





Kerrison Rongeurs:

Different Types, How They Are Used & How to Clean, Inspect, Test

BY DANIELLE FLETCHER, PRODUCT MANAGER—AESCULAP LAPAROSCOPIC AND NEURO INSTRUMENTATION

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LEARNING OBJECTIVES

1. Identify the types of procedures where Kerrison rongeurs are used
2. Identify the different types of Kerrison rongeurs
3. Explain how to clean, inspect and test Kerrison rongeurs

Surgical instruments used in the Operating Room (OR) of any healthcare facility are among the facility's biggest assets. Instruments must be properly cleaned, inspected, and disinfected or sterilized prior to each medical or surgical procedure. Making sure surgical instruments are in proper working condition and well maintained is not only necessary to ensure patient safety but it also maximizes the hospital's investment and preserves instrument life.

Kerrison rongeurs play an essential role in many surgical procedures. Although these devices appear simple in design, they are actually quite complex. This lesson identifies how and where Kerrison rongeurs are used and how they should be cleaned, inspected and tested.

Objective 1: Identify the types of procedures where Kerrison rongeurs are used

Kerrison rongeurs are important surgical tools used for removing bone, ligament, cartilage and tissue in many specialties, most often in neurological, spinal and orthopedic surgeries. These

instruments are commonly referred to as "bone punches."

It is imperative that Kerrison rongeurs cut cleanly and are clean and sharp for every procedure. Most frequently, Kerrison rongeurs are used for the following procedures:

- Laminectomy
- Laminoplasty
- Lumbar interbody fusion (posterior, lateral or anterior)
- Spinal surgery procedures (for tumors, degeneration, trauma or deformity)
- Spinal decompression surgery

Longer-shafted Kerrison rongeurs are used for spinal surgeries, while shorter-shaft versions are generally used for cervical procedures and ear, nose and throat surgeries.

Objective 2: Identify the different types of Kerrison rongeurs

There are different types of Kerrison rongeurs available in the marketplace today. They include:

- Non-detachable: These instruments remain intact and have no parts designed to be removed for processing.
- Semi-detachable: These are designed



to be partially disassembled for processing. The top part of the slide shaft opens but does not detach for cleaning.

- Detachable: These types disassemble into two parts. (See **Figure 1**)
- Specialty: These include bayonet, curved or laminectomy opening.



Figure 1: Detachable Kerrison rongeur

Today's detachable Kerrison rongeurs offer surgeons, OR personnel and Sterile Processing (SP) technicians notable benefits—easy disassembly and more efficient cleaning—that improve patient safety.

Depending on the procedure, there are two main types of Kerrison rongeurs used in surgery: standard footplate and thin footplate versions. Thin footplate Kerrison rongeurs are used exclusively for removing small portions of bone and soft tissue. The type of Kerrison rongeur a surgeon chooses depends on the location of the bone or tissue being grasped.

Kerrison rongeurs are manufactured in different jaw degrees, with the most popular being 40° and 90°. (See **Figure 2**) Other jaw degrees include 110° and 130°, and newer designs include 360° rotating and pneumatic-powered versions. Kerrison rongeurs come in an upward or downward biting pattern. Most are available in a variety of lengths, from 7 to 11 inches, and jaw widths, from 1 to 6mm. *Note: It is important*

for SP technicians to pay attention to the requested angles of the devices in each set, because a footplate of a different angle may not be appropriate for the surgical procedure being performed.

In recent years, some manufacturers have begun making Kerrison rongeurs with ejector pins that are placed within the distal portion of the shaft and designed to collect debris, keeping it from backing into shaft. The debris ejects when the handle is released.



Figure 2: 90° (left) and 40° Kerrison rongeurs

Objective 3: Explain how to clean, inspect and test Kerrison rongeurs

All Kerrison rongeurs are difficult to clean, so careful attention is required throughout the cleaning process. It is important to disassemble any device that was designed for disassembly. The slide shaft is the most difficult area to clean; therefore, special care and diligent adherence to the manufacturer's instructions for use (IFU) are essential steps in ensuring this area is properly and thoroughly cleaned. (See **Figure 3**) The ejector pin, when applicable, should be carefully cleaned, with care taken not to puncture the technician's gloves during this process. *Note: It is important to follow the IFU for each type of Kerrison rongeur as each design has its own cleaning instructions.*



Figure 3: A dirty slide shaft

During the cleaning process, it is helpful to use a lighted magnifying device to ensure Kerrison rongeurs are free of bioburden. SP technicians should check that all hinges, springs and screw areas are clean and intact. After careful manual preparation, most Kerrison rongeurs can be cleaned using mechanical equipment. If allowed by the IFU, the use of an ultrasonic cleaner prior to the use of a washer-disinfector can aid in cleaning the device's hard-to-reach areas.

Visual inspection

Following decontamination, Kerrison rongeurs need to be visually inspected for cleanliness and proper working condition; this helps ensure patient safety and surgeon satisfaction. During the inspection process, it is important to check each Kerrison rongeur for:

- Cleanliness: If residue is found anywhere on the instrument, including the footplate or sliding part, return the device (and the entire tray of instruments with which it was cleaned) to the decontamination area for recleaning.
- Alignment: The top and bottom part of the shaft should align along the entire shaft, including the footplate.
- Missing or loose parts: Screws, ejector pins and springs should all be firmly in place and functional.



- Pitting and stains: Pitted devices should be removed from service and sent for repair. If the device is stained, the reason for the stain should be identified and the stain should be removed. If unable to remove the stain, the instrument should be sent for repair.
- Nicks or cracks: Kerrison rongeurs with nicks or cracks anywhere on the device should be removed from service and sent for repair.
- Bent footplates: Devices with bent or damaged footplates need to be removed from service and sent for repair. (See **Figure 4**)

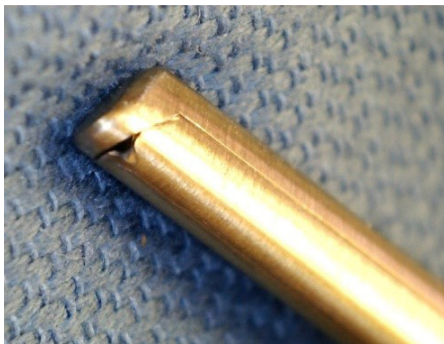


Figure 4: Damaged footplate area

Function testing

The inspection process also includes function testing. The surface, screws, jaws, action and sharpness should be assessed, including inspection for cracked or broken springs. SP technicians should check the:

- Footplate to confirm the instrument is not abnormally bent (upward or downward).
- Cutting edge for deformities and misalignment.
- Sliding parts for deformities.
- Tightness of the screws and confirm that no slacking is noted when the instrument is in use.
- Springs for damage.
- Ejector pins, when applicable, to ensure they are securely in place.

As noted, it is imperative that Kerrison rongeurs remain sharp, so they can easily cut through bone. To perform a cutting test, use a standard business card or equivalent type of paper stock as test material. The Kerrison rongeur should easily cut the test material. Two-thirds of the cutting edge must punch through the test material smoothly, without tearing. The test material must be completely removed from the jaw of the punch when the instrument opens.

Each Kerrison rongeur should be lubricated in accordance with its IFU, including the type of lubricant to be used and the proper areas of the device to lubricate. If the Kerrison rongeurs in the set pass visual inspection and function testing and are confirmed in good working condition, SP technicians can move forward with packaging and sterilizing the instruments.

Repair options

Remove Kerrison rongeurs from the sets in service and send for repair if:

- The device fails the function test.
- The footplate is bent.
- The cutting edges on the footplate or sliding part are worn or otherwise compromised.
- Nicks are present in the cutting edge.
- Springs are defective.
- Screws are loose.
- Ejector pins are missing.
- There is evidence of pitting or stress cracks.

Consult the device manufacturer for repair and preventive maintenance programs to keep the instruments in good working condition (doing so supports patient safety and contributes to customer satisfaction). Depending on the manufacturer's IFU, multiple repair options may be available, including a mobile on-site repair service, in-house repair service or shipping the product back to the manufacturer for repair.

Conclusion

In all surgical settings, it is imperative that instruments are in proper working condition. All members of the surgical team who touch or use the instrumentation play a vital role in keeping these devices safe for patient use. Kerrison rongeurs are important instruments that are complex and difficult to clean. Each requires careful attention to ensure it is properly cleaned, inspected for bioburden and damage, and tested. If any issues are detected with an instrument, it should be removed from rotation and repaired or replaced. **B**



CIS Self-Study Lesson Plan Quiz:

Kerrison Rongeurs: Different Types, How They Are Used & How to Clean, Inspect, Test

Lesson No. CIS 293 (Instrument Continuing Education - ICE) · Lesson expires September 2025

1. Which is a type of specialty Kerrison rongeur?
 - a. Detachable
 - b. Non-detachable
 - c. Laminectomy opening
 - d. None of the above
2. Thin footplate Kerrison rongeurs are used for cutting:
 - a. Small portions of bone
 - b. Tendons
 - c. Cartilage
 - d. All of the above
3. Longer-shaft Kerrison rongeurs are primarily used for:
 - a. Ear, nose and throat procedures
 - b. Cervical surgeries
 - c. Spinal surgeries
 - d. All of the above
4. Kerrison rongeurs are manufactured in different jaw degrees, with the most popular being:
 - a. 30° and 40°
 - b. 40° and 90°
 - c. 60° and 110°
 - d. 180° and 360°
5. Ejector pins:
 - a. Are located in the distal part of the shaft
 - b. Release debris when the handle is released
 - c. Keep debris from collecting in the shaft
 - d. All of the above
6. Kerrison rongeurs do not need to be manually cleaned if mechanical equipment is used to clean the devices.
 - a. True
 - b. False
7. When inspecting Kerrison rongeurs, it is important to:
 - a. Tighten all screws and springs
 - b. Straighten bent footplates
 - c. Ensure the entire shaft is in alignment
 - d. All of the above
8. Sharpness testing of Kerrison rongeurs includes:
 - a. Cutting through a business card or like-grade paper stock
 - b. Cutting through a plastic dowel
 - c. The use of non-latex testing material
 - d. None of the above
9. All Kerrison rongeurs should be lubricated:
 - a. Using an approved lubricant and applying the lubricant to the areas stated in the instructions for use (IFU)
 - b. Before the inspection process
 - c. Only by a certified instrument specialist (CIS)
 - d. Only as needed
10. Kerrison rongeurs should be sent for repair when:
 - a. The footplate is bent
 - b. Screws become loose
 - c. Springs become loose
 - d. All of the above
11. Non-detachable Kerrison rongeurs:
 - a. Have no parts to remove for cleaning/processing
 - b. Are typically preferred by surgeons
 - c. Always maintain alignment
 - d. Have the shaft blocked, so debris cannot enter
12. A bayonet Kerrison rongeur is considered:
 - a. The most popular model used in today's healthcare facilities
 - b. A specialty Kerrison rongeur
 - c. A pneumatic-powered device
 - d. The most difficult Kerrison rongeur to clean
13. The most difficult component of a Kerrison rongeur to clean is the:
 - a. Thin footplate
 - b. Ejector pin
 - c. Spring area
 - d. Slide shaft area
14. During the inspection process, if a bent thin footplate is discovered, the:
 - a. Footplate should be carefully bent back into position
 - b. Device should be sent for repair
 - c. Thin footplate should be replaced with a standard footplate
 - d. Device should be disposed of promptly
15. If a dirty shaft is detected during the inspection process:
 - a. The Kerrison rongeur should be sent to the decontamination area for recleaning
 - b. The Kerrison rongeur and the entire tray of instruments with which the device was cleaned should be sent back to the decontamination area for recleaning
 - c. The shaft should be carefully cleaned and then the inspection process should continue
 - d. None of the above

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