(A) Policy Statement

Proper instrumentation and/or instrument preparation procedures should be used during a laser case to help prevent inadvertent reflection or absorption by the laser beam.

(B) Purpose of Policy

To help prevent injury or accidents caused by the absorption or reflection of the laser beam by surgical instrumentation during a laser procedure.

(C) Procedure

1. Instruments can be ebonized or matted to decrease laser beam reflection reducing the risk of potential eye or fire injury. Laser instrumentation should not be etched because the surface will be disrupted and this may allow reflection.

2. Instruments (such as large retractors) may be covered with wet towels or sponges to decrease the chance of laser reflection.

3. Stainless steel mirrors used to purposely reflect the laser beam must be inspected regularly for cracks or damage that would decrease the reflective accuracy.

4. Glass rods should NOT be used during laser surgical intervention because of the shattering that can occur from the laser energy absorption and heat build-up. Metal rods should not be used because of the heat absorption and retention that could cause adjacent tissue damage. Teflon rods should not be used since they can melt and produce a toxic plume when struck by the laser beam.

5. Pyrex, quartz, or titanium rods can withstand laser impact and thus decrease the chance of laser reflection or damage to the rod material. Clear pyrex or quartz rods will allow transmission of the argon and Nd: YAG beams.

6. Proper endotracheal tube preparation should be performed to reduce the risk of endotracheal tube fires. A special "laser" endotracheal tube can be used that will withstand limited amounts of laser impact.

7. Plastic vaginal and rectal speculae should not be used as they may burn or melt when struck by the laser beam.
8. The LSN will test the laser impact on the material pre-op if there is any question as to the durability or flammability of the instrument in a laser environment.