

MORE RELIABLE OVER TIME

The Effects of Sterilization on the Performance, and Reliability of Surgical Instruments

Results

Throughout the 50 autoclave cycles, the five (5) Laschal devices (L-1 to L-5) demonstrated no visible changes in the appearance of the instruments (FIGURE 1). The Laschal devices also demonstrated no change in force to open the handles of the scissors and no visible changes or damage to the cutting edges of the scissors after 50 cycles. Also the five (5) Laschal devices (L-1 to L-5) demonstrated no apparent change in cut performance; the scissors consistently and smoothly cut the test material.

The Control Device (C-1) demonstrated no visible changes in appearance, no change in force to open handles, and no visible changes or damage to the cutting edges. After 33 autoclave cycles, however, the Control Device required more apparent force to cut (from a rating of 5 to 4) and the cut was noted as "rough" (FIGURE 2). After the 37th cycle, the performance of the Control Device required more force to cut (from a rating of 4 to 3) and was also noted as "rough". After the 38th cycle, the rating increased from a 3 to 4, but the cut performance dropped from a 4 to 3 following the 48th cycle and, was noted again as "rough". Also noted in the study, the Control Device (C-1) showed discoloration following the 47th autoclave cycle.

Conclusion

After 50 autoclave cycles, the Laschal - Ring Handled Tenotomy Scissors demonstrated consistent sharpness and performance, strength and stability. There were no changes in the performance and durability of Laschal Scissors test after test, whereas the performance and durability of the Control Device, an industry gold-standard instrument, decreased notably after repeated autoclaving. In addition to consistent sharpness and performance, the Laschal test devices also demonstrated no visible changes in appearance, functionality (opening and closing), or damage to the cutting edges of the scissors.

FIGURE 1 *Laschal (L-1 to L-5)*

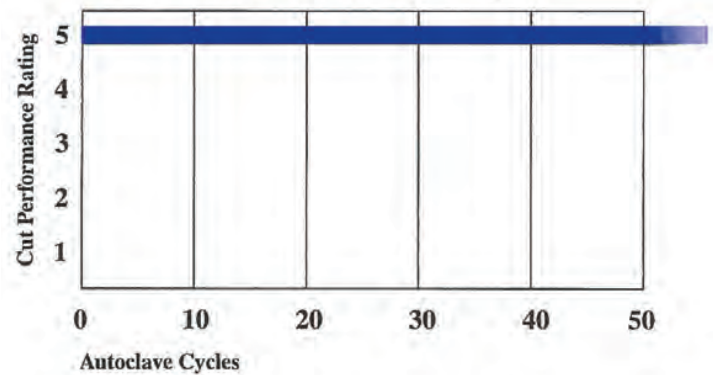
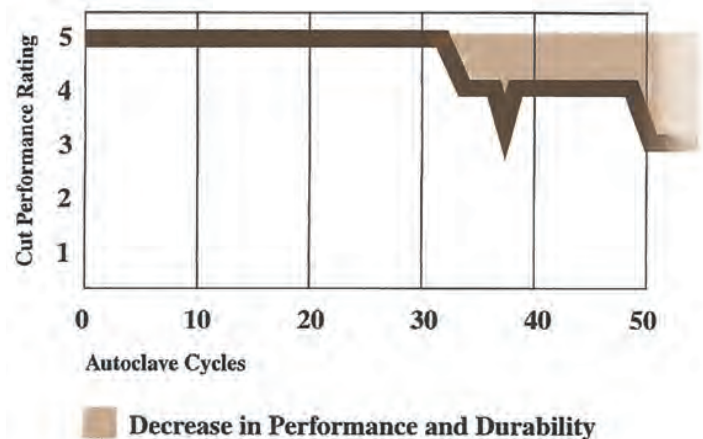


FIGURE 2 *Control Device (C-1)*



The Effects of Sterilization Procedures on the Performance and Durability of Surgical Scissors

Test Facility

Los Angeles Biomedical Research Institute at Harbor-UCLA Medical Center
1124 W. Carson Street, Torrance, CA 90502
(310) 222-3854
Fax (310) 222-6707