

LASCHAL[®]

INSTRUMENTS THAT WORK

Sonic Steel[™]

Thumlok[®]

SNAGLESS Needle Holders[™]

SoftTouch Suture Scissors[™]

LIQUID SCISSORS[™]

CUTTING EDGE[™]
NEEDLE HOLDERS

RAPTOR Forceps[™]

LASNER RETRACTION FORCEPS[™]



2021 Portfolio

Having designed surgical instruments for many years, Dr. Jeff Lasner and his team sought to identify *why* scissors and forceps inevitably fail during surgery. For stainless steel and titanium, general use and repeated ultrasonic vibration during sterilization, and the natural stiffness of these metals were pinpointed as the variables of degradation. Simple enough, a new alloy was needed so instruments would survive sterilization, general use, and remain reliable over time.

Introducing...

Sonic Steel™



Made in the USA

This exotic alloy has unique properties. Lighter than titanium, stronger than stainless steel, elastic, and it never rusts or corrodes. Simply put, it just makes more reliable instruments. A few examples:

- Laschal needle holders resist bending out of shape
 - The new locking mechanism for needle holders (Thumlok®) that never freezes or fails to disengage the needle is a favorite of all surgeons
 - *Liquid Scissors* technology... Incredibly reliable scissors cut all the way to the point for YEARS, without becoming loose or splayed
 - Tissue forceps that secure soft tissue with at least 80% less applied force than all others
 - Laschal instruments produce a tactile feel most surgeons will never experience
- This is a growing portfolio of instruments that resist structural decay, ask about customizing. You can find studies conducted at UCLA, Yale, and RIH on pages 40-42.

Have you ever had trouble with....

Refer to:

| | |
|---|--------------|
| Needle Holders that fail to unlock during surgery ? Left-handed? | pg 4-5 |
| Castroviejo needle holders that fail during instrument ties ? | pg 6-7 |
| Accidentally cutting the suture knot ? | pg 8-10, 15 |
| Too many hands required for tissue retraction ?NEW..... | pg 12 |
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| Scissors that ultimately fail ? | pg 24-26 |
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SUTURING

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Trade-In, Trade-Up Program

Exclusively from: **LASCHAL**

Have a drawer full of old
and tattered instruments?

Get: \$100 per needle holder
\$50 per scissors

Trade them in for credit
towards new ones

All brands accepted



Trade-In Form

HATE YOUR CASTRO?

Thumlok®
CASTRO... REPLACED

*The first real advancement in Castroviejo
needle holders in more than 30 years*



Lefties Love It !!!
(Righties Too...)

*Sonic Steel™ has memory.
It allows for a superior
thumb-lock that doesn't lose
its shape, and is easily
corrected if necessary*

7-TCLR TL 18.2cm



- **Easy-Locking** - Engages when you close it. No more clumsy operation like traditional needle holders
- **Ambidextrous** - True 90 degree mechanism allows easy use in left and right hands alike
- **Snagless** - No cross-joint at the tips to snag the suture during an instrument tie
- **Freeze-Proof** - Single piece lock always disengages

Thumlok® options

FNHS 17.75cm



TCLR/TL 15.5cm



TUNGSTON CARBIDE TIPS

| | | |
|-----------------|----------|----------------------------------|
| 15.5cm straight | Baraquer | TCLR/TL |
| 15.5cm curved | Baraquer | TCLCR/TL |
| 18cm straight | Baraquer | 7-TCLR TL ***Most Popular |
| 18cm curved | Baraquer | 7-TCLCRTL |

DIAMOND-MICRO TIPS

| | |
|---------------|----------------|
| FNH-S6 | 15cm |
| FNH-C6 | 15cm |
| FNHS | 17.75cm |
| FNHC | 17.75cm |

WANT A BETTER CASTRO?

SNAGLESS™ Needle Holders



Sonic Steel™ is elastic. The tips flex outwardly to hold every size needle without damaging them, or permanently splaying at the tips

7-TCLR 18.2cm



- **Snagless - No cross-joint at the tips to snag a suture during instrument ties**
- **Holds every size needle, from the largest to the smallest, without bending out of shape, or damaging the needle**
- **Redesigned traditional Castroviejo lock endures excessive use and outlasts all others**
- **Standard Tungsten Carbide and Diamond-Micro tips available**

SNAGLESS™ Options



7-TCLRM 17.75m



TCLR 15.5cm

TUNGSTON CARBIDE TIPS

| | |
|------------------|----------|
| 15.5cm straight | Baraquer |
| 15.5cm curved | Baraquer |
| 18cm straight | Baraquer |
| 18cm curved | Baraquer |
| 17.75cm straight | Baraquer |

| |
|------------------------|
| TCLR |
| TCLCR |
| 7-TCLR ***Most Popular |
| 7-TCLCR |
| 7TCLR/MM (micro) NEW |

DIAMOND TIPS

| | |
|----------|---------|
| TCLR/M | 15cm |
| TCLCR/M | 15cm |
| 7TCLR/M | 17.75cm |
| 7TCLCR/M | 17.75cm |

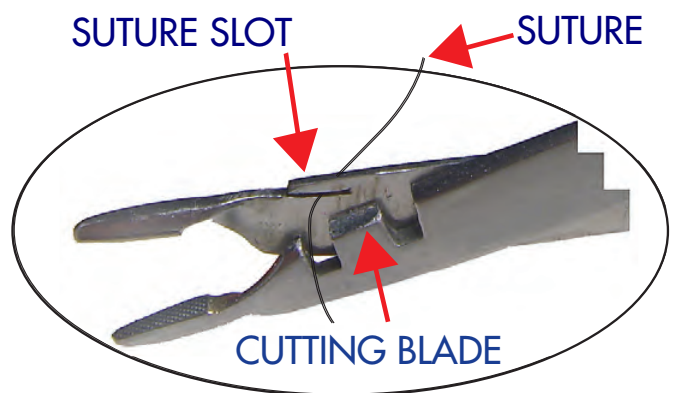
A Castro With a Suture Cutter..?!?

CUTTING EDGE™
NEEDLE HOLDERS

Built-in Guillotine for Cutting Sutures After Tying the Knot

Sonic Steel™ allows for the slight pitch necessary to maintain a guillotine cutting edge against the suture slot

7-10RL 18.2cm



- *Suture slot holds the suture in place*
- *Cutting blade severs the suture cleanly*
- *Knots are too big to fit through the suture slot*
- *Cut tags to any length, or flush to the knot*

CUTTING EDGE™

NEEDLE HOLDERS

OPTIONS

7-10RL/TL 18.2cm



6-10RLC 15.7cm



WITH TRADITIONAL CASTRO LOCK

| | |
|-----------------|----------|
| 15.7cm straight | Baraquer |
| 15.7cm curved | Baraquer |
| 18.2cm straight | Baraquer |
| 18.2cm curved | Baraquer |

6-10RL

6-10RLC

7-10RL ***Most Popular

7-10RLC

WITH NEW Thumlok®

6-10RL/TL

6-10RLC/TL

7-10RL/TL

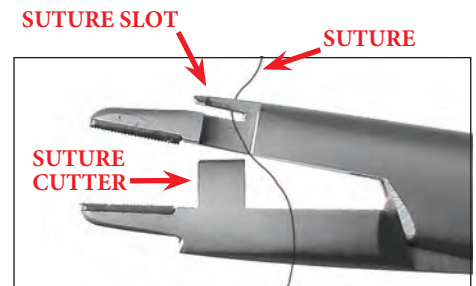
7-10RLC/TL

DIAMOND TIPS - custom order

RING-HANDLED NEEDLE HOLDERS

"Olsen-Hegar's Hot Cousin"

Compared to the traditional Olsen-Hegar needle holder, Laschal's Guillotine Suture Cutter is 80% closer to the tip of the driver, and requires 95% less clearance when opening to cut the suture. Making it far easier to use in tight spaces and safer to use during surgery in general



2-332-12



Tungsten Carbide
12.5cm
CGS **4/0 - 7/0**
SILK **3/0 - 8/0**

2-331-20

****Most Popular*



Tungsten Carbide
16.5cm
CGS **0 - 5/0**
SILK **1 - 4/0**

2-335-20

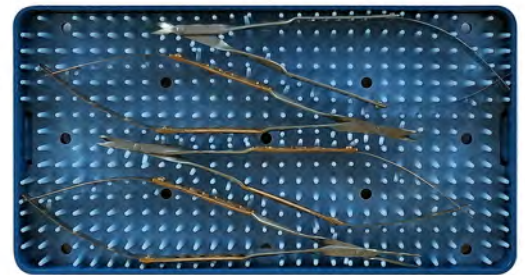


Tungsten Carbide
18cm
CGS **0 - 5/0**
SILK **1 - 4/0**

NIEMCZYK SUTURE SET

*A unique micro-suturing instrument set,
designed by Dr. Stephen Niemczyk, DMD*

SET-NIEMCZYK



Serrated / Gold Handles



Diamond Tips



- *Four instruments and a sterile case*
- *Needle holders (curved / straight), tissue forceps, scissors*
- *Ultra-micro, diamond tip needle holders*
- *Custom tissue forceps with tungsten carbide tips*
- *Laschal's finest tissue scissors, #51-12-30C ([Page 18](#))*
- *Diamond/Gold coated handles for superior grip and feel*
- *Scissors not coated for safe ID, flat handles for stability*

HANDS-FREE TISSUE RETRACTION ??

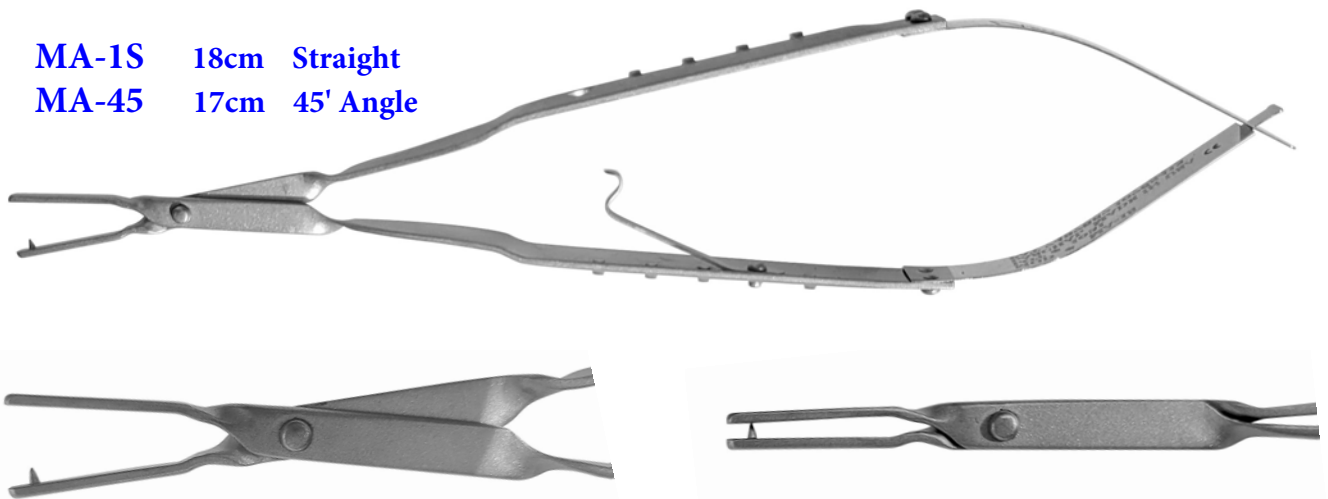
LASNER RETRACTION FORCEPS™

MIC-DROP... This new tissue forceps not only manipulates tissue with a notably low amount of applied force, but it also does something new.

Ultra-lightweight and 18cm long. This self-locking forceps acts like a lever, and retracts tissue using gravity. Consequently freeing up your assistant's hands for a multitude of other potential needs.

****Clinical images coming soon****

MA-1S 18cm Straight
MA-45 17cm 45' Angle



- 1.5mm single pin firmly grasps tissue without causing damage
- Zero clearance on opposing jaw results in not-penetrative gripping, preserving tissue integrity and reducing bleeding

TISSUE MANIPULATION WITH 1.5 NEWTONS OF PRESSURE

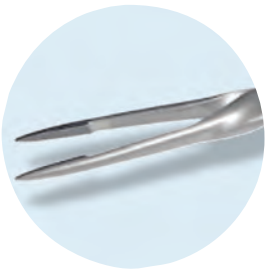
Clinically compared to other leading tissue forceps, which require 5 to 40+ Newtons of pressure to yield the same grip. **Page 42**

"A significant reduction, in otherwise unavoidable tissue damage caused during anastomosis and manipulation"

- RIH Orthopedic Foundation Testing Laboratory, Rhode Island USA

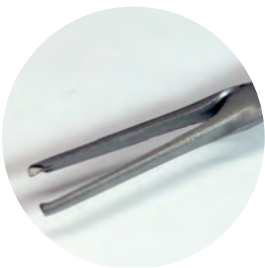


Sonic Steel™ is flexible and forgiving. In the non-dominant hand, the user understands only a gentle pressure is needed to hold the grip. Just two Newtons...



PLAF/R/F

- 18 cm
 - Tungsten Carbide Tips
- ***Most Popular**



PLAF/R/1X2

- 18 cm
- 1X2 Micro Rat-Tooth



PLAF/R/1X2/L

- 18 cm
- 1X2 Micro Rat-Tooth
- With Lock



SUTURE NEEDLE GUIDANCE

CORN Forceps Guarantee Precise Needle Placement When Suturing

The tips of the forceps gently grasp tissue and attached gingivae. Suture needles are guided through the grooves, allowing proper positioning



CORN/45B ****Most Popular*

Corn Forceps with 45° angle and diamond dust for slip resistance 15cm



CORN/45

Corn Forceps with 45° curve and diamond dust for slip resistance 17cm



CORN

Corn Forceps with *straight* tips and diamond dust for slip resistance 15.25cm



THE ASSISTANT'S SUTURE CUTTER

One Less Sharp Object in Someone Else's Hands



Sonic Steel™ allows for the slight pitch necessary to maintain a guillotine cutting edge against the suture slot

CGS 4/0 - 8/0
SILK 3/0 - 7/0

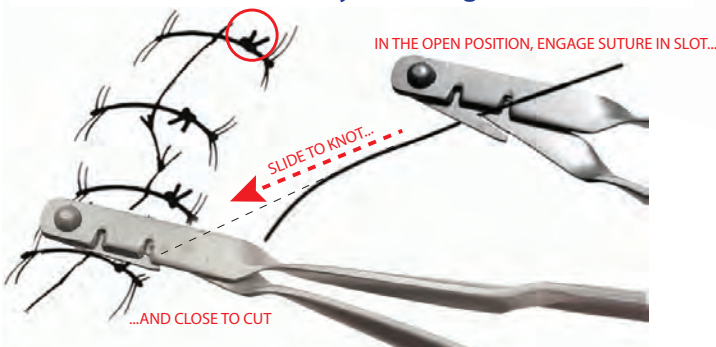
*Call for other available sizes

SC-1 15.75cm

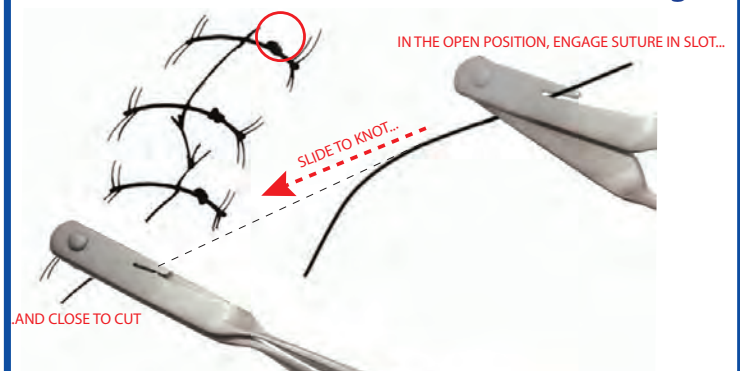


- **Think of it as an insurance policy...**
- **Use the suture as a guide to the knot**
- **Cutter stops at the knot, automatically leaves a 1mm tag**
- **Or, back off from knot to trim at any desired length**

FACE UP - leaves exactly 1mm tag above knot



FACE DOWN - cuts flush to the knot, w/o damage



***Perfect for resorbable sutures and burying the knot**

SUTURE REMOVAL WITH ONE HAND

Position, grasp, cut, and remove sutures with one instrument

Leaves your other hand free to stabilize the patient



Sonic Steel™ is flexible. it allows the creation of a forceps that first grasps a suture, and then cuts secondarily, all in one motion

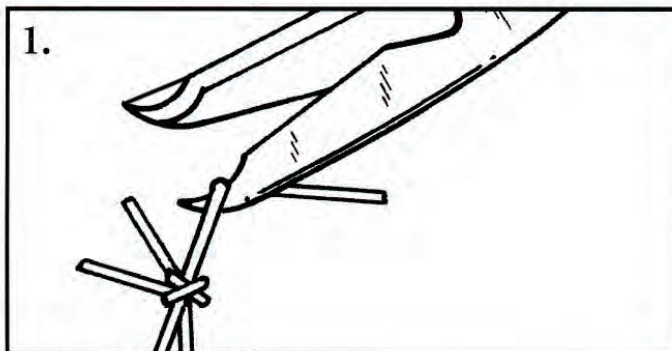
The Forceps

The Scissors

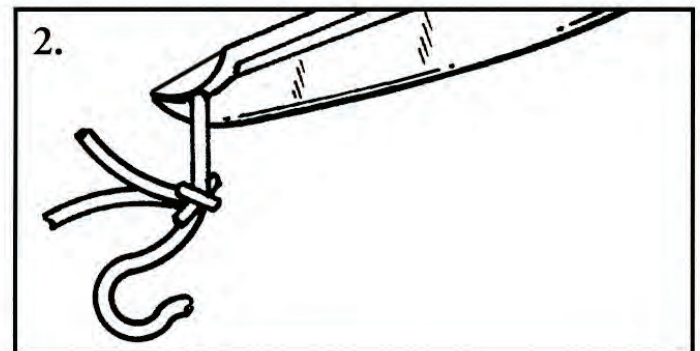


N-103F 16cm 30' Angle

N-101F 16cm Straight



1. Engage the suture on the **right hand side** of the knot...



2. Close, hold tightly in **closed position**, and remove the suture

HOOKED LITTAUER SCISSORS

The most narrow Littauer Scissors

Up to 70% finer than all others, this scissors displaces up to 80% less tissue than any other during the suture removal process, reducing potential bleeding and patient discomfort

N-6

14.5cm Straight



N-6A

14.25cm 45 degree angle



Suture Removal HURTS

A patient's last experience in your office shouldn't be a painful one, and a happy patient is 10x more likely to refer



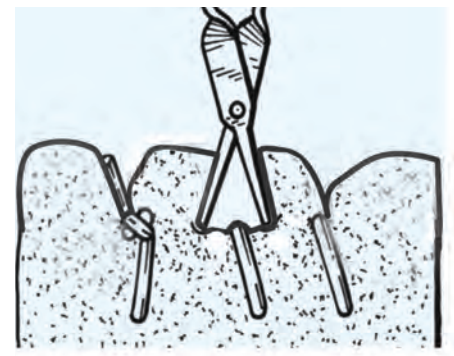
SoftTouch Suture Scissors

| | | |
|-----------------|------------------|------------------------|
| N-4CXF | 14.25cm Curved | ***Most Popular |
| N-4XF | 14.25cm Straight | |
| N-4CXF-7 | 16.75cm Curved | |



N-4CXF

- *Safely cut sutures without poking or irritating tissue*
- *Ball-point tips softly move tissue aside*
- *Enhanced tactile touch let's you know when you've located the suture*
- *Gently blunt-dissect borders to reveal buried sutures*
- *Straddle suture with tips, and squeeze to cut*



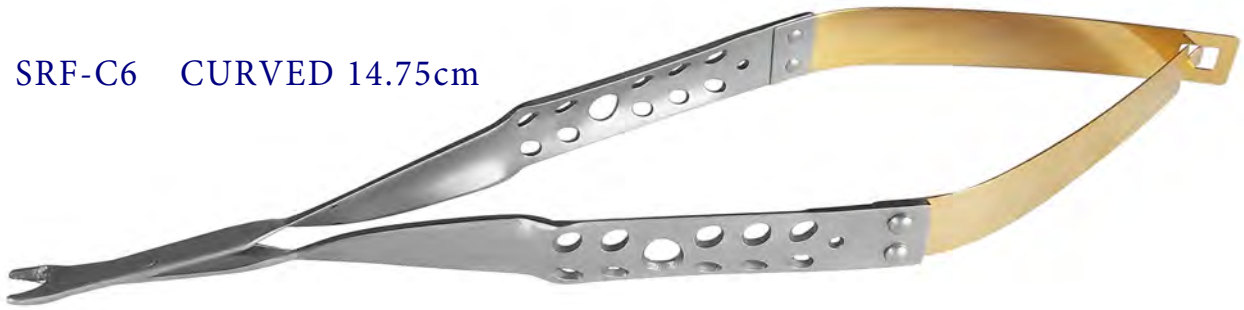
SUTURE REMOVAL FORCEPS

**Rounded Micro Tips Promote
Atraumatic Searching,
The Diamond Does The Rest**

SRF-6 STRAIGHT 14.75cm



SRF-C6 CURVED 14.75cm



SRF-C6 Curvature Profile



Diamond Tips



- *Universal for all suture sizes and materials*
- *Soft, rounded micro tips for gentle patient application*
- *Diamond coated for superior slip resistance*
- *Ultra lightweight, and tactile sensitive*

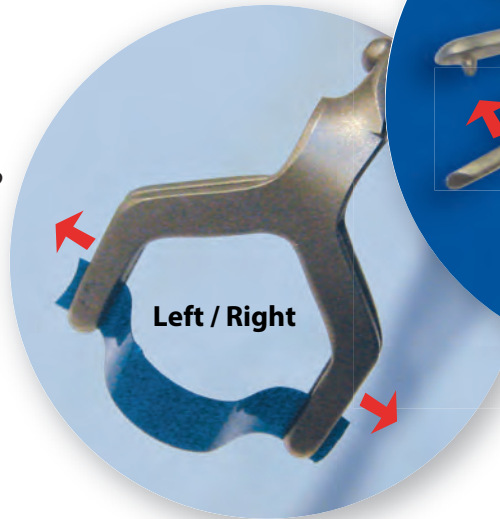
POLISHING AND BREAKING CONTACT POINTS

Takes All Strips Out of the Fingers, and the Fingers Out of the Mouth

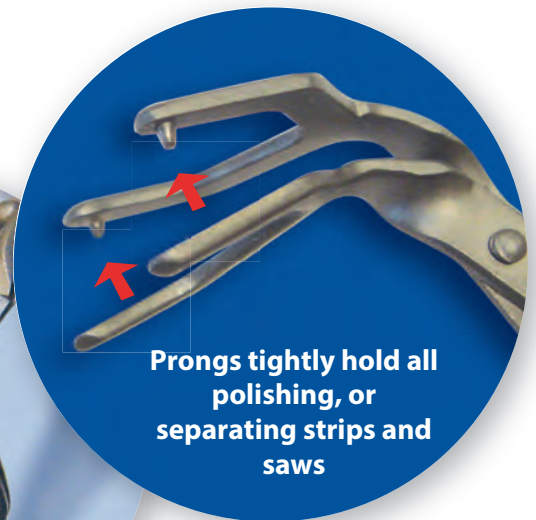
LWL 15.3cm



Loop polishing strip to access all restored surfaces. Or with articulating paper to uncover excessive contact during try-ins



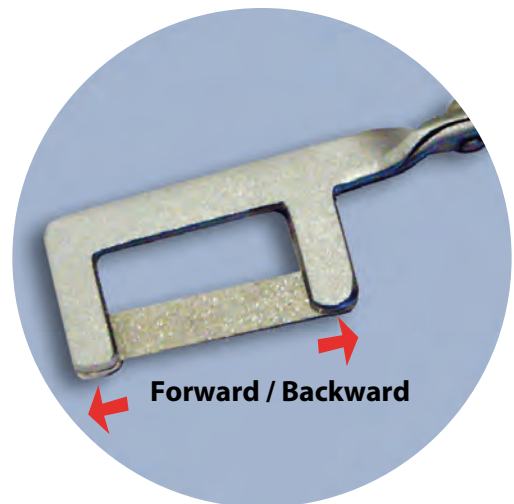
Left / Right



Prongs tightly hold all polishing, or separating strips and saws

LWL-ST 17cm

Prongs are in line with handle - more efficient for use with separating strips or saws



Forward / Backward

- 1.** Reduces incidence of soft tissue trauma
- 2.** Greater economics - use shorter strips for each procedure (up to 5 uses per strip)
- 3.** Greater ergonomics - easy to prepare and use

RESTORATIVE FORCEPS

POINTS

45-S 15cm

For placement and removal of points. Apply a modest amount of pressure for a soft yet firm grip



CROWN REMOVAL

45-CCR 15cm

Crowns, cores and bridges. Facilitates removal of temporary crowns. Apply firm pressure for removal



CROWN PLACEMENT - NEVER DROP A CROWN AGAIN

CDF 15cm

Allows application of cement and vaseline for easy delivery and cleanup. Spread open from within, to load and release.

DO NOT SQUEEZE







Net

LIQUID SCISSORS™

The Fluidity of the Sheer

*Sonic Steel™ is flexible.
It allows the crossing of fine
scissors blades by an additional
300%. But instead of biting into
each other, the blades glide
together like liquid, reliably
cutting all the way to the point
and never crushing tissue*



51-12-30C 13.75cm



YALE SAYS THEY CUT CLEANER

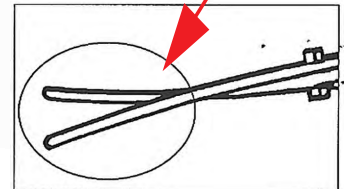
See page 40

UCLA SAYS THEY REMAIN RELIABLE

See page 41

- **Blades cross 300% greater than all other scissors**
- **NO SERRATIONS - or the damage they cause**
- **First they bite, then they cut. Tissue never slides out**
- **Confidently trim tissue, and create perfect margins for suturing**

**CROSSING
BLADES**



71-15-30C

17.25cm periodontal scissors with 2cm curved blades, 30° angle



51-15-30C

15cm periodontal scissors with 2cm curved blades, 30° angle



51-15-45C

15cm periodontal scissors with 2cm curved blades, 45° angle



51-12-30C *Most Popular**

13.75cm periodontal scissors with 1.0cm curved blades, 30° angle



51-12-45C

13.75cm periodontal scissors with 1.0cm curved blades, 45° angle



DS-1

14.25cm Vannas scissors with 1.2cm straight blades



DS-1C

14cm Vannas scissors with 1.2cm curved blades



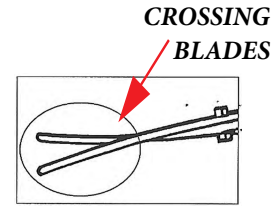
DS-G

14.5cm stork-shaped scissors with 1.25cm blades



RING-HANDLED SCISSORS

*Sonic Steel™ is flexible.
It allows the crossing of scissors
blades by 300%. In a 100% heavier
stock than the Liquid Scissors,
performance in general and special
surgery is unparalleled*



TMRHS-145



145mm Stevens Tenotomy Scissor



TMRHS-120-LR

****Most Popular*



Gorney Blades Now Available



120mm Littler Tenotomy Scissor

RHT-45B



Excellent for Rhinoplasty



95mm Converse Scissor 45°

TMRHS-95



95mm Iris Scissor

SUPERIOR CASTRO SCISSORS

*"Reliable" was never
defined like this before*

*All of the benefits of Liquid Scissors,
with 40% heavier blades*

Double-edge Gorney blades available upon request

*Excellent for micro blunt dissection. Castroviejo
spring resistance allows for incredible control.*



N-1

2.2cm Blades

N-1

15cm scissors with
2.2cm straight blades



N-1C

15cm scissors with
2.2cm curved blades



1.25cm Blades

N-4

14.25cm scissors with
1.25cm straight blades



N-4C

14cm scissors with
1.25cm curved blades



*****Also available in 18cm length*****

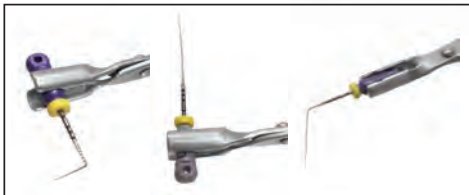
TACTILE ENDO FILE FORCEPS

Can't see anything during instrumentation?
Get your fingers out of the way!!!

*Sonic Steel™ magnifies vibration,
producing a tactile feel five to ten
times greater than your bare fingertips*



EF-1-7 17.75cm



Allows for a 75 or 90 degree bend in the file,
reducing total height by up to 65%. Ideal
for limited space conditions in molars

90AHF/L 15.75cm

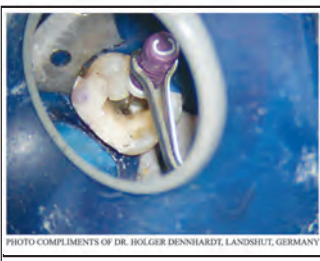
*****Most Popular**



Up to 270 degrees of mesio-
distal angulation, for access to
most areas and root positions



75CHF/L 14.5cm



Ideal for use with a mirror
or microscope, and 270
degrees of bucco-lingual
angulation



- Extraordinary tactile sensitivity - greater than finger manipulation
- Alleviates joint fatigue common to traditional instrumentation
- Diamond coated for slip-resistance

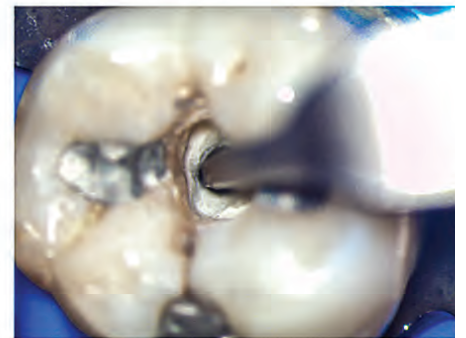
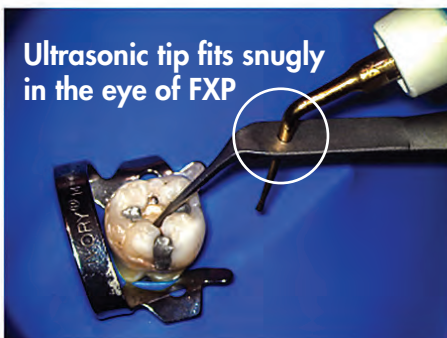
BROKEN FILES SUCK !!!

Don't spend so much time removing them

Sonic Steel™ magnifies vibration. Use with your ultrasonic to create high-speed oscillation at FXP's diamond tip. This widens the trough and sands down the file edges



- Magnifies ultrasonic vibration to activate the diamond coating
- Diamond-dusted to create a trough and sand the sharp edges of the file
- Follows dilacerated (curved) canals
- *Disperses heat created by the ultrasonic tip*





INTRODUCTION

- The fracture of endodontic instruments during root canal mechanical instrumentation is a mishap procedural that creates a difficulty in routine root canal therapy.
- Although fractured instruments may not compromise the outcome of the treatment, the retained file fragments may impede microbial control beyond the obstruction.
- Attempts to remove fractured instruments may lead to transportation of the prepared root canal or perforation, and/or over enlargement which could lead to the weakening of the tooth.
- The separation rates of stainless steel instruments have been reported to range between 0.25% and 6%, while NiTi instruments between 1.3% and 10%. Many techniques have been used to remove separated instruments; however, it is not possible to use the same technique for every clinical case.

SUMMARY

- The aim of this table clinic is to present an instrument retrieval technique using the diamond dusted probes from LASCHAL FXP SYSTEM along with an ultrasonic device.
- LASCHAL FXP SYSTEM along with ultrasonic device is a valuable alternative method to retrieve separated instruments from the root canal system. When it is not possible to retrieve the instrument from the root canal, using LASCHAL FXP SYSTEM, it helps to create space between a file and the root canal wall, facilitating the bypassing of the separated instrument.

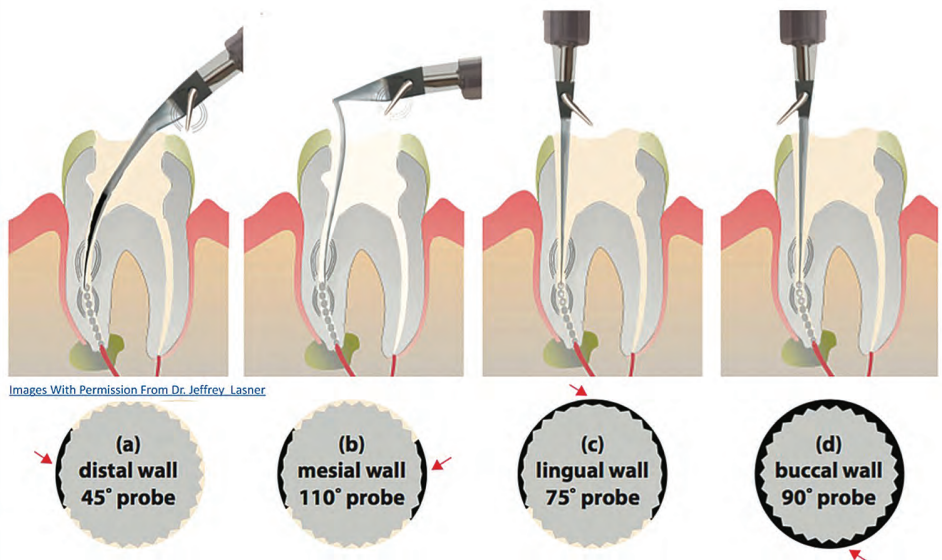
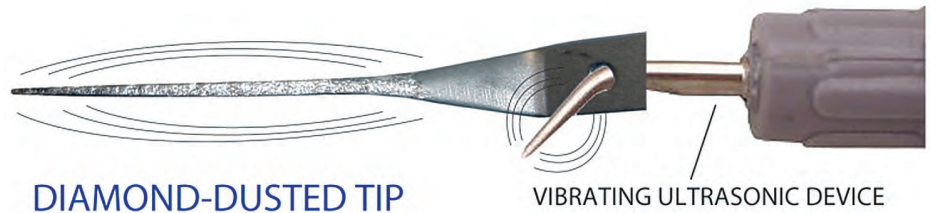
ACKNOWLEDGEMENT

Dr. Carolina Cucco, Dr. Darya Dabiri, Dr. Diogo Guerreiro, Dr. Indaiá Leibovich, Dr. Jeffrey Lasner and Rackham Graduate School.

REFERENCES

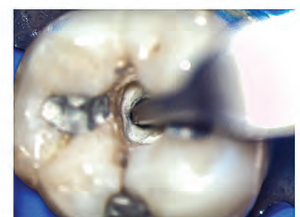
- Crump MC, Natkin E. Relationship of broken root canal instruments to endodontic case prognosis: a clinical investigation. J Am Dent Assoc 1970;80:1341-7. 3.
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- Iqbal M K, Kohli M R, Kim J S. A Retrospective Clinical Study of Incidence of Root Canal Instrument Separation in an Endodontics Graduate Program: A PennEndo Database Study J Endod 2006; 32:1048-52
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TECHNIQUE



Images With Permission From Dr. Jeffrey Lasner

CLINICAL PHOTOS



STEIGLITZ FORCEPS

The Finest, Strongest, and Thinnest Steiglitz Forceps Worldwide



Sonic Steel™ is elastic, so the ultra-fine Steiglitz forceps don't splay when grasping an object. Instead they flex out linearly, creating a firm grip

75SL/M - N/S 14.5cm



D-75SPLM - E/W 15cm



- For retrieving separated endodontic files
- Excellent for gutta percha and paper points
- Ultra-fine profile for canal entry

STEIGLITZ OPTIONS

- **North/South angulations address the bucco-lingual chamber orientation of anteriors and bicuspid**
- **East/West angulations address the mesio-distal chamber orientation of molars**

Tungsten carbide for strength

North/South Forceps

45SL/M 15cm

75SL/M 14.5cm ****Most Popular*

90SL/M 14.25cm

East/West Forceps

45SPL/M 16cm

75SPL/M 15cm

90SPL/M 14.5cm

OPEN



LOCKED



PROFILE



Extra thin for deeper access

North/South micro diamond dusted forceps

D-45SL/M 15cm

D-75SL/M 14.5cm

D-90SL/M 14.25cm

East/West micro diamond dusted forceps

D-45SPL/M 16cm

D-75SPL/M 15cm ****Most Popular*

D-90SPL/M 14.5cm

OPEN



LOCKED



PROFILE



ENDO FILE BENDER

Create Complex Curvatures Without Compromising the File



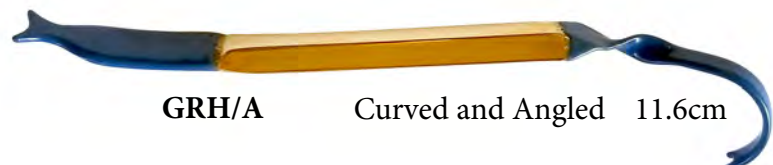
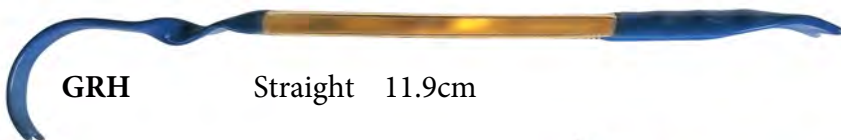
FBF 13.4cm

Smooth, non-crimping action and design enhances ergonomics and prevents loss of file integrity



GINGIVAL RETRACTORS

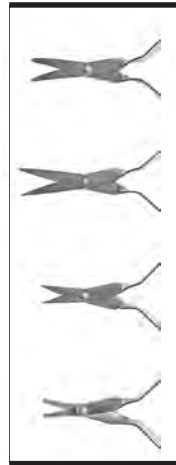
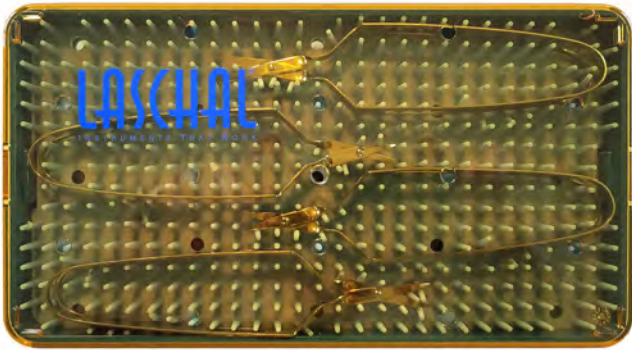
For use during examination, restoration, curettage, or surgery



- *Atraumatic tissue manipulation*
- *Surgical-grade plastic cured for longevity*
- *Straight and angled for use in all cases*
- *Recommended as a set of two*



MESH TRIMMING SET



Set of four Uniband Scissors
in a case. One each for...

- Trimming titanium mesh
- Trimming titanium enforced membranes
- Tissue mincing
- Cutting retraction cord and utility

*Ultra narrow blade profile
for improved line of sight*

SET-TRIM

other UNIBAND SCISSORS



SERRATED PERIOTOMES

**Periodontal ligaments are natural rubber bands,
stretching them to break may cause unnecessary
damage to the alveolar process**

Saw through them instead, and save hard tissue integrity



FB-1 12.7cm Straight



FB-2 11.7cm Garden Rake



FB-3 11.7cm Hockey Stick



SM-1F 15.8cm Straight, Single-End



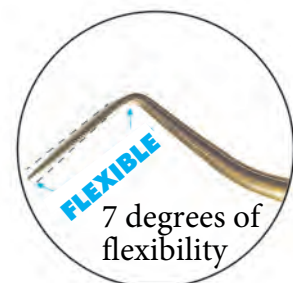
MSP-1F 18.6cm Straight / Hockey Stick

******Most Popular***



MSP-2F 17.6cm Angled Offset Left/Right

- Saw and pick through ligaments
- Flexible tips resist breakage
- Micro-serrated edges last longer
- Less damage to surrounding tissue
- As atraumatic as an extraction can be



RAPTOR Forceps

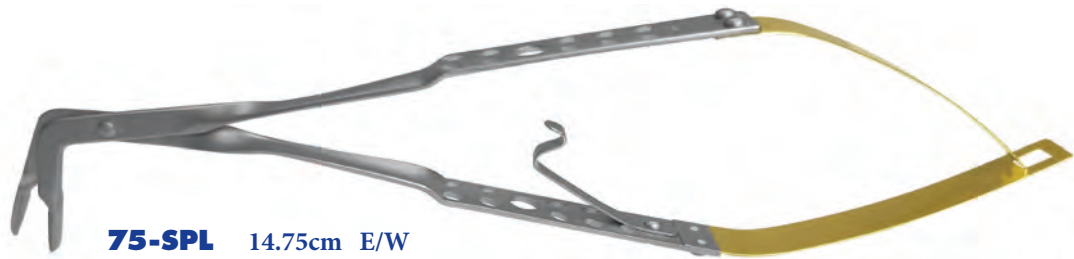
**Weighs 13.1 grams...
Stronger than anything
you've ever experienced**

*Sonic Steel™ is elastic, so the
forceps don't hold by brute force.
Instead the jaws flex out linearly,
creating a superior grip without
splaying or bending out of shape*

*****Most Popular**



45-SL 15cm N/S



75-SPL 14.75cm E/W

Root-Tip Removal

How to use it...

1. Grasp on to the broken root or fragment
2. Use Serrated Periotome (page 26) to pick away and sever remaining ligaments
3. Luxate to remove

**Think You're Tough ?
Lock the Raptor on to
a dime or quarter...
Can you pull it from the
jaws without twisting?**

Post Removal

How to use it...

1. Lock the instrument on the exposed post
2. Snuggly place (any) ultrasonic tip in the neck of the instrument
3. Gradually increase from low to high setting
4. Ultrasonic vibrations begin to crack cement
5. As cement bonds crack, gently luxate to remove the post

*****Video Coming Soon**

Ever Drop an Abutment or Screw?

A Thing of the Past!



Sonic Steel™ contains no carbon, eliminating potential risk of implant contamination

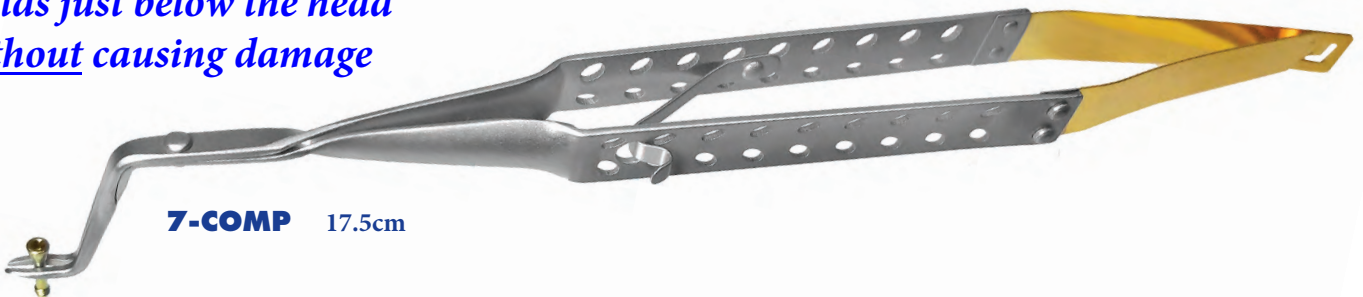


- Compatible with all sizes and shaped abutments
- Reverse spring action creates a secure but gentle grip
- Spread open to engage or disengage the abutment



Position and thread the abutment with confidence. Polished jaws resist scratching components

Holds just below the head without causing damage



- For stabilizing tiny components with diameters of 0.5 to 7.0 mm
- Any size screw or component may be rotated between the prongs, with absolute safety and bio-compatibility. Ideal for plating systems
- Ideal for the placement of healing abutments in areas with limited mesio-distal space

TIRED OF LOSING ALLOGRAFT?

COLLECT, DELIVER, AND PACK BONE & MATRIX MATERIAL

Sonic Steel™ contains zero traces of carbon, eliminating potential risk of implant contamination

IP-1 16.2cm



*****Video Coming Soon**

- *Pays for itself by saving allograft*
- *Reduces fiddle factor*
- *Easy retrieval from any receptacle*
- *Conical shape allows greater site access, even with a shield*



Half-moon tips gently pack in any circumstances. Close for a flat edge, open to circumnavigate any implant



Delivering to the site

Control opening, push into place with common amalgum packer

End result

Collecting from the dish

ABUTMENT/HEX ALIGNMENT

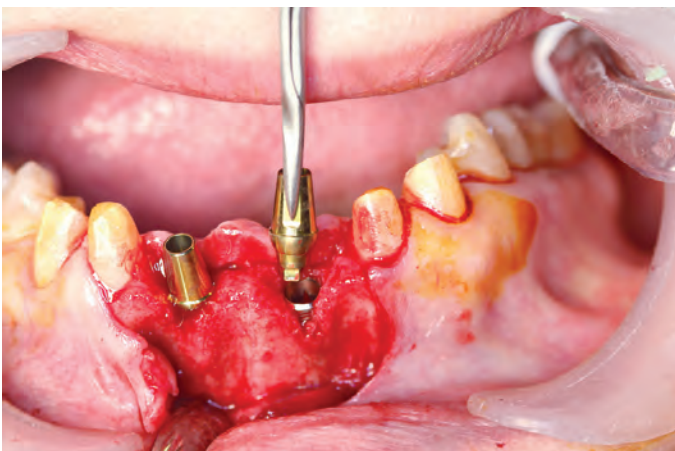
For Precisely Aligning Internal Hexes



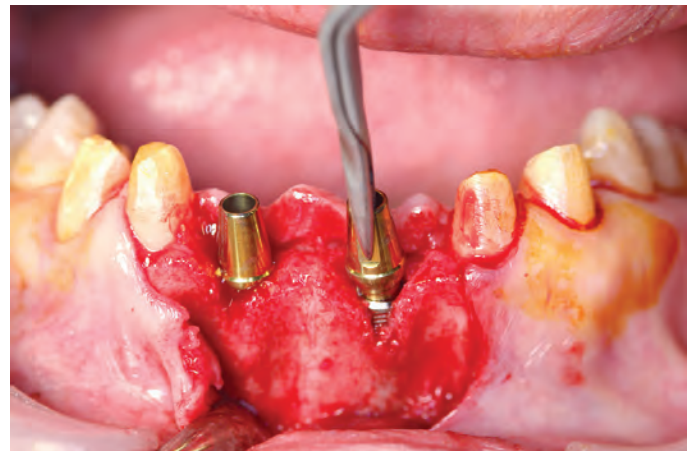
***Firmly holds without scratching
or compromising abutment integrity***

*Sonic Steel™ contains
no carbon, eliminating
potential risk of implant
contamination*

Clinical images of alignment and seating of internal hexes



Approach and alignment of
abutment on to implant



Final seating prior to
permanent attachment

TUNNEL GRAFT FORCEPS

Significantly reduces the time spent placing a graft in a surgical tunnel



- Atraumatic - only two newtons of pressure to firmly grip
- Blunted tips prevent damage to surgical tunnel and graft
- Easily navigate around compromised areas within the tunnel

TF-R Curved right 15.1cm

TF-L Curved left 15.1cm

*****Most Popular TF-S** Straight 15.1cm



1. Create tunnel in any standard manner



2. Close forceps and walk through tunnel



3. Grasp connective tissue graft



4. Draw graft through tunnel

LIQUID SCISSORS CUT CLEANER

Technological Advancements in Cutting from Laschal Surgical

Dr. Dardik is a surgeon-scientist who seeks to use the power of molecular biology to achieve a modern understanding of vascular disease, and to use the basic science laboratory to perform cutting edge research to ultimately benefit patients with vascular disease.

Dr. Dardik trained at Yale, the University of Pennsylvania, and the Johns Hopkins Hospital before his appointment to the Yale faculty in 2001.

The Dardik laboratory studies the healing and function of blood vessels and synthetic blood vessel substitutes that are used in patients having vascular bypass surgery. The histologic slides prepared by the Dardik Laboratory clearly define the gross iatrogenic damage caused by the use of conventional scissors as compared to the minimalization of damage when using the Laschal scissors.

Why this technology works:

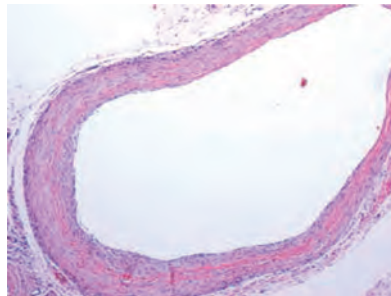
Scissors do not cut by cutting, they cut by shearing. Scissors do not initially fail because they get dull. They initially fail because they get loose. They get loose because the pressure that is created by the blades coming together in a zero degree clearance in order to 'shear' the material placed there between is greater than the resistance provided by the screw or rivet that pivots the blades together. Whatever is being cut, from the thinnest, single layered, true epithelial tissue to atherosclerotic arteries, a lateral pressure is placed upon all scissors blades which tend to separate them.

Conventional scissors must be made with a relatively narrow shearing angle between the blades because, in order to increase the edge strength, they must be hardened by a process known as heat treatment. In addition to hardening the blades, the 'heat treatment' process also reduces flexibility and makes the blades more brittle. The net effect is that the blades must be set at a very narrow angulation. If these blades were to be set at an increased angle in order to increase the efficiency of the 'shear', the blades would either 'bite' into one-another or hasten the failure of the pivoting screw or rivet. In such a scissors, a separation of the blades by as little as a .0001" (1/10,000") during surgery is enough to create margins that are 'crushed' rather cleanly cut, with the predictable results.

The Laschal scissors are capable of being set at angulations that are at least 300% that of a conventional scissors. The result is that, no matter what is being cut, any lateral pressure placed upon the blades is not enough to effectively separate the blades. The ultimate result is a cleaner cut and improved surgical result.

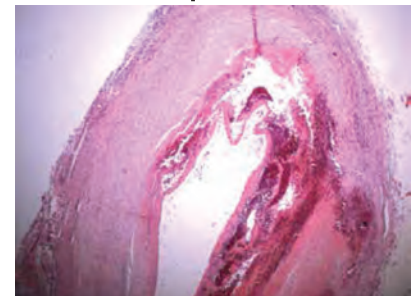
Less tissue damage in the vein graft originally cut with a Laschal scissors

Laschal



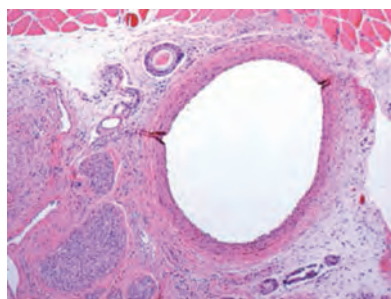
Vein Graft

Competitor

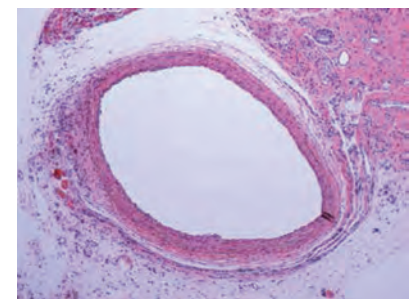


Test Facility

Yale School of Medicine
Dardik Lab
Amistad Street Building
10 Amistad Street, Ste Room 414
New Haven, CT 06519
USA



Artery



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)*

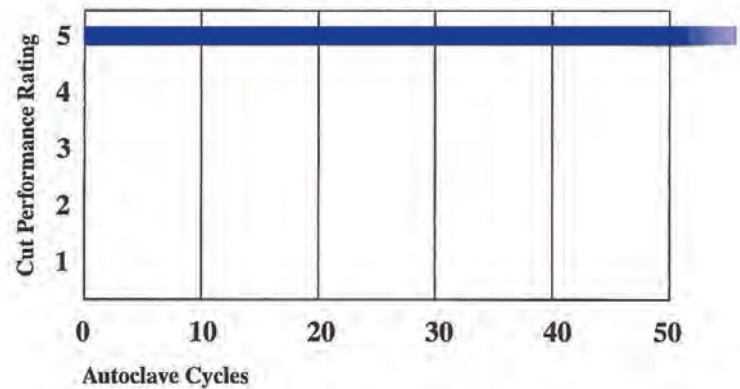
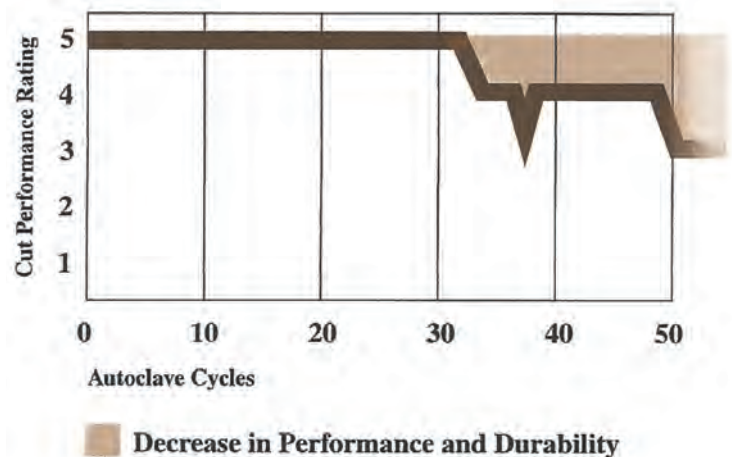


FIGURE 2 *Control Device (C-1)*



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

LASCHAL FORCEPS TESTING

Gripping Force Test

We have completed the testing for the gripping force of the various forceps devices. For each device, the forceps was clamped onto a Tekscan 6900 model sensor (Tekscan, Inc. South Boston, MA) which was encompassed with a latex sleeve. The pressure saturation for the sensor was 1100 pound per square inch and data was collected and analyzed with I-scan (Tekscan Inc., South Boston, MA) software. Prior to testing, the new sensor was conditioned initially by applying known compressive forces with an Instron 8521S servohydraulic load frame (Instron Corp., Canton MA). Then, a two-point linear calibration was performed with the I-scan software. Six trials were then recorded for each device to determine the maximum gripping force for each forceps.

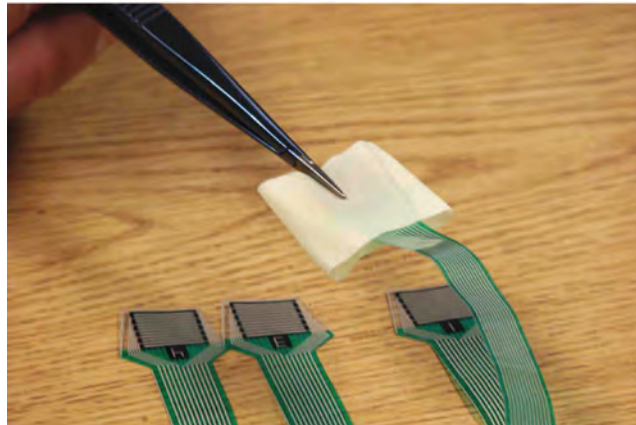
A picture of the test set-up was taken (Figure 1). Table 1 contains the raw data results for the four forceps devices. The average maximum gripping force was 1.2 ± 0.2 N for the Laschal PLAF, 38.9 ± 1.4 for the Geistar Castroviejo, and 7.2 ± 1.2 for the Jarit Cardio-Grip. Figures 2-4 display typical schematics from the I-scan software for each device.

Table 1: Results for gripping force testing of various non-traumatic forceps devices in Newtons

| Trial | Laschal PLAF | Jarit Cardio-Grip | Geistar Castroviejo |
|-------|--------------|-------------------|---------------------|
| 1 | 1.6 | 8.0 | 36.5 |
| 2 | 1.0 | 7.2 | 38.0 |
| 3 | 1.0 | 5.0 | 39.9 |
| 4 | 1.1 | 7.2 | 39.4 |
| 5 | 1.3 | 7.3 | 39.6 |
| 6 | 1.4 | 8.4 | 39.8 |

"A significant reduction, in otherwise unavoidable tissue damage caused during anastomosis and manipulation"

Figure 1: Overall photograph of the test set up



Test Facility

Rhode Island Hospital
Orthopedic Foundation
Providence, Rhode Island
USA

Figure 2: I-scan schematic on the gripping pressure of the Laschal PLAF



Figure 3: I-scan schematic on the gripping pressure of the Geistar Castroviejo

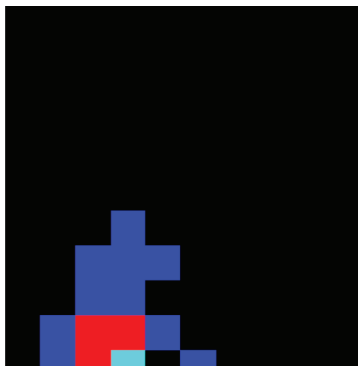


Figure 4: I-scan schematic on the gripping pressure of the Jarit Cardio-Grip



Sonic SteelTM

A Brief History of Materials Development

| | |
|--------------------------|--|
| <i>Titanium -</i> | <i>Discovered in 1793</i> |
| <i>Stainless Steel -</i> | <i>Developed in 1913</i> |
| <i>Sonic Steel -</i> | <i>The first improvement to instruments in 100 years</i> |

*Never buy titanium
or stainless steel forceps
and scissors again!!!*

All Laschal instruments and the
Sonic Steel material are patent
protected in the USA and
internationally

Web Site



Warranty and
Repair Form



LASCHAL[®]
(L'SHAL)

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