

**Author:** Guy Cappuccino, MD

**Institution:** UMDNJ- University Hospital, Newark, NJ

**Title:** Removal of extruded silicone from ruptured silicone breast implants with a high pressure parallel water jet.

**Purpose:** Removal of free silicone gel after silicone breast implant rupture or leakage is a difficult and time consuming process. Previous methods of removal have included mechanical removal with 4x4 gauze, laparotomy pads, bulb syringe irrigation with saline, Shur-Clens solution, povidone-iodine solution, and pulse lavage irrigation. None of these methods have proven to be completely effective nor efficient. The purpose of this study is to demonstrate the efficacy of high pressure parallel water jet technology (Versajet) as a tool for removal of free silicone.

**Methods:** A multicenter trial was conducted where 12 patients were identified as having silicone breast implant rupture with extrusion of silicone. Four separate teams of university based plastic surgeons performed the operations. At the time of explantation the Versajet was used for removal of the silicone and subjective assessment of the efficacy of evacuation was noted. Three of the 12 patients had bilateral rupture. Those patients were treated with conventional silicone removal methods (saline irrigation and lap pad scouring) on one side and Versajet evacuation on the contralateral breast. Again subjective comparisons were made as to the comparative efficacy and ease of removal between the techniques.

**Results:** Evacuation of extruded silicone was found to be quicker, easier, and more thorough with the Versajet than with conventional techniques. This conclusion was agreed upon by all 4 surgical teams.

**Conclusions and Significance:** The overall rupture rate of silicone breast implants is approximately 30% with a direct correlation between implant duration and rupture. Silicone extrusion can cause chronic inflammation, granuloma formation, and pain. Removal by conventional methods is often incomplete. The Versajet provides an effective and efficient tool for removal of free silicone.