*by Rick Schultz*

# Sharp Instruments Are Safe Instruments

AS I LEARNED FROM VARIOUS surgeons over the years, their common request is this: "Give me a sharp instrument, so I will have better control, better technique and better outcomes."

German-made surgical instruments are created to be sharpened/restored. The list below contains the "must maintain" instruments from one's instrument inventory:

- All general scissors – Sharpen two to three times per year
- Supercut scissors (black handles) – Sharpen three to four times per year
- Laparoscopic scissors – Sharpen three to four times per year
- Micro/vascular scissors – Sharpen three to four times per year
- Rongeurs, orthopedic – Sharpen two to three times per year
- Osteotomes, orthopedic and Ear, Nose and Throat (ENT) instruments – Sharpen three to four times per year
- Chisels, orthopedic and ENT instruments – Sharpen two to three times per year
- Gouges, orthopedic and ENT instruments – Sharpen two to three times per year
- Kerrison rongeurs – Sharpen three to four times per year
- Pituitary rongeurs – Sharpen two to three times per year

It is important to note that the aforementioned list and sharpening recommendations are only a benchmark for instrument sharpness. Variables include the amount of tray turns (usage), the number of sets (to spread usage over) and, most importantly, whether the surgeon says an instrument is dull (if the surgeon says it is dull, it is).

Surgical instruments must be maintained on a proactive basis. Similar to an automobile, surgical instruments are only new for one day. They will need routine inspection, testing and repair. Cutting instruments that are sharp will contribute to a positive surgical outcome, as well as an increase in surgeon satisfaction.

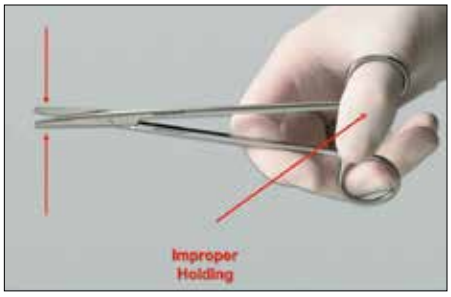
The Central Service (CS) department has an important responsibility of testing the sharpness of cutting instruments. Partnering with a surgical instrument repair company is only one critical component of this process; CS professionals must also implement a plan to test sharpness within the department.

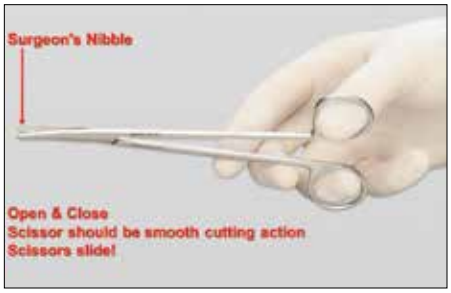
## SCISSORS

Testing scissors that come through the clean side test once or twice per week is an effective proactive approach and will eventually get scissor inventory in top condition. Commonly, there are two colors of test material: red and yellow.

### To Test Scissors

**Step 1:** To test properly, the scissor must be held similarly to how a surgeon would



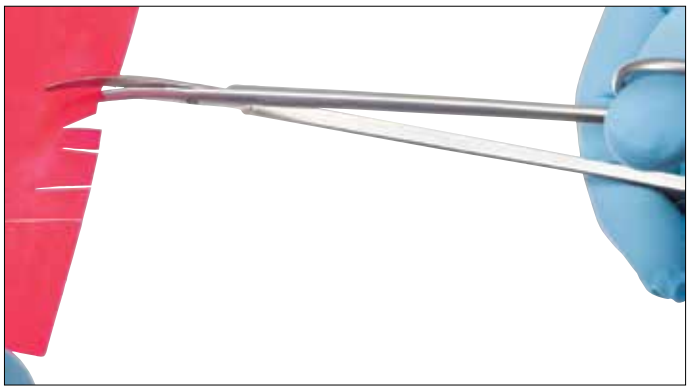


Photo A

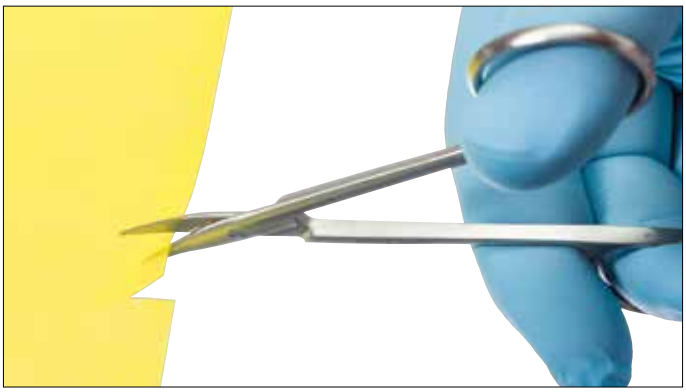


Photo B

hold it. Hold the scissor with the right thumb and either the ring finger or the middle finger.

**Step 2:** Make three cuts into the testing material using red test material for overall lengths longer than 4½ inches (Photo A). Use yellow test material for scissors 4½ inches and smaller (Photo B). The first 1/3 of the blade is tested, not the back.

The scissor should cut cleanly through to the tips without snagging. If snagging occurs, the scissor should be sent out for repair.

**Step 3:** If the scissor passes the test, also open and close the rings to ensure the cutting action is smooth. There should be no grinding or loose feel. Back-up board

Photo C

scissors should be tested two to three times per year. This is a very prudent and proactive approach. It is important to never add a dull scissor to a set.

## KERRISON RONGEURS

Kerrison rongeurs are tested on a standard 3"x5" index card. The rongeur should take a clean bite out of the card, without snagging or tearing (Photo C).

If the Kerrison does not cut cleanly, or if it sticks or is damaged at the distal tip, it must be sent out for repair.

## SINGLE-ACTION RONGEURS, DOUBLE-ACTION RONGEURS, BONE CUTTERS, PIN CUTTERS

These instruments are also tested on a standard 3"x5" index card (Photos D and E). These instruments should cut cleanly through the card. If snagging or tearing occurs, the instrument should be sent out for repair.

A rongeur is tested from 1/3 of the jaw. It should bite through cleanly.

Similar to Kerrisons, repair is needed

**Q Some of our gynecological (GYN) instruments are beginning to appear old. They have turned a tarnished, black color. Is this being caused by our ultrasonic cleaner, washer or sterilizer?**

**A** No. Without seeing the instruments, I would guess they are most likely malleable Sims uterine sounds or Simpson uterine sounds. The instruments are made using silver, which will tarnish and discolor over time. These relatively inexpensive instruments cannot be repaired and must be replaced.

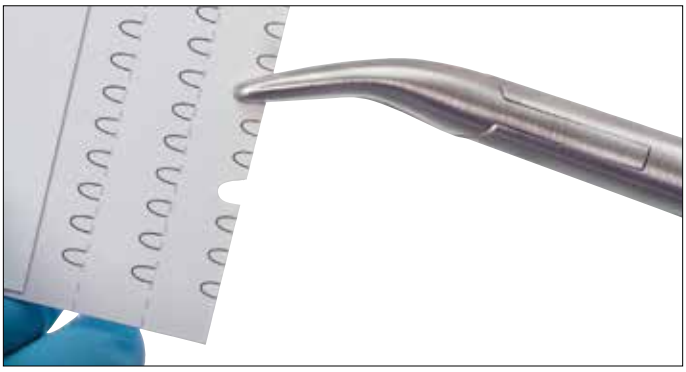


Photo D

Photo E

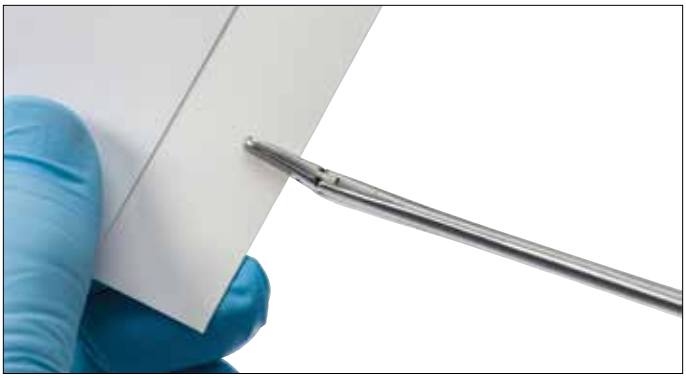


Photo F

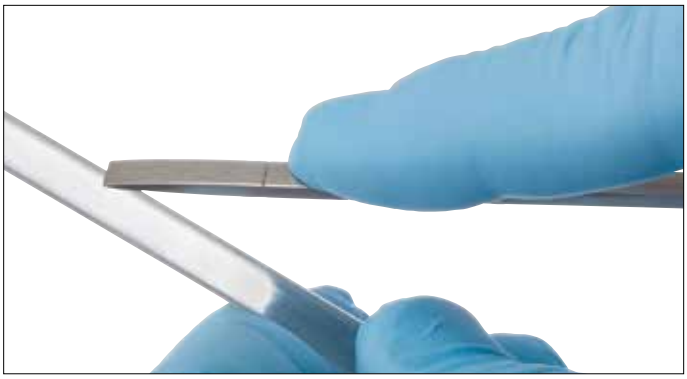


Photo G

if the jaws are dented, action is stiff or springs are cracked.

## INTERVERTEBRAL DISC/ PITUITARY RONGEURS

Instruments such as Cushing, Caspar and Peapod rongeurs are tested on a 3"x5" index card; however, they are not tested in the same way as the Kerrison. Instead of cutting through the material, disc and pituitary ronguers should make a uniform impression on the card (Photo F). If there are any gaps in the oval or circular imprint, the instrument must be sent out for repair.

## OSTEOTOMES

Osteotomes, regardless of pattern or length, are tested on a sharpness testing rod (dowel rod). The osteotome is placed on the rod at a 45° angle. The cutting edge should "grab" the rod without slipping (Photo G). If it slips, it should be sent out for repair.

A properly sharpened osteotome will have one point of energy and be sharpened like a "steeple," as opposed to a "rooftop." Proper sharpening will contribute to patient safety. To verify proper sharpening of an osteotome, view the osteotome from the side and verify corners are 90°.

Send your questions to Rick@instrumentwhisperer.com.

**RICK SCHULTZ**, the Instrument Whisperer™, is an author, inventor and lecturer, and the retired Chief Executive Officer of Spectrum Surgical Instruments Corp. He served as contributing editor of IAHCSMM's Central Service Technical Manual (Fifth, Sixth and Seventh Editions) and authored the textbook, *Inspecting Surgical Instruments: An Illustrated Guide*. Schultz was named IAHCSMM's Educator of the Year in 2002, and in 2006, was named American Hospital Association Educator of the Year. In 2007, he was named by Healthcare Purchasing News as one of the 30 Most Influential People in Healthcare Sterile Processing. Schultz currently provides educational lectures to Central Service professionals at IAHCSMM's annual conferences and conducts operating room personnel lectures across the country.