

# Endotine®

Fast, Adjustable, Secure  
Fixation of Soft Tissue



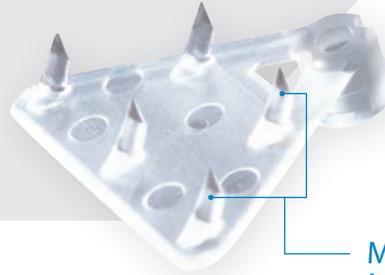
**MICROAIRE®**  
*For Surgery. For Life.™*

Bioabsorbable Soft Tissue Fixation Devices

# Endotine®

## Bioabsorbable Soft Tissue Fixation Devices

Endotine is used in a variety of facial procedures, including brow lifts, midface lifts, face lifts and neck lifts.



### Multiple Tines for Multipoint Fixation

Endotine devices feature sutureless MultiPoint Technology (MPT), a breakthrough platform technology designed to facilitate facial aesthetic procedures, reduce operating time and improve surgical outcomes.

Endotine is a patented system for anchoring soft tissue during aesthetic surgery using small, bioabsorbable tines to reduce the tissue strain associated with sutures. This unique system allows surgeons to readjust tissue fixation and location during surgery, resulting in optimal aesthetic outcomes.

Endotine implants provide reliable fixation throughout the post-operative healing period, and eventually absorb as biological fixation takes over.

### Over 6x the Load Capacity of 3-0 PDS Suture\*

### Sutureless Fixation

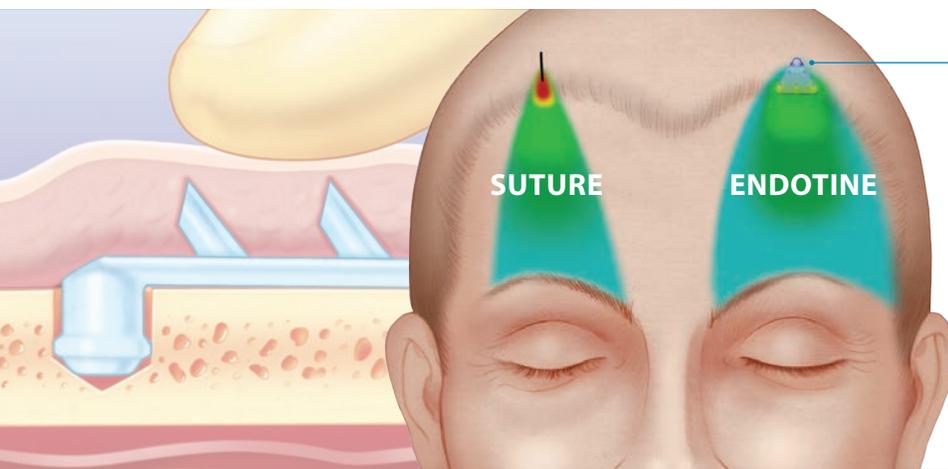
Eliminates cumbersome suture, bulky knots and lack of adjustability.

### Balanced Distribution of Tension

The device's unique design provides multiple points of contact with the suspended tissue, distributing tension over a wide area to maximize fixation strength.

### Bioabsorbable Co-Polymer

Eliminates secondary surgery for screw removal.



## FAST

Endotine allows fixation times approaching less than one minute per side in the hands of experienced clinicians.

## ADJUSTABLE

Simple readjustment of the tissue for greater aesthetic control.

## SECURE

Multipoint fixation distributes forces over a wider area for more consistent, predictable results.

\*Sutures – Diameter. United States Pharmacopeia and National Formulary (USP 29-NF 24). Rockville, MD: United States Pharmacopeial Convention; 2006 p 2775 - Single Suture Endotine Forehead provides 6X the load capacity of 3-0 PDS Suture, Endotine Forehead-mini provides over 4X the load capacity of 3-0 PDS Suture.

**Endotine Forehead and Forehead-mini**  
Forehead Lift Procedures



**Endotine Transbleph**

Direct Browpexy  
Procedures



**Endotine Midface**

Midface Suspension  
Procedures



**Endotine Ribbon®**

Jowl and Neck-Lift  
Procedures



## Designed for Simplicity and Predictability

The versatile design can be applied in both endoscopic and open techniques.



Pre-loaded Devices

Approximate product size.

# Endotine® Forehead

## Designed for Optimal Control of Brow Height and Shape

Soft tissue fixation remains the least controllable and least predictable part of the forehead lift procedure. Until now, only suture-based and percutaneous screw fixation techniques were available, often with frustrating results.

The Endotine devices deliver a novel and effective solution for fixation of the scalp tissue, addressing the primary challenge of the forehead lift procedure.

Endotine Forehead is composed of an 82:18 polylactic acid and polyglycolic acid polymer with a proven track record of performance and reliability.

The **Ultratine® Forehead\*** consists of a similar, but uniquely different polylactic acid and polyglycolic acid polymer blend that absorbs in a more desirable way. The structure of the material quickly softens under the skin as the periosteal attachment is complete, greatly enhancing the patient's post-operative experience.

*\*Not available in Europe.*



*Product imagery is not to scale.*

## Forehead Instrument Kit

CFD-010-4320

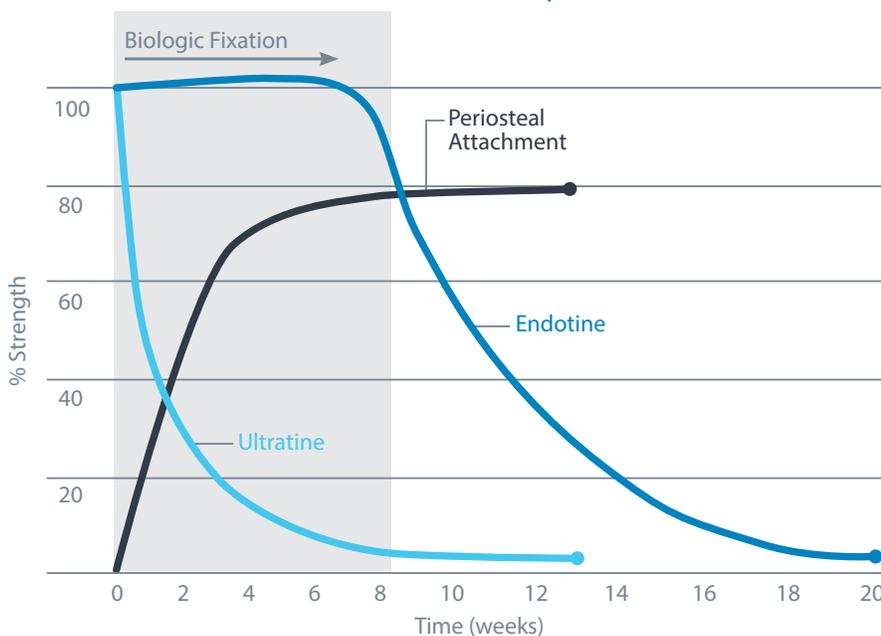
For use with Endotine Forehead and Ultratine implants. Kit includes sterilization case, two cranial drill bits with depth stop and implant insertion tool.

### Replacement Components

CFD-010-4313 Endotine Drill Bit With Stop  
CFD-010-4305 Endotine Insertion Instrument



## Ultratine versus Endotine Absorption Profile

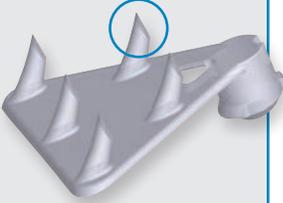
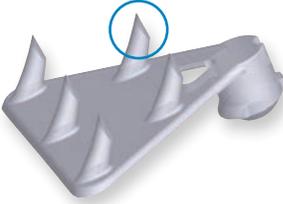


### Ultratine Key Performance Traits:

- Ultratine loses 90% of its strength in 60 days, while Endotine loses only 36% of its strength in 60 days.
- Ultratine's rapid strength degradation means the patient has less palpability and sensitivity after 3 months.

## The Right Size for All Types of Patients

Select from three different sizes to match the specific needs of your patient.

Designed for patients with average to below-average scalp thickness.		
<b>22202</b> Endotine Forehead 3.0	This Endotine uses tines that are 3.0mm in length to reduce issues of palpability or sensitivity.	
<b>23202</b> Ultratine Forehead 3.0*	This Ultratine uses tines that are 3.0mm in length to reduce issues of palpability or sensitivity.	
<b>CFD-010-0167</b> Endotine Forehead-mini 3.0 <i>(learn more on next page)</i>	Offers a 60% smaller footprint than the Forehead device and is best for patients with high hairlines, thin scalps, balding patients or those where a smaller, sub-10mm incision is needed.	
<b>22102</b> Endotine Forehead 3.5	Features tines that are 3.5mm in length and is best for patients with average to thick scalps where more secure fixation is desired.	
<b>23102</b> Ultratine Forehead 3.5*	Features tines that are 3.5mm in length and is best for patients with average to thick scalps where more secure fixation is desired.	

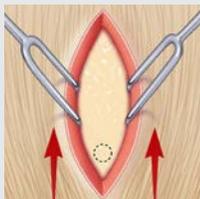
\*Not available in Europe.

Product imagery is not to scale.

## Forehead Lift Procedures

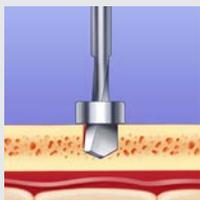
### 1 | Make the Incision

Make a sagittal, paramedian incision in the usual fashion. Perform the dissection, making sure to achieve adequate release.



### 2 | Determine the Drill Hole Site

Lift the brow to the desired position. Plan the cranial hole so that the implant will ultimately lie under the hair-bearing scalp.



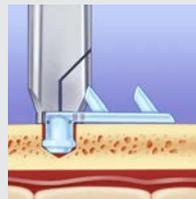
### 3 | Drill the Hole

Use the Endotine Forehead drill bit to create a hole at the drill site. The hole should be located medial to the temporal fusion line and anterior to the coronal suture. Drill all the way to the bit sleeve. Suction the hole to remove all debris.



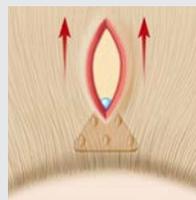
### 4 | Grasp the Device

Use the Endotine Forehead Insertion Tool to grasp the implant and remove it from its packaging. One needle-like tip of the tool fits into the hole in the Endotine Forehead platform and the other end grasps the implant post.



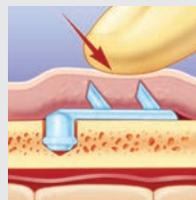
### 5 | Place the Device

Insert the Endotine Forehead implant into the drilled hole. Push until the platform is flush with the cranium. Release the Insertion Tool from the implant.



### 6 | Elevate the Tissue

Elevate brow tissue to desired position. The implant may lie either anterior or lateral to the incision.



### 7 | Secure the Tissue

Apply digital pressure to ensure penetration of the tissue by the device tines. Close the incision. A gentle pressure dressing is recommended to prevent dislodgement.

# Endotine® Forehead-mini

## Stronger Than Its Name

Providing Over 4x the Load Capacity of 3-0 PDS Suture\*

The Forehead-mini provides the security and predictability of Endotine multipoint fixation to patients who are not currently candidates because of concerns with palpability, visibility, sensitivity or prolonged absorption.

## Fewer Tines

Three 3.0mm tines and an ultra-thin platform offer security without sensitivity for patients who may be affected by palpability.

## Low Profile Fixation

Forehead-mini has an ultra-thin platform that is 60% smaller than the Endotine Forehead. With a low profile for reduced visibility and a petite size for a sub-10mm incision, the Forehead-mini is ideally suited for patients with below average scalp thickness.

Reduced visibility and incision size allow the Forehead-mini to be placed confidently below the hairline.

With one-third the mass of an Endotine Forehead, the Forehead-mini will absorb quicker to an impalpable size, greatly enhancing the patient's post-operative experience.



### Pre-Loaded Insertion Tool

Forehead-mini comes with drill bit and pre-loaded implant on insertion tool.

## Endotine Forehead-mini Device

Product imagery is not to scale.

### CFD-010-0167

Endotine Forehead-mini 3.0

Low profile device features

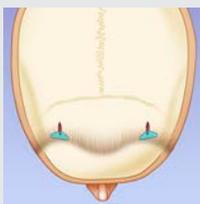
3.0mm tines and is designed for patients that need a smaller, sub-10mm incision.

3.0 mm



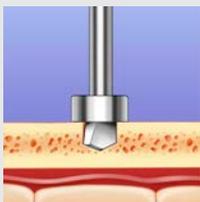
Compare to the Endotine Forehead

## Forehead Lift Procedures with Endotine Forehead-mini



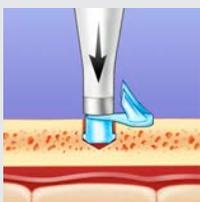
### 1 | Make the Incision

Make a sagittal, paramedian incision in the usual fashion. Perform the dissection, making sure to achieve adequate release.



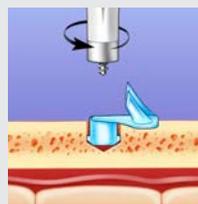
### 2 | Drill the Hole

An anchoring hole for the Endotine Forehead-mini is drilled in the frontal bone using the enclosed drill bit. Drill all the way to the bit sleeve. Suction the hole to remove all debris.



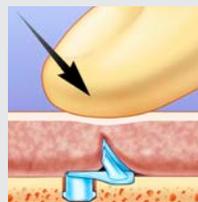
### 3 | Place the Device

The implant is inserted into the hole until the platform lays flush against the frontal bone.



### 4 | Withdraw the Tool

The implant is released from the insertion tool via counter-clockwise turn of the insertion tool.



### 5 | Elevate the Tissue

Elevate brow tissue to desired position. The implant may lie either anterior or lateral to the incision.



### 6 | Secure the Tissue

Apply digital pressure to ensure penetration of the tissue by the device tines. Close the incision. A gentle pressure dressing is recommended to prevent dislodgement.

# Endotine® TransBleph

## Bleph and Brow, an Unbeatable Combination

You can now achieve the combined goals of removing upper eyelid skin and repositioning of the brow in a single surgical session.

## No Endoscope Required

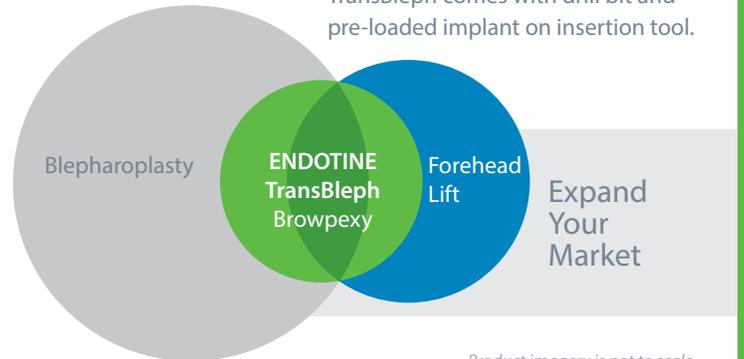
By utilizing the upper blepharoplasty incision for access, the Endotine TransBleph helps simplify the brow lift procedure. No expensive endoscopic equipment is required, meaning fewer instruments to set up, process and maintain.

The Endotine TransBleph is the best of both worlds for rejuvenation surgeries: the pioneering fixation of multipoint, bioabsorbable implants, and the ability to perform two effective procedures through a single incision—without the need of general anesthesia or expensive equipment.



### Pre-Loaded Insertion Tool

TransBleph comes with drill bit and pre-loaded implant on insertion tool.



## An Endotine TransBleph for All Patient Types

*Product imagery is not to scale.*

**CFD-080-0177**  
Endotine TransBleph

Features tines with tips that are 3.0mm above the platform. This size is designed for patients with thin brow tissue where sensitivity to tine palpability may be a concern.

3.0 mm



**CFD-080-0167**  
Endotine TransBleph

Features tines with tips that are 3.5mm above the platform. This size is designed for patients with thick brow tissue where more aggressive fixation is desired.

3.5 mm



## TransBleph for Direct Browpexy Procedure



**1 | Approach / Make the Incision**  
The supraorbital rim is approached subperiosteally through an upper blepharoplasty incision. The brow is released to create adequate mobility.



**4 | Release the Device**  
The implant is released from the insertion tool via counter-clockwise turn of the insertion tool.



**2 | Drill the Hole**  
An anchoring hole for the Endotine TransBleph is drilled in the frontal bone using the enclosed drill bit. Drill all the way to the bit sleeve. Suction the hole to remove all debris.



**5 | Two Fixation Points**  
1. Elevate the periosteum to achieve the desired brow height. Use digital pressure to engage the tissue.  
2. Elevate the edge of the periosteum up and over the tines for maximum lift.



**3 | Place the Device**  
The implant is inserted into the hole until the platform lays flush against the frontal bone.



**6 | Closure**  
The incision is closed with standard technique and a compression bandage is applied.

# Endotine® Midface

## Multipoint Fixation Delivers Results in Midface Suspension

You can eliminate cumbersome fixation sutures with an Endotine Midface device, a unique and effective solution that utilizes multiple points of contact to suspend delicate midface tissue. This patented device incorporates five tiny tines to distribute tension over a wide area, maximizing fixation strength and holding power.

What's more, the Endotine Midface implant facilitates rapid deployment via temporal and/or oral incisions in minutes, saving valuable O.R. time while simplifying the surgical procedure. All of which can expand your treatment options and your practice.

### Fast

Endotine Midface implants provide secure soft tissue fixation in five minutes or less in the hands of an experienced surgeon.

### Adjustable

Endotine Midface devices allow simple adjustment of tension and position for greater aesthetic control of cheek elevation and projection.

### Secure

By distributing elevation forces over five tines, the proprietary multipoint technology offers unmatched security of tissue fixation.



## Endotine Midface Device

Product imagery is not to scale.

**CFD-060-0197**  
Endotine Midface ST 4.5

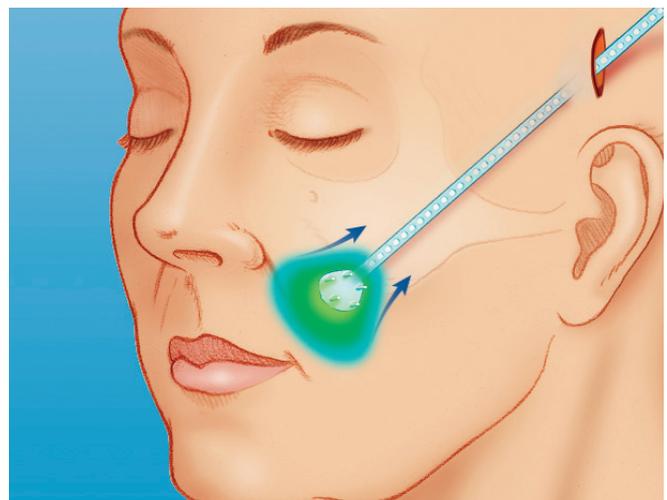
Bioabsorbable midface suspension device that features tines with tips that are 4.5mm above the platform.

4.5 mm



## Endotine Midface Devices *Raising midface surgery to an entirely new level.*

- Volume enhancement and projection with the Endotine Midface implants is as simple as the devices are elegant
- Easily deployed, the integrated leash makes adjustments simple for optimal control and correction
- The bioabsorbable material is present during the critical healing period and then is reabsorbed naturally





Rejuvenate with patient's own tissue.

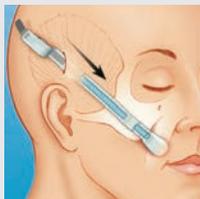
Enhance cheek volume and projection for a natural, rejuvenated look.

Smooths the lid-cheek junction while shortening the lower eyelid.

## Midface ST Soft Tissue Suspension Procedure

### 1 | Approach / Initial Incisions

The midface subperiosteal dissection is performed using the surgeon's typical temporal approach, which may include additional incisions (buccal or periorbital). Dissection should continue to the inferior maxilla to assure that the fixation platform is positioned over the maxillary antrum after elevation.



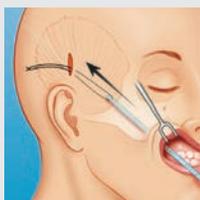
### 2 | Placement (Option 1)

Insert the Midface device through the temporal incision to the desired position.



### 4 | Fixation

Once the platform is in position and deployed, apply digital pressure over the cheek to engage.



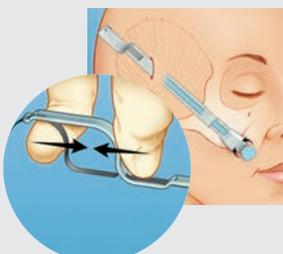
### Placement (Option 2)

Alternatively, the implant may be removed from the insertion tools and inserted in a retrograde fashion through an oral/buccal incision.



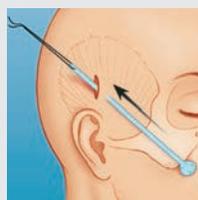
### 5 | Insertion Tool Removal

Remove the insertion tools while maintaining digital pressure on the fixation platform.



### 3 | Deploy

With the fixation platform at the inferior recess of the dissection, retract the plastic cover by squeezing the release mechanism.



### 6 | Elevation

Elevate the midface tissues to the desired position by applying tension to the anchoring leash exiting the temporal incision. Anchor the leash to the temporal fascia with suture and trim leash to lay flat in the incision.

# Endotine Ribbon®

## Incomparable Ease and Predictability in Lower-Face Procedures

Using patented multipoint fixation technology, the bioabsorbable Endotine Ribbon implant offers unprecedented flexibility, with a variety of surgical approaches, lift vectors, degrees of lift, and ease of use.

## Revolutionary Evolution

Improve your fixation methodology and flexibility without changing your surgical approach.

## Simple and Quick

Using a minimally invasive approach, perform an entire procedure in minutes per side under local anesthesia.

## Minimally-Invasive or Open Surgical Approach

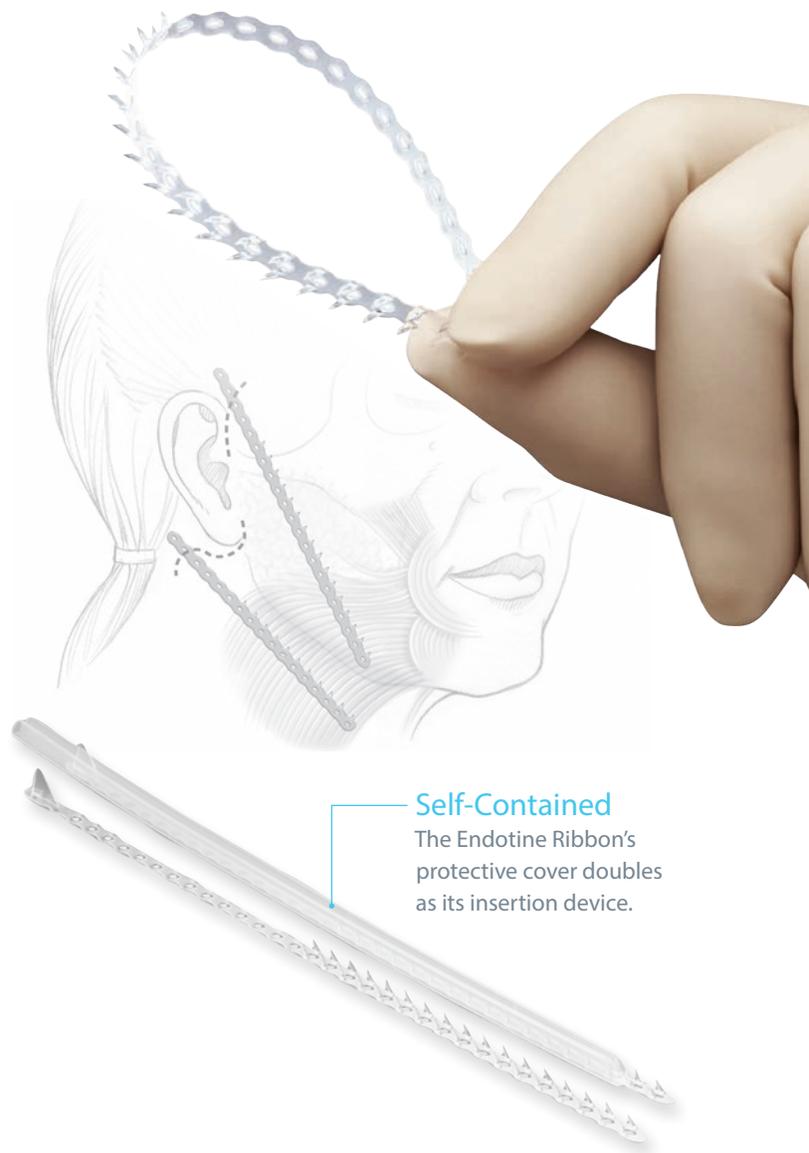
The Ribbon deploys quickly and easily in a neck lift, a jowl lift or as part of a full face lift, via a tiny incision or a fully open procedure.

## Adjustable Lift Vector and Degree of Lift

Choose your lift vector and degree of lift to suit the patient's needs and procedure. Vary vector and degree of lift instantaneously for dramatic intraoperative results and beautiful cervicomental definition.

## Long or Short Device

You customize the Ribbon to the procedure and the patient's anatomy. Trim the fixation-area or the smooth-leash length to create the best dimension for an ideal surgical outcome.



**Self-Contained**  
The Endotine Ribbon's protective cover doubles as its insertion device.

*Product imagery is not to scale.*

## Endotine Ribbon Device

**13005**  
Endotine Ribbon

Bioabsorbable fixation device features tines with tips that are 2.5mm above the platform.

2.5 mm

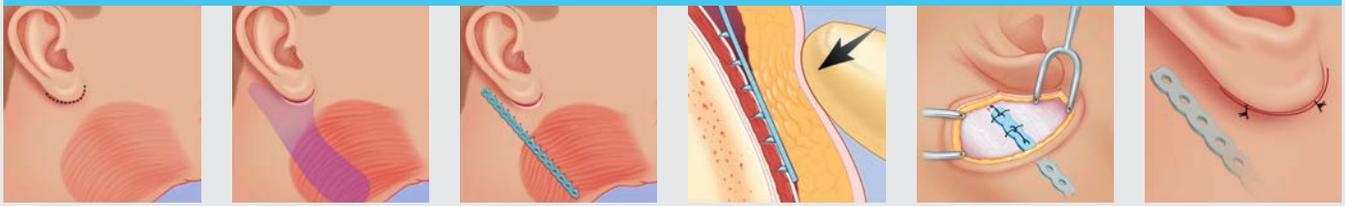


Before



After

## Ribbon Lift Procedure for the Neck



**1 | Incise**

Make the appropriate incision.

**2 | Dissect**

Perform a complete release of the surgical plane.

**3 | Deploy**

Deploy the Ribbon from its protective cover.

**4 | Engage**

Engage the tissue and elevate to the desired position.

**5 | Secure**

Secure the Ribbon with suture.

**6 | Closure**

The incision is closed with standard technique and a compression bandage is applied.



## Ribbon Lift Procedure for the Jowl

*For optimal results, device placement should follow full release of the surgical plane.*

# Manual Surgical Drill

### Simplify Your O.R. and Your Procedures

This unique manual drill provides an innovative design that delivers both performance and control in one easy-to-use package.

### Manual Surgical Drill | CFD-899-4000

- Designed for all drilling applications
- Eliminates cumbersome cables, tanks and hoses; nothing to hook up or attach



**Unique transmission** delivers high torque with minimal effort.

**Sealed,** maintenance-free design.

**Universal 3-Jaw chuck** allows use of a wide variety of drill bit sizes.

**Axial design** provides both enhanced comfort and control for manual drilling.



# Endotine® Ordering Information

REF	Product Name	Description	Qty.
22202	Endotine Forehead 3.0	Bioabsorbable brow fixation device, 3.0mm tine height.	2-Pack
22102	Endotine Forehead 3.5	Bioabsorbable brow fixation device, 3.5mm tine height.	2-Pack
23202	Ultratine® Forehead 3.0	Bioabsorbable brow fixation device, 3.0mm tine height.	2-Pack
23102	Ultratine® Forehead 3.5	Bioabsorbable brow fixation device, 3.5mm tine height.	2-Pack
CFD-010-0167	Endotine Forehead-mini 3.0	Bioabsorbable brow fixation device, 3.0mm tine height. Includes disposable drill bit and insertion tool.	Single
CFD-080-0177	Endotine TransBleph 3.0	Bioabsorbable brow fixation device, 3.0mm tine height. Includes disposable drill bit and insertion tool.	Single
CFD-080-0167	Endotine TransBleph 3.5	Bioabsorbable brow fixation device, 3.5mm tine height. Includes disposable drill bit and insertion tool.	Single
13005	Endotine Ribbon®	Bioabsorbable fixation device, 2.5mm tine height.	5-Pack
CFD-060-0197	Endotine Midface ST 4.5	Bioabsorbable midface suspension device, 4.5mm tine height. Fixes to soft tissue.	Single
CFD-010-4320	Endotine Forehead Instrument Kit	Endotine Forehead insertion tool, drill bits (2) and sterilization tray with lid.	Single
CFD-899-4000	Manual Surgical Drill	Manual surgical hand drill.	Single

To order, call toll free **800-722-0822**

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on [www.microaire.com](http://www.microaire.com).



**MicroAire Surgical Instruments**  
3590 Grand Forks Boulevard  
Charlottesville, VA 22911 USA  
**800 722 0822** or **+434 975 8000**  
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