



**Medtronic**

# ENT Blades and Burs

FOR THE STRAIGHTSHOT® M4 MICRODEBRIDER



# Automated EM Tracking Blades

## M4 Rotatable

### TRICUT® BLADE

360°

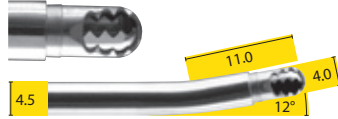


#### 4 mm Tricut® Straight Rotatable Blade with Automated EM Tracking 1884080EM

- 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

360°

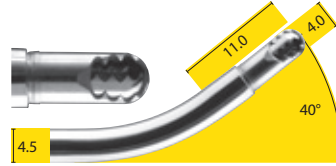


#### 4 mm RAD® 12 Curved Rotatable Blade with Automated EM Tracking 1884012EM

- 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

360°



#### 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

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*

For Fusion™ ENT Navigation and the Straightshot™ M4 Microdebrider



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](http://www.MedtronicENT.com) for more information.



# Straight Sinus Blades

## M4 Rotatable

### TRICUT® BLADES

360°



#### 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
- 5 each with irrigation tubing

#### 4 mm Tricut® Blade 1884080HR

- 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
- 5 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
- 5 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

360°



#### 4 mm Serrated Blade 1884002HRE

- 11 cm 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®

360°



#### 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 with straight shaft
- Rotates through 360°
- Application: choanal atresia
- Operating speed: 5,000 RPM, oscillate
- 1 each with irrigation tubing
- Developed in conjunction with Rodney Lusk, MD

### TURBINATE

360°



#### 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
- Developed in conjunction with Laurence O'Halloran, MD



#### 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

# Inferior Turbinoplasty Results that Last

## A Brief Surgical Technique with Study Results

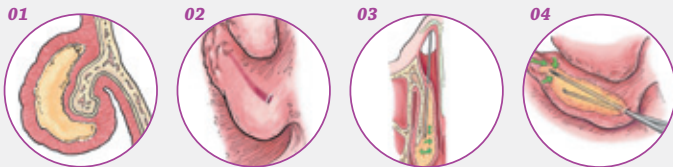
Chronic nasal obstruction is a common symptom associated with hypertrophied inferior turbinates. Among other treatments, hypertrophied inferior turbinates can be surgically reduced in size to help relieve the obstruction and reopen the airway.

### Compared to submucosal electrocautery, the Inferior Turbinate Blade offers:<sup>1-5</sup>

- Significantly longer-lasting results
- Significantly improved patient quality of life
- Significantly reduced postoperative complications
- Helps achieve the goals of volumetric reduction
- 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.

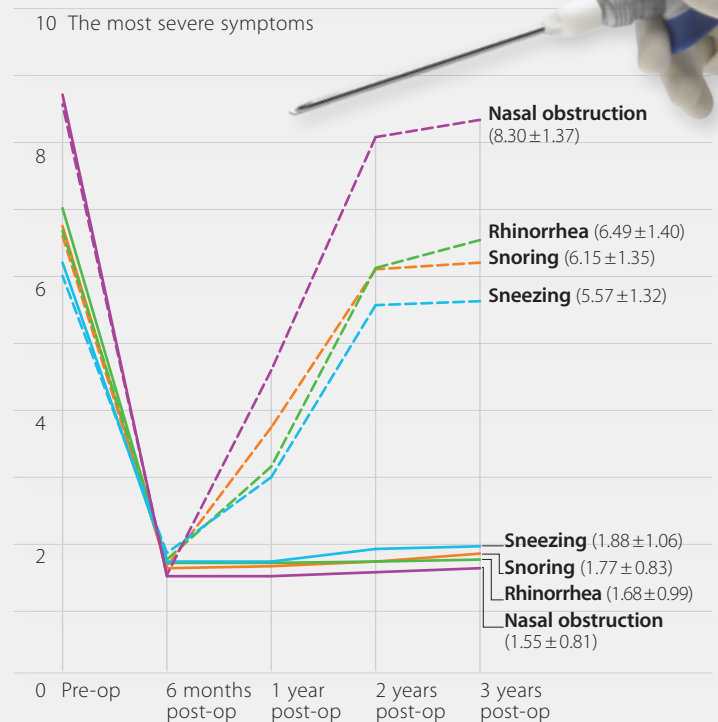


The physician inserts the blade beneath the mucosal layer and, after creating a submucosal dissection plane with blade's elevator tip, removes the intervening stromal tissue. The underlying turbinate bone is not removed and the overlying mucosa is also preserved. This technique reduces the size of the 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<sup>5</sup>

#### Visual Analog Scale (VAS) Scores



#### Key

Radiofrequency-assisted inferior turbinoplasty (RAIT) -----  
Microdebrider-assisted inferior turbinoplasty (MAIT) —————

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).<sup>5</sup>

1. Yañez C. Inferior turbinate debriding technique: Ten-year results. *Arch Otolaryngol Head Neck Surg* 2008; 138:170-175.  
2. Huang T-W, Cheng P-W. Changes in nasal resistance and quality of life after endoscopic microdebrider-assisted inferior turbinoplasty in patients with perennial allergic rhinitis. *Arch Otolaryngol Head Neck Surg* 2006; 132:990-3.  
3. Atef, Ahmed. Bipolar radiofrequency volumetric tissue reduction of inferior turbinate: Does the number of treatment sessions influence the final outcome? *Am J Rhinol* 2006; 20: 25-31.  
4. Sacks R, Thornton MA, Boustred RN. Modified endoscopic turbinoplasty—long-term results compared to submucosal electrocautery and submucosal powered turbinoplasty. Presented at: American Rhinologic Society Spring Meeting; May 13–16, 2005; Boca Raton, FL.  
5. Liu C-M, Tan C-D, Lee F-P, Lin K-N, Huang H-M. Microdebrider-assisted versus radiofrequency-assisted inferior turbinoplasty. *Laryngoscope* 2009; 119:414-8.

# Straight Sinus Blades

## Non-Rotatable

### TRICUT® BLADES



#### 4 mm Tricut® Blade 1884004

- 11 cm long with straight shaft
- Offset cutting surface cuts in 3 planes
- Application: ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing



#### 3.5 mm Tricut® Blade 1883504

- 11 cm long with straight shaft
- Offset cutting surface cuts in 3 planes
- Application: ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing



#### 2.9 mm Tricut® Blade 1882904

- 11 cm long with straight shaft
- Offset cutting surface cuts in 3 planes
- Application: pediatric sinus surgery
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing

### SERRATED BLADES



#### 4 mm Serrated Blade 1884002

- 11 cm long with straight shaft
- Application: ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing



#### 3.5 mm Serrated Blade 1883502

- 11 cm long with straight shaft
- Application: ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing



#### 2.9 mm Serrated Blade 1882902

- 11 cm long with straight shaft
- Application: pediatric sinus surgery
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing

### SILVER BULLET® BLADES



#### 4 mm Silver Bullet® Blade 1884005

- 11 cm long with straight shaft
- Application: ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing
- Developed in conjunction with Rodney Lusk, MD



#### 2.9 mm Silver Bullet® Blade 1882905

- 11 cm long with straight shaft
- Application: choanal atresia
- Operating speed: 5,000 RPM, oscillate
- 5 each with irrigation tubing
- Developed in conjunction with Rodney Lusk, MD

### INFERIOR TURBINATE



#### 2.9 mm Inferior Turbinate Blade 1882940

- 11 cm long
- 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



#### 2 mm Inferior Turbinate Blade 1882040

- 11 cm long
- 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

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

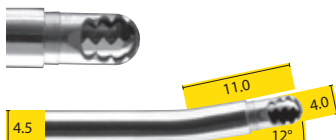
Measurements are listed in millimeters unless otherwise specified.

# Curved Sinus Blades

## M4 Rotatable

### RAD® 12 BLADES

360°



#### 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: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

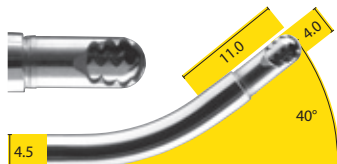


#### 3.5 mm RAD® 12 Blade 1883512HRE

- 11 cm long with curved shaft
- Straightshot M4 rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in 3 planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 1 each, irrigation tubing separate

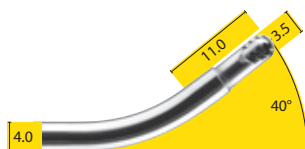
### RAD® 40 BLADES

360°



#### 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: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 5 each, irrigation tubing separate

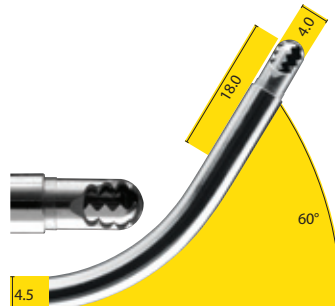


#### 3.5 mm RAD® 40 Blade 1883506HRE

- 11 cm long with curved shaft
- Straightshot M4 rotates blade tip 360° without shaft rotation
- Offset cutting surface cuts in 3 planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 1 each, irrigation tubing separate

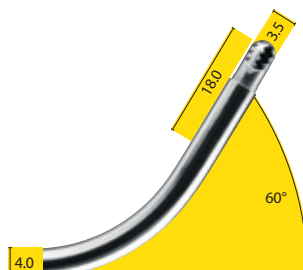
### RAD® 60 BLADES

360°



#### 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

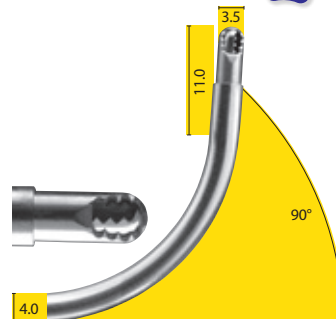


#### 3.5 mm RAD® 60 Blade 1883516HRE

- 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

### RAD® 90 BLADE

360°



#### 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\*

### RAD® 12 BLADE



#### 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

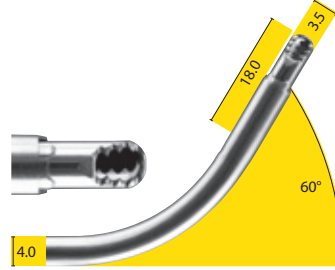
### RAD® 40 BLADE



#### 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

### RAD® 60 BLADE



#### 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

#### Irrigation Tubing for Blades and Burs

##### 1895522

- For use with XPS® blades and burs
- 5 each

## The Straightshot® Magnum II

### With Key Rotatable Blades



\*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.

Visit [www.MedtronicENT.com](http://www.MedtronicENT.com) for more information.



# 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



#### 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

### 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

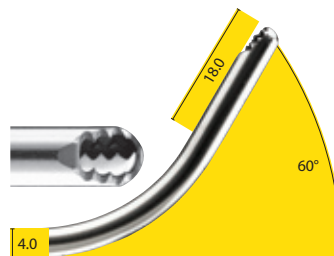
- Length: 14 cm
- Multi-bend curved shaft for use with operating microscope
- Offset cutting surface cuts in three planes
- Application: frontal sinus surgery
- Operating speed: 3,000 RPM, oscillate
- 3 each, Irrigation tubing separate



#### 3.5 mm RAD® 40 Blade 1883506

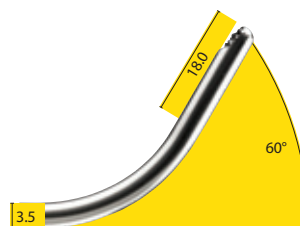
- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: uncinectomy, ethmoidectomy
- Operating speed: 5,000 RPM, oscillate
- 3 each, irrigation tubing separate

### RAD® 60 BLADE



#### 4 mm RAD® 60 Blade 1884016

- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Application: frontal sinus surgery
- 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: 5,000 RPM, oscillate
- 3 each, irrigation tubing separate
- Developed in conjunction with William Bolger, MD

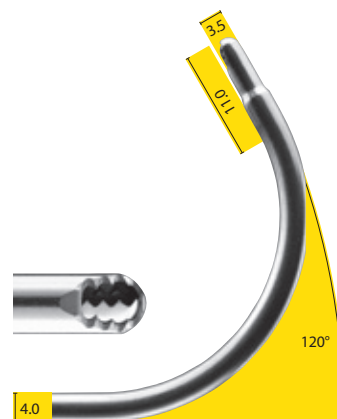
### RAD® 60 BLADE



#### 2.9 mm RAD® 60 Blade 1882916

- 11 cm long with curved shaft
- Offset cutting surface cuts in three planes
- Same inner lumen as wider 3.5 mm blades
- Application: frontal sinus surgery
- Operating speed: 1,500 RPM, oscillate
- 3 each, irrigation tubing separate

### RAD® 120 BLADE



#### 3.5 mm RAD® 120 Blade 1883517

- 11 cm long with curved shaft
- Tapered tip to allow maximum bend angle
- Application: maxillary polypectomy
- 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

- Operating speed: 6,000 RPM (forward)

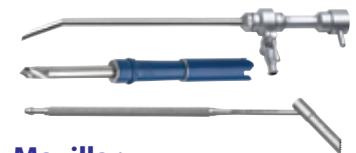
## SINUS BUR SETS



### 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.

# Curved Sinus Burs



## ASB CUTTING BUR

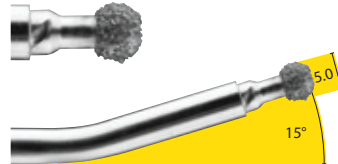


### 4 mm Anterior Skull Base Cutting Bur\*, 15°

**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

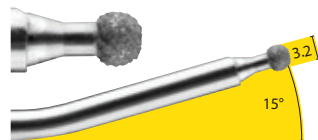
## ASB DIAMOND BURS



### 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

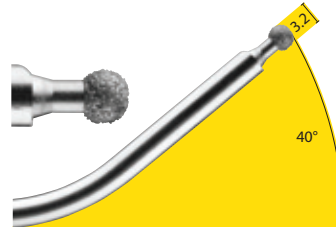


### 3.2 mm Anterior Skull Base Diamond Bur\*, 15°

**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

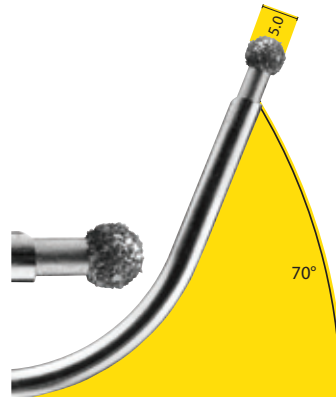
## ASB DIAMOND BURS



### 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 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

## ROUND DIAMOND BUR



### 5 mm Curved Round Diamond Bur, High-Speed

**1885061HS**

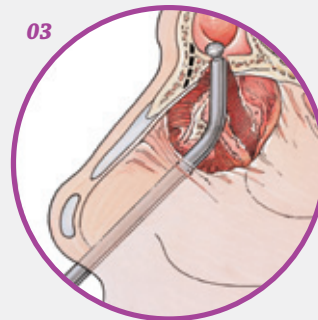
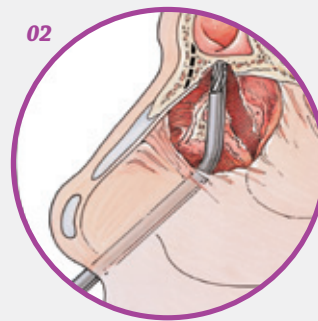
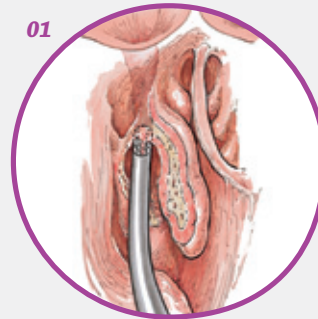
- 12.5 cm long with curved shaft
- Cannulated suction bur tip
- Application: trans-sphenoidal surgery
- Operating speed: up to 12,000 RPM (forward)
- 3 each
- Developed in conjunction with David Kennedy, MD

# 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).

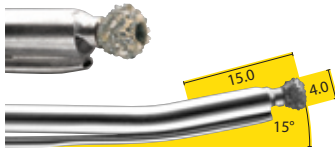
Higher frontal sinus cell partitions or osteomas may exist in patients' anatomy that need to be removed. This type of work would require a longer working length, thus the *70°, 5 mm ASB Diamond Bur* may be the best option for this type of procedure.



# Curved Sinus Burs

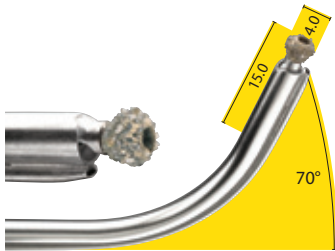
(continued)

## 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



### 4mm 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

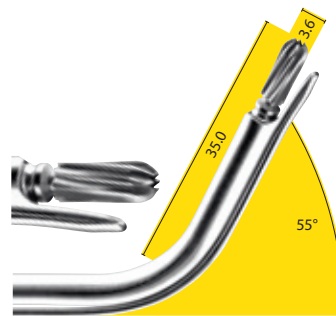
- 11 cm long with curved shaft
- Cannulated suction bur tip
- Application: endoscopic drilling of lacrimal bone
- Operating speed: up to 12,000 RPM (forward)
- 3 each
- Developed in conjunction with PJ Wormald, MD

## 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

## 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 cartilaginous 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

360°



#### 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

### SKIMMER® BLADES

360°



#### 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

### TRICUT® BLADES

360°



#### 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

### TRICUT® BLADES

360°



#### 4 mm Tricut® Angle-Tip Tracheal Blade

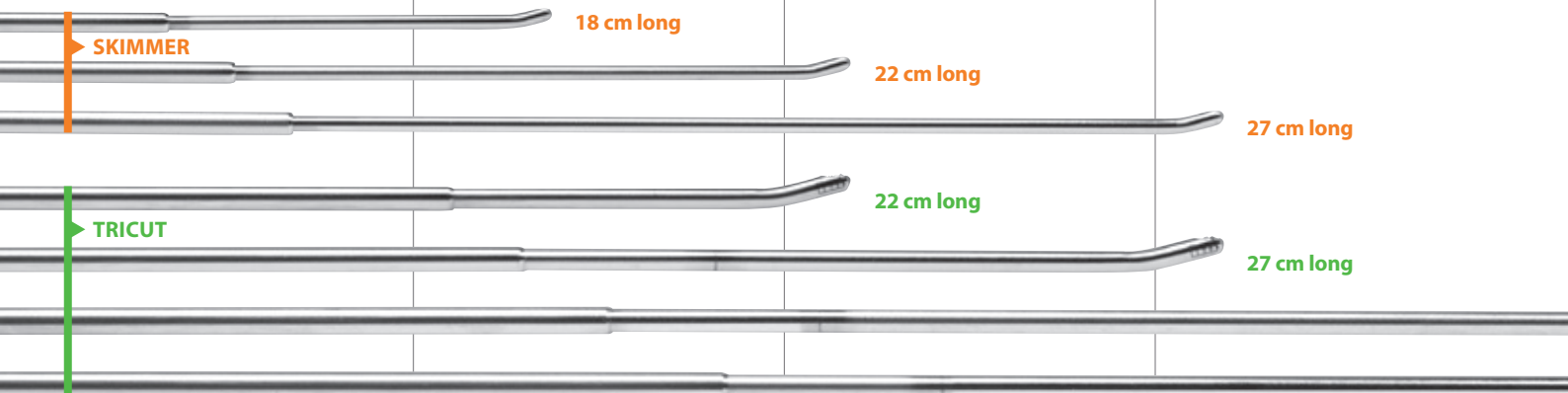
1884033HRE

- 37 cm long double-curved blade
- Angled tip allows better visibility with endoscopy
- Application: debulking tracheal 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

#### 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



### SKIMMER® BLADES



#### 3.5 mm Skimmer® Angle-Tip 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°
- 3 each with irrigation tubing

#### 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

37 cm long

### 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°
- 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



45 cm long

### TRICUT® BLADES



#### 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

*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

### SERRATED BLADES



#### 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

### TRACHEAL BLADE



#### 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

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See sidebar on page 16.

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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.



# Papilloma Surgical Technique

## Using Angled Skimmer® Blades for Papilloma Excision

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

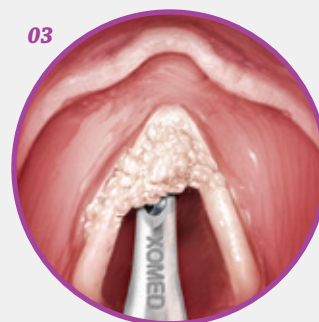
The ability to successfully excise papillomas while avoiding collateral epithelial damage to the vocal fold serves as a model to the surgical management of papilloma. The recurrent nature of papilloma with resultant numerous surgeries often leads to progressive scarring and poor voice outcomes that may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

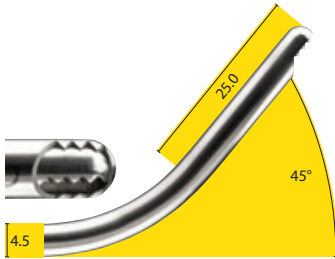
**Caution:** Careful attention to the transition from papilloma to vocal fold epithelium is requisite. Particular concern is at the region of the anterior commissure where consideration of a staged resection is prudent. Bleeding is generally minimal and self-limited. If visualization becomes compromised,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

*Surgical Technique Presented  
by Matthew T. Brigger, MD, and  
Christopher J. Hartnick, MD*



# Tonsillectomy and Adenoidectomy Blades

## RADENOID® BLADES

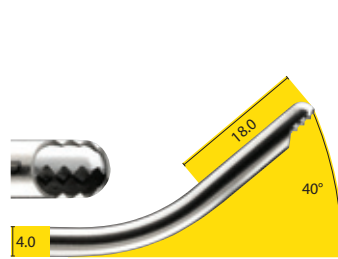


### 4.5 mm RADenoid® Adult Blade

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

## RADENOID® BLADES

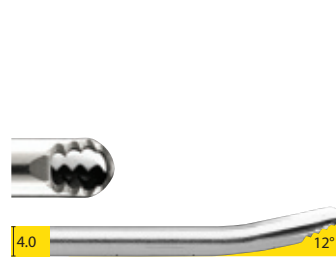


### 4 mm RADenoid® Blade

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

## TONSILLECTOMY BLADE

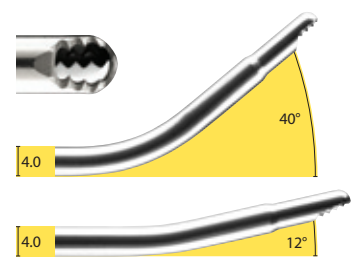


### 4 mm Tonsillectomy Blade

1884013

- 11 cm
- 12° blade
- Application: intracapsular tonsillectomy
- Operating speed: 1,500 RPM
- 5 each

## T&A BLADE SET



### 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.<sup>6-21</sup> With interchangeable 12° and 40° outer cutting tubes, you can remove adenoids and tonsils in the traditional order.

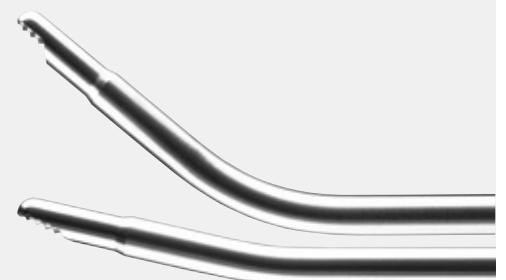
### Benefits of Powered Adenoidectomy

- 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<sup>21</sup>
- Longer 13 cm RADenoid® blades offer better access to the choana in children more than six years old

### Benefits of Powered Intracapsular Tonsillectomy

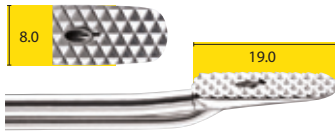
- Reduces postoperative bleeding and dehydration
- Less postoperative pain
- Quicker patient recovery compared to traditional Bovie techniques<sup>6-9,14,20</sup>

Visit [iTonsil.com](http://iTonsil.com) for more information.



# Aesthetic Blades and Burs

## FEATHERTOUCH® RASPS



### FeatherTouch® Suction Rasp Tip (Coarse) 1992208

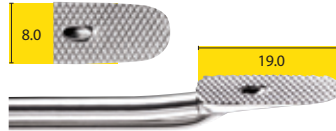
- 8.4 cm
- Coarse tip
- Operating speed: 3,000-5,000 RPM (forward)
- Suction integrated into rasp face
- Used with FeatherTouch Converter (1922005) and suction tubing (1895524)
- Application: rhinoplasty, dorsal hump reduction
- 2 each
- Developed in conjunction with Ted Cook, MD; M. Eugene Tardy, MD;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



### FeatherTouch® Converter 1992205

- Converts (forward) rotation to reciprocation
- Used in conjunction with rasp tips, suction tubing, and sterilizing tray (1922006)

## FEATHERTOUCH® RASPS



### 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)
- 5 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

## 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, 230V, 2.5 M

**1895824**

UK/Ireland, 6 M

**1895825**

Continental Europe, 6 M

*\* Select a Power Cord and a System Manual*

## 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)



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).

### Medtronic ENT

#### Medtronic USA, Inc.

6743 Southpoint Drive North  
Jacksonville, FL 32216  
USA

[www.MedtronicENT.com](http://www.MedtronicENT.com)  
Phone: (904) 296-9600  
Fax: (904) 296-9666

### International Telephone Numbers

Adriatic Regional Office 385-1-488-1120  
Australia 1800-668-670  
Baltic Regional Office 37-1-67560226  
Belgium 32-2456-09-09  
Canada 1800-217-1617  
China 86-21-50800998  
Czech Republic 420-2-9657-9580  
France 33-470-679-800  
Germany 49-2159-8149-209  
Greece 30-210-67-79-099  
Hong Kong 852-2919-1312  
Hungary 36-30-5052987  
India 91-22-26836733  
Israel 972-9-972-4400

Italy 39-02-24137-324  
Japan 81-6-4795-1506  
Korea 82-2-3404-3600  
Lebanon 961-1-370-670  
Luxembourg 32-2456-09-09  
Netherlands 31-45-566-8800  
Poland 48-22-465-6942  
Russian Federation 7-495-580-73 77  
Singapore 65-6776-6255  
South Africa 27-11-466-1820  
Spain 34-91-625-05-40  
UK 44-1923-205-166  
USA 1-904-296-9600

