



TISSUE MANAGEMENT



# PROFOUND HEMOSTASIS AND FLUID CONTROL

Unparalleled tissue management starts with rapid, profound hemostasis.  
No one offers a more complete line of solutions for controlling bleeding and sulcular fluid.

 **ULTRADENT**  
PRODUCTS, INC.

# TISSUE MANAGEMENT TECHNICAL INFORMATION

## Philosophy >>

For more than 35 years, dentists have trusted the immediate hemostasis, detailed margins, and elimination of surface bleeding and sulcular fluid provided by Ultradent's tissue management products. Our complete line of products continuously sets the standard for superior control and predictability while offering dentists fast, reliable, and affordable solutions.

But what inspired the products that have changed the way the entire dental industry looks at tissue management?

Ultradent's philosophy of profound hemostasis and tissue management starts with Dr. Dan Fischer.

After graduating from Loma Linda Dental School in the 1970s, Dr. Fischer became dissatisfied with the quality of hemostatics on the market. He felt the greatest challenges of making quality impressions were adequately controlling the bleeding and displacing the tissues, which were necessary for delivering impression material to the sulcus subgingivally in a controlled, predictable way. Without a dry field, a quality marginal fit could never be achieved.

Determined to find a more adequate hemostatic solution, he began experimenting with new solutions in the lab he created in the basement of his home, using his own blood

to test his creations. Months of testing eventually led to the creation of Astringedent hemostatic solution, a ferric-sulfate-based product that could quickly and predictably control bleeding and sulcular fluid. Dr. Fischer began manufacturing the revolutionary new hemostatic in his home with the help of his family members.

Now, over 35 years later, Dr. Fischer serves as the founder and CEO of Ultradent, a worldwide manufacturer of hundreds of quality dental products that employs more than 1,000 individuals around the globe.

In the midst of Ultradent's award-winning success, Astringedent and the other hemostatic products that followed remain some of the company's most recognized, well-used, and well-loved products.

Dr. Dan Fischer revolutionized the world of tissue management. And today, his line of tissue management products, combined with his unique application process, remain the gold standard in achieving rapid, profound hemostasis.

*“The number one challenge for making quality impressions was to adequately control the bleeding and displace the tissues in order to be able to deliver the impression material to the sulcus, subgingivally, in a controlled, predictable way. This is imperative when performing adhesive dentistry.”*

— Dr. Dan Fischer

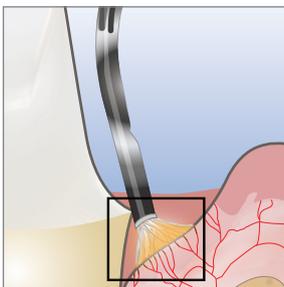
# TISSUE MANAGEMENT

## Technique >>

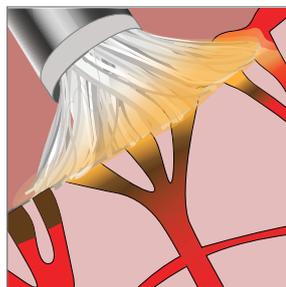
Successful tissue management involves more than choosing the right products. Practicing the correct technique is imperative for rapidly achieving a clean, dry field. This is mandatory for accurate impressions—even digital ones—and also for adhesive dentistry. In order to consistently prepare the operational field and attain dependable hemostasis, the technique must be done in two steps:

**1. Control the bleeding and sulcular fluid.** Rubbing the sulcus promotes deep gel penetration and securely seals the delicate sulcular capillaries with small coagulum plugs. Ferric sulfate-based products ensure coagulation in seconds. The sulcus should be kept moist during the procedure. After hemostasis is achieved, excess coagulum and gel are cleared away by a vigorous air/water spray. When correctly employed, this method produces sustained hemostasis without any bleeding caused by the air/water spray.

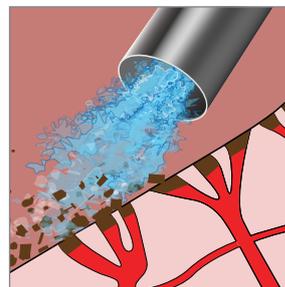
**2. Retract the tissue.** Ultrapak knitted cord provides excellent retraction and will maintain hemostasis and sulcular fluid control when soaked in hemostatic solution. The proprietary knitted design easily packs into the sulcus, absorbs more fluid, and expands for adequate retraction better than any braided or twisted cord.



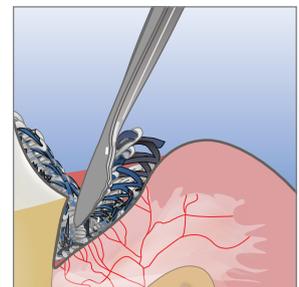
1. Burnish the hemostatic agents firmly against the sulcus until bleeding stops and no more coagulum forms.



2. The Dento-Infusor tip with padded “scrub brush” enables infusing and cleaning in the cut sulcus.



3. Apply firm air/water spray to remove residual coagulum and test tissue for quality, profound hemostasis. If bleeding continues, repeat infusion technique.



After complete hemostasis has been reached, excellent retraction is achieved through the use of Ultrapak knitted cord.



*“We have many products and procedures in dentistry that are technique sensitive. Tissue management is especially so. Done right, it’s*

*gorgeous! You see results almost immediately. Done wrong, the bleeding doesn’t stop, and you end up with that awful coagulum everywhere.”*

— Dr. Dan Fischer

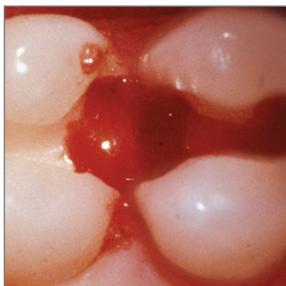
# TISSUE MANAGEMENT PRODUCTS

## ASTRINGEDENT® 15.5% Ferric Sulfate



The original hemostatic, Astringedent hemostatic solution remains the “classic” agent for controlling bleeding and sulcular fluid. Because it is capable of stopping bleeding in seconds, Astringedent hemostatic solution is well suited for use during a variety of procedures, including the creation of fixed prosthodontics, restorative-operative procedures, and periodontal treatment. It is also recommended for retrofillings, gingivectomies, canine impactions, and as a “fixative” for pulpotomies. Astringedent hemostatic can also be used to prevent leakage caused by sulcular fluid contamination during direct bonding.

- Stops bleeding in seconds
- More tissue-kind than ferric subsulfate solutions
- Use as an alternative to formocresol for vital pulpotomies



Bleeding must be controlled before starting any direct bonding procedure.



Profound hemostasis achieved, preparation is ready for restoration or rubber dam placement.

***“Astringedent hemostatic was the first product I invented more than 35 years ago to overcome the frustration I felt when I was not able to stop bleeding before impression making.”***

— Dr. Dan Fischer

## ASTRINGEDENT® X 12.7% Iron Solution



For especially difficult cases of bleeding, reach for Astringedent X hemostatic solution. While its powerful chemistry is not as kind to tissue as Ultradent’s other hemostatic agents, it is still less acidic than competitive iron subsulfate solutions.



Patient with severe decay at gum line due to dry mouth caused by medication.



Photo Credit: Dr. Bruce LeBlanc, DDS

Decay is removed at prep, resulting in bleeding gums. Astringedent X hemostatic solution and the Dento-Infusor® tip facilitate profound hemostasis, even with the most challenging cases.

***“Tissues will heal, but leaky, poor fitting margins will never heal... Never perform adhesive dentistry, never perform impression making out of control.”***

— Dr. Dan Fischer

# PRODUCTS TISSUE MANAGEMENT

## VISCOSTAT®

20% Ferric Sulfate



Reality 5 Star Award



Dental Townie Choice Award

ViscoStat hemostatic solution is one of the kindest hemostatics for placement against mineralized tooth structure. Its fumed silica differs from Astringent hemostatic. It offers a more viscous consistency that will not run or drip. ViscoStat hemostatic solution is formulated with patented binding and coating agents to protect tissue while achieving profound hemostasis and sulcular fluid control in seconds. The viscous, coagulative solution is suited for a variety of dental and oral surgery procedures to arrest surface capillary bleeding and can be used in procedures such as fixed prosthodontics, restorative-operative, periodontal treatment, retrofillings, canine impactions, and gingivectomies. ViscoStat hemostatic solution can also be used as a “fixative” for pulpotomies or to help prevent leakage caused by sulcular fluid contamination during direct bonding procedures.

- Profound hemostasis in seconds, saving chair time
- Unsurpassed kindness to hard and soft tissues
- Eliminates sulcular fluid contamination for optimal bonding
- Decreases costly impression remakes
- Excellent for vital pulpotomies

*“When working in the office with my daughter Jaleena, I most often use ViscoStat hemostatic. It’s a real problem solver in many unforeseen situations with blood, sulcular fluid, and the like.”*

— Dr. Dan Fischer

## VISCOSTAT® CLEAR

25% Aluminum Chloride



Reality 4 Star Award



Dental Townie Choice Award



ViscoStat Clear hemostatic is recommended for anterior restorations because it quickly eliminates minor bleeding without leaving any residue. The patented tissue-kind silica formula temporarily closes off the capillary ends by causing the collagen in them to swell. This process quickly stops minor bleeding without forming coagulum or leaving hemostatic residue adhered to the preparation, resulting in stain-free teeth and soft tissues, a feature especially critical in the “esthetic zone.” Additionally, unlike other ferric sulfate-based hemostatic solutions, ViscoStat Clear hemostatic does not interfere with bonding.

- Stops minor bleeding in the esthetic zone
- Transparent gel leaves no residue and rinses off with ease
- Convenient direct delivery eliminates waste
- Non-drip gel is viscous yet spreadable
- Does not interfere with bonding\*



ViscoStat Clear hemostatic is ideal for anterior restorations because it does not stain the tooth or tissue.



The blunt, bent cannula with padded “scrub brush” on the Metal Dento-Infusor tip enables ViscoStat Clear hemostatic to temporarily close off the capillary ends by causing the collagen in them to swell.

\*Data on file.

# TISSUE MANAGEMENT PRODUCTS

## ULTRAPAK® KNITTED CORD



Reality 5 Star Award



Dental Townie Choice Award

**THE ORIGINAL KNITTED CORD**  
With easy packing, excellent absorption, and exceptional retention, Ultrapak's proprietary knitted design has been the preferred choice for years.

Complete, successful tissue management requires absorbent, Ultrapak knitted cord for effective gingival displacement. Twisted and braided cords can't offer the ease of placement and tissue retraction Ultrapak knitted cord provides. Made of 100% cotton and knitted to form an interlocking chain of thousands of tiny loops, this cord is easy to pack below the gingival margin. Following cord placement, the unique knitted design exerts a gentle, continuous force as the knitted loops seek to open, creating optimal tissue displacement within one to three minutes. When saturated in a hemostatic agent like ViscoStat hemostatic and left in place during restorative procedures, the cord controls both bleeding and sulcular fluid.

- Provides rapid tissue displacement, detailed margins, and quality impressions
- Facilitates easy packing and stays placed better than any twisted or braided cord
- Compresses upon packing and then expands for optimal retraction
- Does not entangle in diamond bur
- Bright colors facilitate easy location and removal

*“Ultrapak knitted cord has brought a fabulous dimension to restorative, as well as crown and bridge, dentistry.”*

— Dr. Dan Fischer

## COMPLEMENTARY PRODUCTS

### Fischer's Ultrapak® Packers

*Thin, serrated packing instruments*



These packers are specially designed to ease the placement of Ultrapak knitted cord.

Their thin edges and fine serrations sink into the cord, preventing it from slipping off and reducing the risk of cutting the gingival attachment. Available in small and regular sizes.

**45° to handle:** Most popular, three packing sides, no need to flip the instrument

**90° and parallel to handle:** Three packing sides, one head is in line and the other is at a right angle to the shank



### Ultradent® Slide Packers

*Thin, circular, non-serrated packing instruments*



These thin, non-serrated packers are designed to place and compress cord with a sliding action as the clinician circles the prep. The thin head sinks into the cord and the smooth, circular head allows placement of cord around the preparation without lifting the instrument. Available in small and regular sizes.



# QUESTIONS TISSUE MANAGEMENT

## FAQs >>

I have tried the recommended method with ViscoStat hemostatic, but have experienced problems with black coagulum sticking to the stumps. These proved to be very difficult to remove.

During sulcus treatment, the assistant should repeatedly spray and aspirate with the multifunction syringe. Aspiration alone will lead to drying, and then the removed coagulations may indeed stick solidly. Do not be afraid that the spray could reduce the hemostatic effect; when used with the Dento-Infusor tip with a proper burnishing technique, ViscoStat and Astringedent hemostatics will maintain hemostasis despite spray and aspiration.

If bleeding is only slight, ViscoStat Clear hemostatic could prove to be an alternative.

I have tried the recommended method with ViscoStat hemostatic, but hemostasis was incomplete.

It is important to apply sufficient force with the Dento-Infusor tip when applying ViscoStat hemostatic. Only then can the ferric sulfate preparation penetrate into the capillary ends. Proper pressure also brushes off protruding coagulum. With the correct procedure, one can then only see small, dark spots on the sulcus base.

Applying hemostatic before using retraction cord seems too time-consuming.

This impression is deceptive. The time required to properly complete the procedure generally saves you time during the overall procedure. Applying hemostatic to the sulcus is indeed an extra step, but it ensures that retraction cords only need to be in place for 1-2 minutes for complete retraction. In contrast, without this step, cords often need to be kept in place for 5-10 minutes—or even longer! Proper tissue management has proven to be the fastest and most effective method of sulcular hemostasis.

Another benefit of tissue management is that you will never again have to repeat an impression due to bleeding. That will save a great deal of time, and will also ensure fewer problems when integrating crowns and bridges, as they will fit margins better.

This technique also makes a difference when placing adhesive restorations. It ensures reliable bonds without marginal discoloration.

I already work with aluminum chloride-containing liquid to soak my retraction cord. What can ViscoStat Clear hemostatic do better? After all, it is also based on aluminum chloride.

The chemical base may be the same, but ViscoStat Clear hemostatic offers two distinct advantages: its gel formulation allows targeted application without running, and it can be rubbed into the sulcus with the Dento-Infusor tip. Proper application with the Dento-Infusor tip significantly enhances the effect of aluminum chloride.

Can I use micro-brushes, pellets or disposable brushes instead of the Dento-Infusor tip?

The Dento-Infusor tip is an essential tool for proper tissue management. They allow you to apply appropriate pressure during hemostatic application, which optimizes the hemostatic effect. Using a syringe and tip to deliver the hemostatic eliminates the need of using a dipper glass, which is required with other application methods. The Dento-Infusor tip is by far the best application method.

I ask a pharmacy to prepare my tissue management solutions. It is less expensive.

Indeed, one can obtain hemostatic solutions from a pharmacy. However, these solutions have several disadvantages. They are often not stable in the long term and dissolve fairly quickly, becoming ineffective. They are also very acidic and are often not buffered, which may have an etching effect on the tooth. They are not viscous solutions and have a tendency to run, making targeted application difficult.

In addition, 1.2 ml application syringes of ViscoStat and ViscoStat Clear solutions can be refilled quickly, easily, and cleanly using IndiSpense syringes. They can also be used in a sparing and targeted way and the hemostatic can be more effectively applied with the Dento-Infusor tip.

I would like to use adrenalin-containing agents.

Adrenalin-containing agents are extremely vasoconstrictive, which creates a dry work field. However, the effect on the patient's circulation is not without problems. Furthermore, the parallel use of ferric sulfate preparations and adrenalin could result in blue-black discoloration that is difficult to remove.

Applied correctly, a hemostatic solution and hemostatic-soaked retraction cord can stop bleeding without causing risk to the patient.

Why aren't Ultrapak cords pre-soaked?

Pre-soaked cord is only effective if the patient has sufficient sulcular fluid to activate the dried solution. The effect is therefore relatively unreliable. It is better to soak the retraction cord in fresh hemostatic solution in a dipping glass or using the Dento-Infusor tip. Use ViscoStat Clear for soaking the Ultrapak cord and immediately pack it into the sulcus after it has been rubbed with hemostatic solution.

***“Our first tissue management products are what our company was founded on and what we became known for.”***

— Dr. Dan Fischer



# TISSUE MANAGEMENT



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