C) with a relative humidity of 40 – 80%. Total cycle time ranges from 48 minutes to 5 ½ hours depending upon gas concentration and temperature.

Packaging or wrapping materials should be gas permeable and be impervious to microorganisms of 0.5 micron.



Loading of the sterilizer is basically the same as for steam sterilization.

All materials should be aerated following E.O. sterilization to allow for the dissipation of residual ethylene oxide gas absorbed by the material. Aeration

can be accomplished with an ambient air in a clean, well-ventilated area removed from other medical supplies and/or in an aeration chamber.

The manufacturer's operational manual should be followed in the operation of the sterilizer and the aeration chamber. The manufacturer's suggested aeration times should be followed.

### **DRY HEAT STERILIZATION**

Instruments with tight fitting, movable parts which cannot be disassembled or sharp instruments which might be damaged by moist heat should be sterilized by exposure to dry heat for one hour at a temperature of 340° F (171° C); two hours at 320° F (160° C); or six hours at 250° F (121° C).

Steam sterilization could be hazardous since steam may not come in contact with all surfaces.

### **CHEMICAL STERILIZATION**

Instruments must be immersed in glutaraldehyde for 10 hours to achieve sterilization. Thorough rinsing with sterile distilled water should be done following immersion to remove chemical solution.

The manufacturer's instructions should be followed.

### **STERILE STORAGE**

Following sterilization, instruments should be cooled before storing.

Moisture in the packs will condense on cold surfaces and cause wetting of wrappers and contamination of contents.

Sterile instruments should be stored in a secured, clean environment until called for.

## **ADDITIONAL PRECAUTIONS**

Do not use a vibrating engraver for marking instruments. If this type must be used, mark the instrument on the shank rather than the box lock. This will eliminate early box lock fracture. It is best to have the instrument company mark the instruments by acid etching at the time of purchase.

All hinged instruments should be in an open position during autoclaving.

Pressure on a closed instrument could cause the box lock to break. It is also possible for bacteria to survive in a box lock that is in a closed position when autoclaved because the steam cannot permeate the box lock.

Instruments should be thoroughly dried before storing them after cleaning or sterilization.

Before use, new instruments should be processed through the ultrasonic cleaner to completely remove the protective coating applied by the manufacturer, then rinsed in distilled water.

Instruments may then be placed in a milk bath, water soluble lubricating solution.

Instruments should not be exposed to corrosive materials. Should exposure be necessary, never leave in these solutions longer than 4 hours. Then clean thoroughly immediately after removal.

The corrosive materials are:

- aluminum chloride
- barium chloride
- calcium chloride
- blood
- carbolic acid
- chlorinated lime
- citric acid (boiling)
- dakin's solution
- Lysol
- mercury bichloride
- mercury salts
- phenol
- potassium permanganate
- potassium thiocyanate
- sodium hypochlorite
- stannous chloride

- ferrous chloride
- tartaric acid

Stainless steel should never be exposed to these solutions:

- Agua regia (a mixture of hydrochloric acid and nitric acid)
- Ferric chloride
- Diluted sulphuric acid
- Hydrochloric acid
- Iodine (if necessary -1 hour maximum)

Do not use short cuts in the care and handling of surgical instruments.

With reasonable care, some common sense and appropriate procedures maintained, quality instruments will last for years.