HOW TO TEST & INSPECT
Scissors

Featuring excerpts from the textbook:

Inspecting Surgical Instruments; An Illustrated Guide

By Rick Schultz
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Author, Lecturer, Inventor

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Scissors

Scissors are designed to cut, incise, and/or dissect tissue.

Facts About Scissors

• All scissors are designed to be re-sharpened.

• The feel of the scissor should be a smooth “slide” as you open and close the scissor.

• Gold-handled (Tungsten Carbide) scissors do stay sharper longer, however, you cannot replace the Tungsten Carbide edges.

• Black-handled scissors (Microgrind/SuperCut) scissors are the sharpest scissors available, however they go dull the quickest.

• Scissors go dull at the distal tip first.

• Scissors crack at the hinge/screw area.

• The weakest part of the scissor is the distal tip.
Scissor Blade Definitions

Most surgical scissors are produced with various blade definitions, depending on the surgical specialty and the material being cut. The three primary blade definitions are as follows:

**Stainless Blades:** Scissors with stainless blades are the most common. The entire scissor is made out of the same metal (stainless steel) and there are no distinctly identifiable colored rings.

**Tungsten Carbide Blades:** Inserted only along the cutting edge surface of the blade is the metal, Tungsten Carbide. These Tungsten Carbide strips are much harder than stainless steel. Once sharpened, these Tungsten Carbide blades stay sharper longer and are attached to the stainless steel scissor via welding or vacuum brazing. These Tungsten Carbide “strips” cannot be replaced once life-worn. Tungsten Carbide scissors have gold rings to distinguish this design.

**Black-Handled:** These scissors are known as *Microgrind* or *SuperCut* scissors in the industry. The unique feature of these scissors is the sharpening technique employed on one of the blades. This scissor has a blade that will lance/slice through tissue with its knife-edge blade. All other scissors crush, resulting in cutting, whereas the black-handled scissor slices tissue. Black-handled scissors require special sharpening techniques and must be resharpened three to four times per year. The identifying feature of these scissors is the black colored rings.

Post-Operative Care of Scissors

Separate the rings and begin the decontamination process within 20 minutes after surgery. The use of spray-on moisturizers such as Spectra-Moist® (Order # SS6) is also a very effective way to prevent blood from drying on the scissors. Soak scissors in an enzymatic solution (Spectra-Matic™ Order # SS9) or place a moist towel saturated with water over the instruments.
Points of Inspection

- **Blunt tips**: Tips should be rounded to prevent puncturing and tearing. Inspect tips for corrosion and burrs.

- **Sharp tips**: Scissor tips are very fragile. Make sure both tips are present. Inspect for bent tips, damage, and burrs.

- **Blades**: Inspect blades for chips or burrs on the cutting surface. If scissor has Tungsten Carbide blades (gold rings), inspect Tungsten Carbide blade insert for cracks. Also, inspect the union where Tungsten Carbide meets the stainless steel for signs of pitting.

- **Screw/hinge area**: Inspect both sides for the presence of cracking and blood/bioburden trapped in the screw head. The screw/hinge area is the area of the scissor most prone to trapped blood/bioburden and staining.

- **Rings**: Inspect the rings for cracks.

- **Scissor action**: To inspect the cutting action of a scissor, simply open and close the scissor three to four times. This opening and closing action should feel smooth. The scissor action should not be loose, tight and grinding, or jump. The scissor action test is important, as the initial action of a scissor is the surgeon’s first impression.
How to Test Scissors for Sharpness

Implementation Plan: Select two to three days per week in which all scissors processed that day will be tested. Issue scissor test materials and instruct the staff to test the scissors prior to tray assembly. This proactive approach will eventually put only sharp scissors in the surgeon’s hand.

Note: Standard scissor test material contains latex, however, latex-free test material is also available.

TEST YOUR SCISSORS

**STEP 1:** Using right hand thumb and middle (or ring) finger, make sure that scissors are held like a surgeon.

- For scissors **longer than 4 ½”** use Spectrum’s Standard (Red) Scissor Test Material (Order number 621431 or Non-Latex (Orange) Scissor Test Material, order number 621531).

- For scissors **4 ½” and shorter** in length, use Spectrum’s Thin (Yellow) Scissor Test Material (Order # 621430 or Non-Latex (Yellow) Scissor Test Material, order number 621530).

CAUTION: Standard scissor test material (product # 621430 and 621431) contain natural latex. May cause allergic reactions.

NOTE: Non-latex material (product # 621530 & 621531) is latex-free.
HOW TO TEST & INSPECT: Scissors

How to Test Scissors for Sharpness

STEP 2: Cut through material using ½ of blade to cut all the way through to the distal tip.

STEP 3: After several cuts, extract scissors. If scissors do not pinch or grab material, scissors are sharp.

STEP 4: The final test is how the scissors feel. Scissors should open and close smoothly and should not “jump”, grind, or feel loose.
TC Mayo Scissor

Proper Name: Mayo Scissor

Other Names: Mayos, Suture Scissors

Most Common Length: 6.75"

Surgical Use: Cutting and dissecting tissue

Inspect both sides for cracks
Inspect blades for burrs
Inspect tips
Inspect hinge for blood/bioburden
Action should be smooth

Mayo Scissor
Metzenbaum Scissor

Proper Name: Metzenbaum Scissor

Other Names: Metz, Nelson, Delicate Scissor, Tissue Scissor

Most Common Length: 7”

Surgical Use: For cutting delicate tissue and blunt dissection
Sharp/Blunt Operating Scissors

Proper Name: Sharp/Blunt Operating Scissor

Other Names: Sharp/Blunt, Nurse’s Scissor, Suture Scissor, OR Scissor

Most Common Length: 5.5”

Surgical Use: For cutting tissue and cutting surgical drapes

Inspect both sides for cracks

Inspect blades for burrs

Inspect hinge for blood/bioburden

Action should be smooth
**Iris Scissor**

**Proper Name:** Iris Scissor

**Other Names:** Plastic Scissor, Small Sharp-Sharp, Eye Suture Scissor

**Most Common Lengths:** 3.5” and 4.5”

**Surgical Use:** Very fine tissue dissection and cutting of fine suture

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**Inspect for:**
- Cracks
- Tips for damage
- Blunt/rounded tips
- Action should be smooth

**Inspect blades for:**
- Burrs
- Sharp edges

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Rust vs. Stains

Stains can be removed, whereas rust will leave permanent damage. To determine if a brown/orange discoloration is a stain or rust, use the eraser test. Rub a pencil eraser aggressively over the discoloration on the scissor. If the discoloration is removed with the eraser and the metal underneath is smooth and clean, this is a stain. If a pit mark appears under the discoloration, this corrosion is rust.

Trouble Shooting Stain Guide

**Brown/Orange Stains** - Most brown/orange stains are not rust. This stain color is the result of high pH surface deposits caused by any of the following: chlorhexidine usage, improper soaps and detergents, cold-sterilization solution, baked-on blood, soaking in saline or using laundry soap.

**Dark Brown/Black Stains** - Low pH (less than 6) acid stain. May be caused by improper detergents and soaps and/or dried blood.

**Bluish-Black Stains** - Reverse plating may occur when two different types of metals are ultrasonically processed together. For example, stainless steel instruments processed with chrome instruments may cause a stain color reaction. Exposure to saline, blood or potassium chloride will cause this bluish-black stain to occur.

**Multi-Color Stains** - Excessive heat caused by a localized “hot spot” in the autoclave.

**Light and Dark Spots** - Water spots from allowing instruments to air-dry. With slow evaporation, minerals from water are left on the instrument’s surface.

**Bluish-Gray Stains** - Cold sterilization solution being used outside manufacturer guidelines.

**Black Stains** - Possible exposure to ammonia.

Stain Removal

To remove localized staining, dip a moistened cleaning brush in Spectra-Scrub® and brush the stain away. Use tap water or distilled water to rinse, then dry with a towel.
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