Orthopedic Instruments Must Be Kept Sharp

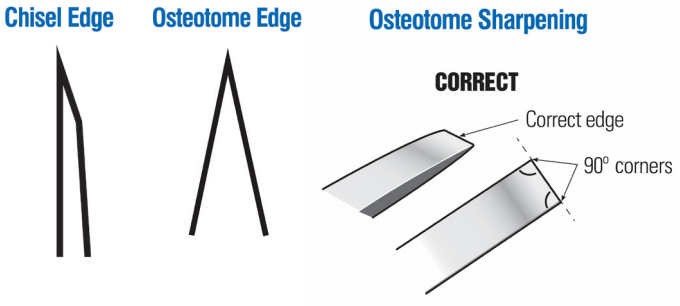
BY RICK SCHULTZ

Just like scissors, most orthopedic cutting instruments must be inspected and maintained frequently. Although the frequency depends on the orthopedic case volume and number of sets in inventory, the following is a general guide for orthopedic instrument sharpening:

- Osteotomes—Sharpen every three months
- Chisels—Sharpen every three months
- Gouges—Sharpen every three months
- Single-action rongeurs—Sharpen two to three times per year
- Double-action rongeurs—Sharpen two to three times per year
- Bone-cutting forceps—Sharpen every three months
- Pin cutters—Sharpen two times per year

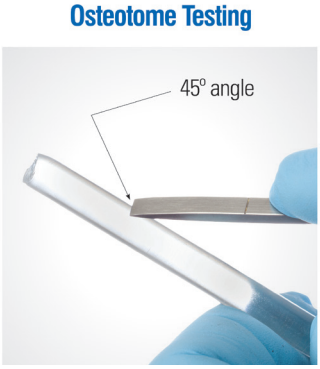
Osteotomes and Chisels

Osteotomes are used quite frequently and are prone to damage.



It is essential to inspect the distal cutting edge of osteotomes and chisels for damage. If any denting is noticed, the instrument needs to be serviced. *Note: In an osteotome set, not all osteotomes need to be re-sharpened at the same time because certain sizes are used minimally.*

When testing an osteotome or chisel, visually inspect the edges and corners. To test the sharpness of an osteotome or chisel, place the instrument at a 45° angle on a dowel rod/sharpness testing rod. When forward force is applied, the osteotome should grab the dowel rod/sharpness testing rod without sliding.



After years of sharpening, an osteotome's effectiveness decreases because it becomes shorter and thicker. Once this happens, the osteotome should be replaced. The final inspection step for osteotomes is to measure the length. If the osteotome measures shorter due to sharpening, replacement is required.

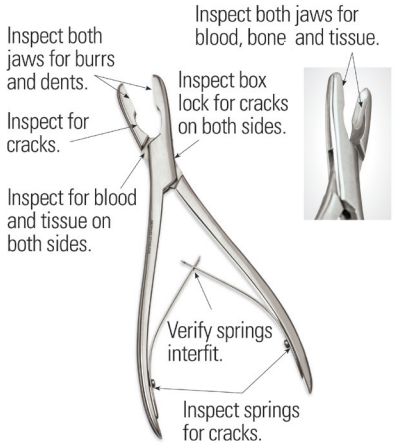
Rongeurs

The jaws of single- and double-action rongeurs require inspection after every use. If any part is damaged, remove the rongeur from service and have it repaired.

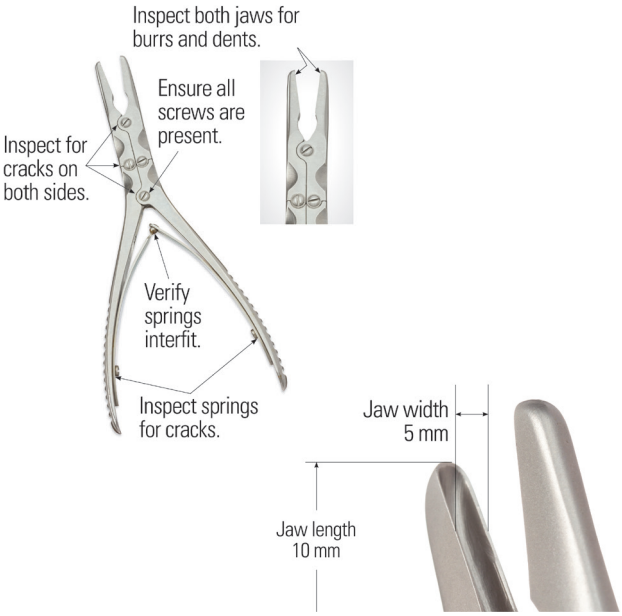
The front/distal one-third of the rongeur's jaw is where the cutting action takes place. To test a rongeur's sharpness, the front third of the jaw should cut cleanly two consecutive times through one thickness of an index card or card stock.

The final inspection steps for a double-action rongeur are to look for cracks near the screws and check for cracked springs. Final inspection of a single-action rongeur involves inspecting for cracks, loose or cracked springs, and damaged jaws.

Luer Bone Rongeur



Ruskin Rongeur



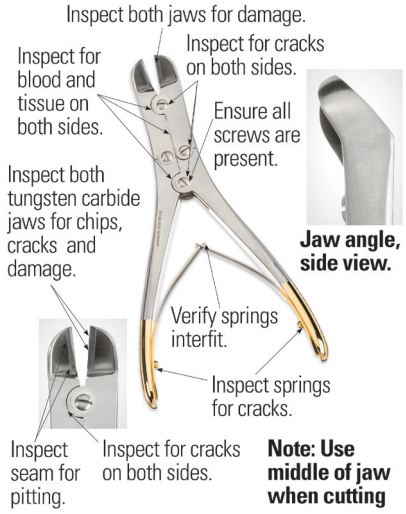
Single-Action Rongeur Testing

Pin Cutters

An especially important orthopedic instrument is the pin cutter. Pin cutters come in various sizes and are used to cut the wires and pins used in orthopedic surgical procedures.

Large-diameter pins require a larger pin cutter to prevent damage to the instrument. Many pin cutters have the maximum-size pins marked on them (for example: 7/64" indicates the largest pin size that can be cut with the instrument). Never cut a pin at the tip of the pin cutter; only use the middle of the pin cutter jaw. Sharpness testing for a pin cutter is similar rongeur testing; the instrument should cut cleanly through a single thickness of an index card or card stock.

Pin Cutter, Angled, Tungsten Carbide



RICK SCHULTZ, the Instrument Whisperer™, is an author, inventor, lecturer, and the retired Chief Executive Officer of Spectrum Surgical Instruments Corp. He served as contributing editor of HSPA's *Central Service Technical Manual* (fifth, sixth, seventh and eighth editions). Schultz authored the textbooks *Inspecting Surgical Instruments: An Illustrated Guide* and *The World of Surgical Instruments: The Definitive Inspection Textbook*, which was released in June 2018. In October 2021, Schultz published the veterinary medicine textbook *The World of Surgical Instruments for Animal Health*. Schultz was named HSPA's Educator of the Year in 2002 and the American Hospital Association Educator of the Year in 2006. 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 Sterile Processing professionals at HSPA's annual conferences and conducts Operating Room personnel lectures across the country.