ENT Blades and Burs
FOR THE STRAIGHTSHOT® M4 MICRODEBRIDER
Automated EM Tracking Blades

*M4 Rotatable*

**TRICUT® BLADE**

*4 mm Tricut® Straight Rotatable Blade with Automated EM Tracking 1884080EM*
- 13 cm long with straight shaft
- Rotates through 360°
- Offset cutting surface cuts in 3 planes
- Application: ethmoidectomy, sphenoid sinus surgery
- Operating speed: 5,000 RPM, oscillate
- 1 each with irrigation tubing

**RAD® 12 BLADE**

*4 mm RAD® 12 Curved Rotatable Blade with Automated EM Tracking 1884012EM*
- 11 cm long with curved shaft
- Straightshot® M4 rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 1 each, irrigation tubing separate

**RAD® 40 BLADE**

*4 mm RAD® 40 Curved Rotatable Blade with Automated EM Tracking 1884006EM*
- 11 cm long with curved shaft
- Straightshot M4 rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 1 each, irrigation tubing separate

**IRRIGATION TUBING**

*Irrigation Tubing for Blades and Burs 1895522*
- For use with XPS® blades and burs
- 5 each

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*Speeds are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.
Measurements are listed in millimeters unless otherwise specified.*
Automated EM Tracking Blades
First and Only Factory-Calibrated Blades for Navigation

The new Automated EM Tracking Blades deliver unparalleled convenience and technology integration. They’re the first and only blades that are factory-calibrated for navigation, right out of the box. Attach the blade to the M4 microdebrider and the Fusion™ system, and start navigating.

With this latest innovation, we continue to deliver the feature expansion and product integration that you expect from Medtronic.

Unique features include:
· No array, no clamps, no calibration, no waiting
· First and only factory-calibrated blades for navigation
· True “plug and play” is more convenient and efficient

Visit www.MedtronicENT.com for more information.
### Straight Sinus Blades

**M4 Rotatable**

#### TRICUT® BLADES

**4 mm Tricut® Blade**  
1884004HR  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Offset cutting surface cuts in 3 planes  
- Application: ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

**3.5 mm Tricut® Blade**  
1883504HR  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Offset cutting surface cuts in 3 planes  
- Application: ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

**2.9 mm Tricut® Blade**  
1882904HRE  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Offset cutting surface cuts in 3 planes  
- Application: pediatric sinus surgery  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

#### SERRATED BLADES

**4 mm Serrated Blade**  
1884002HRE  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Application: ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

**3.5 mm Serrated Blade**  
1883502HRE  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Application: ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

**2.9 mm Serrated Blade**  
1882902HRE  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Application: pediatric sinus surgery  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing

#### SILVER BULLET®

**4 mm Silver Bullet® Blade**  
1884005HRE  
- 11 cm long with straight shaft  
- Rotates through 360°  
- Application: ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each with irrigation tubing  
- Developed in conjunction with Rodney Lusk, MD

**2.9 mm Silver Bullet® Blade**  
1882905HRE  
- 11 cm long  
- Rotates through 360°  
- Straight shaft with elevator  
- Application: submucosal resection of inferior turbinate  
- Operating speed: 60-3,000 rpm, oscillate  
- 1 each with irrigation tubing  
- Developed in conjunction with Laurence O’Halloran, MD

#### TURBINATE

**2.9 mm Inferior Turbinate Blade**  
1882940HR  
- 11 cm long  
- Rotates through 360°  
- Straight shaft with elevator  
- Application: submucosal resection of inferior turbinate  
- Operating speed: 60-3,000 rpm, oscillate  
- 5 each with irrigation tubing

**2 mm Inferior Turbinate Blade**  
1882040HR  
- 11 cm long  
- Rotates through 360°  
- Straight shaft with elevator  
- Application: submucosal resection of inferior turbinate  
- Operating speed: 60-3,000 rpm, oscillate  
- 5 each with irrigation tubing  
- Developed in conjunction with Laurence O’Halloran, MD
Chronic nasal obstruction is a common symptom associated with hypertrophied inferior turbinates. Among other treatments, hypertrophied inferior turbinates can be surgically reduced in size to help relieve the obstruction and reopen the airway.

**Compared to submucosal electrocautery, the Inferior Turbinate Blade offers:**

1. Significantly longer-lasting results
2. Significantly improved patient quality of life
3. Significantly reduced postoperative complications
4. Helps achieve the goals of volumetric reduction
5. Helps avoid unpredictable collateral thermal damage to surrounding tissue

**Surgical Technique**

There are several methods for accomplishing turbinate reduction. Inferior turbinoplasty with the Medtronic ENT microdebrider blade is a minimally invasive technique, typically requiring just one 2 mm or 2.9 mm incision into the anterior portion of the turbinate. The physician inserts the blade beneath the mucosal layer and, after creating a submucosal dissection plane with blade’s elevator tip, removes the intervening stromal tissue. The underlying turbinate bone is not removed and the overlying mucosa is also preserved. This technique reduces the size of the inferior turbinate with no damage to the functional mucosal tissue, such as blanching or crusting.

An outfracture of the inferior turbinate bone is sometimes performed immediately after the turbinoplasty. This enlarges the airway by repositioning the turbinate bone laterally without removing it.

**Microdebrider-Assisted versus Radiofrequency-Assisted Inferior Turbinoplasty**

**Visual Analog Scale (VAS) Scores**

<table>
<thead>
<tr>
<th></th>
<th>Pre-op</th>
<th>6 months post-op</th>
<th>1 year post-op</th>
<th>2 years post-op</th>
<th>3 years post-op</th>
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</thead>
<tbody>
<tr>
<td>Nasal obstruction</td>
<td>8.30 ± 1.37</td>
<td>7.80 ± 1.30</td>
<td>7.30 ± 1.30</td>
<td>6.80 ± 1.30</td>
<td>6.30 ± 1.30</td>
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<tr>
<td>Rhinorrhea</td>
<td>6.49 ± 1.40</td>
<td>5.99 ± 1.30</td>
<td>5.50 ± 1.20</td>
<td>5.00 ± 1.10</td>
<td>4.50 ± 1.00</td>
</tr>
<tr>
<td>Snoring</td>
<td>6.15 ± 1.35</td>
<td>5.65 ± 1.20</td>
<td>5.15 ± 1.10</td>
<td>4.65 ± 1.00</td>
<td>4.15 ± 0.90</td>
</tr>
<tr>
<td>Sneezing</td>
<td>5.57 ± 1.32</td>
<td>5.07 ± 1.20</td>
<td>4.57 ± 1.10</td>
<td>4.07 ± 1.00</td>
<td>3.57 ± 0.90</td>
</tr>
</tbody>
</table>

**Key**

Radiofrequency-assisted inferior turbinoplasty (RAT) ————
Microdebrider-assisted inferior turbinoplasty (MAT)

On the VAS Scale: 0 = No symptoms
10 = The most severe symptoms

**Visual Analog Scale (VAS)**

A subjective patient questionnaire that evaluates the patient’s perception of his or her health; in this case, pertaining to nasal obstruction, sneezing, rhinorrhea, and snoring. Answers usually range from zero (no symptoms) to 10 (the most severe symptoms).
### STRAIGHT SINUS BLADES

#### Non-Rotatable

<table>
<thead>
<tr>
<th>Blade Type</th>
<th>Length</th>
<th>Shaft Type</th>
<th>Application</th>
<th>Operating Speed</th>
<th>Irrigation Tube</th>
<th>Developed By</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRICUT® BLADES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4 mm Tricut® Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Ethmoidectomy</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td>Rodney Lusk, MD</td>
</tr>
<tr>
<td>3.5 mm Tricut® Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Ethmoidectomy</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td>Rodney Lusk, MD</td>
</tr>
<tr>
<td>2.9 mm Tricut® Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Pediatric sinus surgery</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td>Rodney Lusk, MD</td>
</tr>
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<tbody>
<tr>
<td><strong>SERRATED BLADES</strong></td>
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<tr>
<td>4 mm Serrated Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Ethmoidectomy</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td></td>
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<tr>
<td>3.5 mm Serrated Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Ethmoidectomy</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td></td>
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<td>2.9 mm Serrated Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Pediatric sinus surgery</td>
<td>5,000 RPM</td>
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<th>Operating Speed</th>
<th>Irrigation Tube</th>
<th>Developed By</th>
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</thead>
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<tr>
<td><strong>SILVER BULLET® BLADES</strong></td>
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</tr>
<tr>
<td>4 mm Silver Bullet® Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Ethmoidectomy</td>
<td>5,000 RPM</td>
<td>Yes</td>
<td>Rodney Lusk, MD</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Blade Type</th>
<th>Length</th>
<th>Shaft Type</th>
<th>Application</th>
<th>Operating Speed</th>
<th>Irrigation Tube</th>
<th>Developed By</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INFERIOR TURBINE</strong></td>
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<td></td>
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</tr>
<tr>
<td>2.9 mm Inferior Turbine Blade</td>
<td>11 cm</td>
<td>Straight shaft</td>
<td>Submucosal resection of inferior turbinate</td>
<td>60-3,000 RPM, oscillate</td>
<td>Yes</td>
<td>Laurence O’Halloran, MD</td>
</tr>
</tbody>
</table>

**Speeds** are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.

**Measurements** are listed in millimeters unless otherwise specified.
Curved Sinus Blades

**M4 Rotatable**

**4 mm RAD® 12 Blade**  
1884012HR  
- 11 cm long with curved shaft  
- Straightshot® M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: uncinctomy, ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 5 each, irrigation tubing separate

**3.5 mm RAD® 12 Blade**  
1883512HRE  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: uncinctomy, ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each, irrigation tubing separate

**4 mm RAD® 40 Blade**  
1884006HR  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: uncinctomy, ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 5 each, irrigation tubing separate

**3.5 mm RAD® 40 Blade**  
1883506HRE  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: uncinctomy, ethmoidectomy  
- Operating speed: 5,000 rpm, oscillate  
- 1 each, irrigation tubing separate

**4 mm RAD® 60 Blade**  
1884016HR  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: frontal sinus surgery  
- Operating speed: 5,000 rpm, oscillate  
- 5 each, irrigation tubing separate

**3.5 mm RAD® 60 Blade**  
1883516HRE  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: frontal sinus surgery  
- Operating speed: 5,000 rpm, oscillate  
- 1 each, irrigation tubing separate

**3.5 mm RAD® 90 Blade**  
1883519HR  
- 11 cm long with curved shaft  
- Straightshot M4 rotates blade tip 360° without shaft rotation  
- Offset cutting surface cuts in 3 planes  
- Application: maxillary polypectomy, frontal sinusotomy  
- Operating speed: 2,000-3,000 rpm, oscillate  
- 3 each, irrigation tubing separate

The Straightshot® M4 Microdebrider and 360° rotating RAD® 90 blade allow optimum access to maxillary polyps and the frontal recess.
Curved Sinus Blades

Key Rotatable*

3.5 mm RAD® 12 Blade
1883514RT
- 11 cm long with curved shaft
- Key rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 3,000 RPM, oscillate
- 3 each, irrigation tubing separate

3.5 mm RAD® 40 Blade
1883507RT
- 11 cm long with curved shaft
- Key rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 3 each, irrigation tubing separate

3.5 mm RAD® 60 Blade
1883516RT
- 11 cm long with curved shaft
- Key rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in three planes
- Application: frontal sinus surgery
- Operating speed: 5,000 RPM, oscillate
- 3 each, irrigation tubing separate

Irrigation Tubing
for Blades and Burs
1895522
- For use with XPS® blades and burs
- 5 each

*For use with Straightshot® Magnum II

Visit www.MedtronicENT.com for more information.

*For use with Straightshot® Magnum II

Speeds are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.

Measurements are listed in millimeters unless otherwise specified.
Curved Sinus Blades
Non-Rotatable

**RAD® 12 BLADE**

*4 mm RAD® 12 Blade*
1884012
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*4 mm RAD® 12 Microscopy Blade*
1884012M
- Length: 13 cm
- Multi-bend curved shaft for use with operating microscope
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 3,000 RPM, oscillate
- 5 each, Irrigation tubing separate

**RAD® 40 BLADE**

*4 mm RAD® 40 Blade*
1884006
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*4 mm RAD® 40 Microscopy Blade*
1884006M
- Length: 14 cm
- Multi-bend curved shaft for use with operating microscope
- Offset cutting surface cuts in three planes
- Application: frontal sinus surgery
- Operating speed: 3,000 RPM, oscillate
- 3 each, irrigation tubing separate

**RAD® 60 BLADE**

*4 mm RAD® 60 Blade*
1884016
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*3.5 mm RAD® 60 Blade*
1883516
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: frontal sinus surgery
- Operating speed: 3,000 RPM, oscillate
- 3 each, irrigation tubing separate

*3.5 mm RAD® 12 Blade*
1883514
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*3.5 mm RAD® 120 Blade*
1883517
- 11 cm long with curved shaft
- Tapered tip to allow maximum bend angle
- Application: maxillary polyectomy
- Operating speed: 1,500-3,000 RPM, oscillate
- 3 each, irrigation tubing separate

*11° 1.0 3.5 mm RAD® 12 Blade*
1884012
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*11° 1.0 3.5 mm RAD® 40 Blade*
1884006
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*11° 1.0 3.5 mm RAD® 60 Blade*
1884016
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

*11° 1.0 3.5 mm RAD® 120 Blade*
1883517
- 11 cm long with curved shaft
- Tapered tip to allow maximum bend angle
- Application: maxillary polyectomy
- Operating speed: 1,500-3,000 RPM, oscillate
- 3 each, irrigation tubing separate
Straight Sinus Burs

**Oval Bur**

3.2 mm Oval Bur High-Speed 1883264HS
- 12.5 cm long with straight shaft
- Cannulated suction bur tip
- Application: sinus drilling
- Operating speed: up to 12,000 RPM (forward)
- 3 each

**Round Burs**

4.5 mm Round Bur High-Speed 1884560HS
- 12.5 cm long with straight shaft
- Cannulated suction bur tip
- Application: sphenoid drilling
- Operating speed: up to 12,000 RPM (forward)
- 3 each

3.2 mm Round Bur High-Speed 1883262HS
- 12.5 cm long with straight shaft
- Cannulated suction bur tip
- Application: sinus drilling
- Operating speed: up to 12,000 RPM (forward)
- 3 each

2.9 mm Pediatric Round Bur 1882960
- 10 cm long with straight shaft
- Application: choanal atresia
- Operating speed: up to 5,000 RPM (forward)
- 5 each

**Router Bur**

4.5 mm Aggressive Router Bur, High-Speed 1884562HS
- 12.5 cm long with straight shaft
- Cannulated suction bur tip
- Application: sinus drilling
- Operating speed: up to 12,000 RPM (forward)
- 3 each

**Drill**

2 mm Drill 1882900
- Operating speed: 6,000 RPM (forward)

**Sinus Bur Sets**

**Mini-Trephination Set**
The complete set includes:
- 1882900, 2 mm Drill
- 1892001, Drill Guide
- 1892002, Guide Pin
- 1892003, Irrigation Cannula
- 3717005, Instrument Tray (not shown)
- Developed in conjunction with Barry Schaitkin, MD

**Maxillary Trephination Set**
Allows trephination through anterior face of the maxillary sinus while helping to reduce damage to dental nerve tissue
The complete set includes:
- 1886301, Endoscope Sheath with Elevator, 4 mm
  Endoscope sheath helps deflect soft tissue and nerves during identification of drill site and guide placement
- 1893001, Maxillary Trephination Drill Guide, 5 mm
  Drill guide is irrigated
- 1884501, Maxillary Trephination Drill Bit, 5 mm
- 1893007, Maxillary Trephination Instrument Tray (not shown)
- Operating speed: 12,000 RPM (forward)
- Developed in conjunction with PJ Wormald, MD

*For use with the M4 only
Speeds are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.
Measurements are listed in millimeters unless otherwise specified.
ASB CUTTING BUR

4 mm Anterior Skull Base Cutting Bur*, 15°
1884075HSE
- 15 cm long
- Application: Removal of bone in and around sphenoid, sella, clivus, and pterygoid plate
- Operating speed: up to 12,000 RPM (forward)
- 1 each

ASB DIAMOND BURS

5 mm Anterior Skull Base Diamond Bur*, 15°
1885076HSE
- 15 cm long
- Application: Removal of bone in and around sphenoid, sella, clivus, and pterygoid plate
- Operating speed: up to 12,000 RPM (forward)
- 1 each

3.2 mm Anterior Skull Base Diamond Bur*, 15°
1883274HSE
- 15 cm long
- Application: Removal of bone in and around sphenoid, sella, clivus, and pterygoid plate
- Operating speed: up to 12,000 RPM (forward)
- 1 each

ASB DIAMOND BURS

3.2 mm Anterior Skull Base Diamond Bur*, 40°
1883277HSE
- 15 cm long
- Application: Removal of bone in and around sphenoid, sella, clivus, and pterygoid plate
- Operating speed: up to 12,000 RPM (forward)
- 1 each

5 mm Curved Round Diamond Bur, High-Speed
1885061HS
- 12.5 cm long with curved shaft
- Cannulated suction bur tip
- Application: trans-sphenoidal surgery
- Operating speed: up to 12,000 RPM (forward)
- 3 each
- Developed in conjunction with David Kennedy, MD

ROUND DIAMOND BUR

5 mm Anterior Skull Base Diamond Bur*, 70°
1885078HSE
- 13 cm long
- Application: Removal of frontal sinus septations and osteomas above the level of frontal recess
- Operating speed: up to 12,000 RPM (forward)
- 1 each

Curved Sinus Burs
Selecting the Best Bur for the Job

One of the most technically challenging procedures for the rhinologist is the modified Lothrop procedure, where the frontal sinus nasal floor is removed endoscopically from lacrimal bone to lacrimal bone, including the interfrontal sinus septum and a portion of the nasal bony septum that adjoins the frontal sinus floor.

Choosing the right bur includes choosing the proper angle as well as its shape and aggressiveness. The RAD® 55 Curved Sinus and the RAD® Frontal Finesse Burs provide an elongated fluted geometry that can drill inferiorly to superiorly into the nasal crest, which can then be extended laterally in a controlled manner (Figures 01 and 02). The 70° Tapered Diamond Bur can assist in extending the frontal sinus laterally, in a superior to inferior fashion (Figure 03).

Higher frontal sinus cell partitions or osteomas may exist in patients' anatomy that need to be removed. This type of work would require a longer working length, thus the 70°, 5 mm ASB Diamond Bur may be the best option for this type of procedure.
Curved Sinus Burs (continued)

**TAPERED DIAMOND BURS**

- **4 mm Choanal Atresia Bur, High-Speed**
  - 1883673HS
  - 13 cm long with curved shaft
  - Cannulated suction bur tip
  - Application: removal of vomer
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with Gary Josephson, MD

- **4 mm Tapered Diamond Bur, High-Speed**
  - 1883672HS
  - 13 cm long with curved shaft
  - Cannulated suction bur tip
  - Application: frontal sinusotomy
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with David Kennedy, MD

**DCR BURS**

- **4 mm Curved DCR Bur, High-Speed**
  - 1884068HS
  - 11 cm long with curved shaft
  - Application: endoscopic drilling of lacrimal bone
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with Michael Mercandetti, MD

- **2.5 mm Curved Diamond DCR Bur, High-Speed**
  - 1882569HS
  - 11 cm long with curved shaft
  - Cannulated suction bur tip
  - Application: endoscopic drilling of lacrimal bone
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with PJ Wormald, MD

**RAD® BURS**

- **3 mm RAD® Frontal Finesse Bur, High-Speed**
  - 1883070HS
  - 13 cm long with curved shaft
  - 8 flutes
  - Cannulated suction bur tip
  - Application: frontal sinus drilling
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with Donald Leopold, MD

- **3.6 mm RAD® 55 Curved Bur, High-Speed**
  - 1883670HS
  - 13 cm long with curved shaft
  - Cannulated suction bur tip
  - Application: frontal sinus drilling
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with Donald Leopold, MD, and Eileen Raynor, MD

**SEPTOPLASTY BUR**

- **3.2 mm Septoplasty Bur, High-Speed**
  - 1883212HS
  - 11 cm long with curved shaft
  - Cannulated suction bur tip
  - Application: removal of bony and cartilageneous septal deviations
  - Operating speed: up to 12,000 RPM (forward)
  - 3 each
  - Developed in conjunction with Donald Leopold, MD, and Eileen Raynor, MD

*Speeds are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.*

*Measurements are listed in millimeters unless otherwise specified.*
Airway Blades
*M4 Rotatable*

**SKIMMER® BLADES**

2.9 mm Skimmer® Angle-Tip Blade
1882979HRE
- 13 cm long double-curved blade
- Application: papilloma and tumor removal, laryngomalacia, and pediatric
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 1 each with irrigation tubing

2.9 mm Skimmer® Angle-Tip Blade
1882925HRE
- 18 cm long double-curved blade
- Application: papilloma removal, laryngomalacia, and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 1 each with irrigation tubing

2.9 mm Skimmer® Angle-Tip Blade
1882923HRE
- 22 cm long double-curved blade
- Application: papilloma removal, laryngomalacia, and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 1 each with irrigation tubing

**TRICUT® BLADES**

2.9 mm Skimmer® Angle-Tip Blade
1882924HRE
- 27 cm long double-curved blade
- Application: papilloma removal, laryngomalacia, and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 1 each with irrigation tubing

4 mm Tricut® Angle-Tip Laryngeal Blade
1884030HRE
- 22 cm long double-curved blade
- Angled tip allows better visibility with endoscopy
- Application: tumor debulking and granulation tissue removal
- Operating speed: 500-1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with William Lunn, MD, and Armin Ernst, MD

4 mm Tricut® Angle-Tip Subglottic Blade
1884031HRE
- 27 cm long double-curved blade
- Angled tip allows better visibility with endoscopy
- Application: tracheal stenosis, tumor debulking, and granulation tissue removal
- Operating speed: 500-1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with William Lunn, MD, and Armin Ernst, MD

4 mm Tricut® Angle-Tip Bronchial Blade
1884035HRE
- 45 cm long double-curved blade
- Rotating angled tip offers access to lateral, medial, and posterior bronchial lesions through a rigid bronchoscope
- Application: debulking bronchial papilloma and lesions, tumor debulking, and granulation tissue removal
- Operating speed: 500-1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with William Lunn, MD, and Armin Ernst, MD
Airway Blades
Non-Rotatable

**SKIMMER® BLADES**

2.9 mm Skimmer® Angle-Tip Blade
1882925
- 18 cm long double-curved blade
- Inner suction path is the same as larger curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 3 each with irrigation tubing
- Developed in conjunction with Craig Derkay, MD, and David Darrow, MD

2.9 mm Skimmer® Angle-Tip Blade
1882923
- 22.5 cm long double-curved blade
- Inner suction path is the same as larger curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 3 each with irrigation tubing
- Developed in conjunction with Craig Derkay, MD, and David Darrow, MD

3.5 mm Skimmer® Angle-Tip Laryngeal Blade
1883525
- 18 cm long double-curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- Developed in conjunction with Charles Myer, III, MD; Paul Wilging, MD; Brian Wiatrak, MD; Paul Flint, MD; David Parsons, MD; and John Little, MD

3.5 mm Skimmer® Angle-Tip Laryngeal Blade
1883523
- 22.5 cm long double-curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- Developed in conjunction with Charles Myer, III, MD; Paul Wilging, MD; Brian Wiatrak, MD; Paul Flint, MD; David Parsons, MD; and John Little, MD

3.5 mm Skimmer® Angle-Tip Subglottic Blade
1883524
- 27.5 cm long double-curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- Developed in conjunction with Charles Myer, III, MD; Paul Wilging, MD; Brian Wiatrak, MD; Paul Flint, MD; David Parsons, MD; and John Little, MD

**SKIMMER® BLADES**

4 mm Skimmer® Angle-Tip Laryngeal Blade
1884023
- 22.5 cm long double-curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- 3 each with irrigation tubing
- Developed in conjunction with Charles Myer, III, MD; Paul Wilging, MD; Brian Wiatrak, MD; Paul Flint, MD; David Parsons, MD; and John Little, MD

4 mm Skimmer® Angle-Tip Subglottic Blade
1884024
- 27.5 cm long double-curved blade
- Application: recurrent respiratory papilloma removal and trans-sphenoidal hypophysectomy
- Operating speed: 60-500 RPM
- Low-profile distal bend: 15°
- Developed in conjunction with Charles Myer, III, MD; Paul Wilging, MD; Brian Wiatrak, MD; Paul Flint, MD; David Parsons, MD; and John Little, MD

4 mm Skimmer® Straight-Tip Laryngeal Blade
1884020
- 22.5 cm long
- Straight tip with curve at handpiece
- Application: debulking of RRP lesions
- Operating speed: 1,200 RPM
- 3 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD, and John Little, MD

**TRICUT® BLADES**

25 cm long

4 mm Tricut® Angle-Tip Laryngeal Blade
1884030
- 22.5 cm long double-curved blade
- Application: tumor debulking
- Operating speed: 1,500 RPM
- 3 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD, and John Little, MD

4 mm Tricut® Angle-Tip Subglottic Blade
1884031
- 27.5 cm long double-curved blade
- Application: tracheal stenosis
- Operating speed: 1,500 RPM
- 3 each with irrigation tubing

4 mm Tricut® Straight-Tip Laryngeal Blade
1884020
- 22.5 cm long
- Straight tip with curve at handpiece
- Application: debulking of RRP lesions
- Operating speed: 1,200 RPM
- 3 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD, and John Little, MD

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Speeds are suggested RPM (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.

Measurements are listed in millimeters unless otherwise specified.
Airway Blades
Non-Rotatable (continued)

SERRATED BLADES

4 mm Serrated Angle-Tip Tracheal Blade
1884033
- 37 cm long
- Angled tip allows better visibility with endoscopy
- Application: debulking distal RRP and tracheal lesions
- Operating speed: 1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD

2.9 mm Serrated Angle-Tip Blade
1882936E
- 18 cm long double-curved blade
- Application: papilloma and hemangioma removal
- Operating speed: 500-1,500 RPM
- 1 each with irrigation tubing

2.9 mm Serrated Angle-Tip Blade
1882937E
- 22 cm long double-curved blade
- Application: papilloma and hemangioma removal
- Operating speed: 500-1,500 RPM
- 1 each with irrigation tubing

4 mm Straight Tracheal Blade
1884032
- 37 cm long
- Straight tip to allow access through smaller diameter bronchoscope
- Application: debulking distal RRP and tracheal lesions
- Operating speed: 1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD, and John Little, MD

TRACHEAL BLADE

4.0 mm Straight Tracheal Blade
1884031
- 37 cm long

SERRATED BLADES

4 mm Serrated Angle-Tip Tracheal Blade
1884033
- 37 cm long
- Angled tip allows better visibility with endoscopy
- Application: debulking distal RRP and tracheal lesions
- Operating speed: 1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD

2.9 mm Serrated Angle-Tip Blade
1882936E
- 18 cm long double-curved blade
- Application: papilloma and hemangioma removal
- Operating speed: 500-1,500 RPM
- 1 each with irrigation tubing

2.9 mm Serrated Angle-Tip Blade
1882937E
- 22 cm long double-curved blade
- Application: papilloma and hemangioma removal
- Operating speed: 500-1,500 RPM
- 1 each with irrigation tubing

4 mm Straight Tracheal Blade
1884032
- 37 cm long
- Straight tip to allow access through smaller diameter bronchoscope
- Application: debulking distal RRP and tracheal lesions
- Operating speed: 1,200 RPM
- 1 each with irrigation tubing
- Developed in conjunction with Paul Flint, MD, and John Little, MD

REferences


speeds are suggested rpm (revolutions per minute), operated in oscillation mode for blades and (forward) mode for burs.
Measurements are listed in millimeters unless otherwise specified.
The microdebrider has emerged as a preferred modality of papilloma excision. The Skimmer® Laryngeal Blade was specifically designed for delicate removal of papillomas near the vocal fold while minimizing damage to the epithelium (Figure 01).

**Surgical Technique**

The ability to successfully excise papillomas while avoiding collateral epithelial damage to the vocal fold serves as a model to the surgical management of papilloma. The recurrent nature of papilloma with resultant numerous surgeries often leads to progressive scarring and poor voice outcomes that may be prevented by the ability to avoid injury to normal tissues with the microdebrider.

Even for bulky disease associated with airway obstruction, the Skimmer blade rapidly removes papilloma in a controlled fashion (Figure 02). In the setting of acute distress, a single controlled pass can rapidly relieve airway obstruction and ensure that the child has a secure airway. Subsequently, a complete excision can be completed in the manner described above (Figure 03).

The development of longer Tricut® blades, coupled with the ability to rotate the blade housing, allows access to the distal airway down to the mainstem bronchi for papilloma removal (Figure 04). A Tricut blade is safe for use in the distal airway as the tracheal and bronchial mucosa is less susceptible to injury than the vocal fold epithelium. In patients with tracheostomies, a useful approach is to pass the blade through the stoma while directly visualizing the blade with a transoral endoscope.

**Caution:** Careful attention to the transition from papilloma to vocal fold epithelium is requisite. Particular concern is at the region of the anterior commissure where consideration of a staged resection is prudent. Bleeding is generally minimal and self-limited. If visualization becomes compromised, a pledget soaked with a vasoconstrictive agent invariably controls bleeding and allows the surgery to proceed.
Tonsillectomy and Adenoidectomy Blades

RADENOID® BLADES

**4.5 mm RADenoid® Adult Blade**
1884507
- 13 cm long with curved 45° blade
- Application: adenoidectomy
- Allows better access into the choana
- Operating speed: 1,500 RPM
- 5 each
- Designed in conjunction with Max April, MD, and J. Lindhe Guarisco, MD

**4 mm RADenoid® Blade**
1884008
- 11 cm long with curved 40° blade
- Application: adenoidectomy
- Operating speed: 1,500 RPM
- 5 each
- Designed in conjunction with Max April, MD, and J. Lindhe Guarisco, MD

**4 mm Tonsillectomy Blade**
1884013
- 11 cm
- 12° blade
- Application: intracapsular tonsillectomy
- Operating speed: 1,500 RPM
- 5 each

**Powered T&A Blade Set**
1884008TA
- 13 cm
- Removable inner cutting tube
- 40° outer blade designed for powered adenoidectomy
- 12° outer blade designed for powered intracapsular tonsillectomy
- Operating speed: 1,500 RPM
- 5 each
- Developed in conjunction with Peter J. Koltai, MD

The XPS® Powered T&A Blade Set for the PITA™ Technique

Clinical studies show that PITA™ surgery (Powered Intracapsular Tonsillectomy and Adenoidectomy) offers significant advantages to most patients. With interchangeable 12° and 40° outer cutting tubes, you can remove adenoids and tonsils in the traditional order.

**Benefits of Powered Adenoidectomy**
- More precise tissue removal
- Less residual adenoidal obstruction
- Faster procedure
- Reduced intraoperative bleeding compared to curette techniques
- Lowered recurrence rate of otitis media compared to other techniques
- Longer 13 cm RADenoid® blades offer better access to the choana in children more than six years old

**Benefits of Powered Intracapsular Tonsillectomy**
- Reduces postoperative bleeding and dehydration
- Less postoperative pain
- Quicker patient recovery compared to traditional Bovie techniques

Visit iTonsil.com for more information.
Aesthetic Blades and Burs

**FEATHERTOUCH® RASPS**

**FeatherTouch® Suction Rasp Tip (Coarse)**
1992208
- 8.4 cm
- Coarse tip
- Operating speed: 3,000-5,000 RPM (forward)
- Suction integrated into rasp face
- Used with FeatherTouch Converter (1922005) and suction tubing (1895524)
- Application: rhinoplasty, dorsal hump reduction
- 2 each
- Developed in conjunction with Ted Cook, MD; M. Eugene Tardy, MD; and Dan Becker, MD

**FeatherTouch® Suction Rasp Tip (Fine)**
1992210
- 8.4 cm
- Fine tip
- Operating speed: 3,000-5,000 RPM (forward)
- Suction integrated into rasp face
- Used with FeatherTouch Converter (1922005) and suction tubing (1895524)
- Application: rhinoplasty, dorsal hump reduction
- 2 each
- Developed in conjunction with Ted Cook, MD; M. Eugene Tardy, MD; and Dan Becker, MD

**FeatherTouch® Suction Tubing (not pictured)**
1895524
- For use with FeatherTouch Suction Rasp Tip
- 10 each

**OTHER**

**Micro-Planer® Blade**
1884010
- 11 cm
- Application: submental soft tissue removal
- Operating speed: 1,000-2,000 RPM, oscillate
- 5 each
- Developed in conjunction with Ted Cook, MD

**Tardy MicroBur®**
1883260
- 10 cm
- Application: rhinoplasty
- Operating speed: 3,000-5,000 RPM (forward)
- 3 each
- Developed in conjunction with M. Eugene Tardy, MD

**OTHER**

**HydroBrader® Irrigating/Aspirating Dermabrader**
19922100
- Coarse grit
- Application: dermabrasion
- Operating speed: 3,500-5,000 RPM (forward)
- 3 each

**RhinoBur® Rhinoplasty Bur**
1884566
- 10 cm
- Application: rhinoplasty
- Operating speed: 4,000-6,000 RPM (forward)
- 3 each
- Developed in conjunction with Dean Toriumi, MD

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**RhinoBur® Rhinoplasty Bur**
- Sculpts the bony dorsum with finesse and control
- Particularly useful in revision cases and patients with thin nasal skin
- Allows spot burring to correct localized irregularities
Integrated Power Console (IPC®) System

The new IPC® system is the only ENT powered surgery system with the widest range of application-specific products

**IPC® Console**

1898001

**IPC® System Multi-function Footpedal**

1898430

**Basket**

1897510

**XPS® Straightshot® M4 Microdebrider**

1898200T

**XPS® Straightshot® M4 Instrument Tray**

1898400

**IPC® Power Cords**

- 1895820 Standard, North America, 3 M
- 1895821 UK/Ireland, 240 V, 2.5 M
- 1895822 Continental Europe, 230 V, 2.5 M
- 1895824 UK/Ireland, 6 M
- 1895825 Continental Europe, 6 M

**IPC® Manuals**

- 1898851 English Only
- 1898851A EL, EN, ES, FR, PT
- 1898851B DE, EN, FR, IT, NL
- 1898851C DA, EN, FI, NO, SV
- 1898851D CS, EN, HU, PL, TR
- 1898851E EN, RU (CD only)

*Select a Power Cord and a System Manual*

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For further information, please call Medtronic ENT at 904-296-9600. You may also consult our website at [www.MedtronicENT.com](http://www.MedtronicENT.com).

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