MiRCSP™ Cannulae
MINIMALLY INVASIVE RETROGRADE CORONARY SINUS PERFUSION

Find your ideal.
Minimally invasive cardiac surgery starts with forward thinking

Moving forward to provide advanced options for you and your patients

Collaborating forward with over 30 years of cannula innovation and partnership with surgeons to support evolving cannulation techniques

Innovating forward with minimally invasive solutions for delivering retrograde cardioplegia

Putting the future in your hands today
Minimally invasive procedures present new opportunities for treating patients with cardiovascular disease.

As the world’s largest medical device company, Medtronic strives to facilitate the evolution of cardiac surgery toward the least invasive treatment possible.

We’re committed to giving you access to the broadest portfolio of therapy, technology and training resources to help you transition to less invasive procedures patients are requesting today.

The MiRCSP™ cannula is intended for use during cardiopulmonary bypass for the delivery of cardioplegia retrograde through the coronary sinus for up to six hours. It is indicated for use during cardiac surgery for median sternotomy or minimally invasive (mini-sternotomy or right thoracotomy) access using direct, echocardiographic or fluoroscopic visualization techniques.
MiRCSP® helps facilitate placement through small thoracic incisions.

**Tip Deflecting Thoracotomy (TDT)** models facilitate coronary sinus placement through a right thoracotomy with tip deflection aligned with slide control.

**Visibility**
Radiopaque bands on both manual- and auto-inflate models are located at each end within the balloon and can be visualized by fluoroscopy.

**Maneuverability**
Tip deflects and can be rotated through 10 mm of sweep range in the deflected position. This fine motion control allows alignment within the right atrium for introduction and tracking into the coronary sinus.

Extreme caution should be exercised while introducing the cannula into the coronary sinus. Do not force the cannula into the coronary sinus as this may cause vessel damage.

TDT models are available with auto-inflate or manual-inflate cuff.
Tip Deflecting (TD) models facilitate placement in the coronary sinus through mini-sternotomy access with tip deflection opposite of slide control.

Visibility
Glass micro-spheres within the preformed auto-inflate balloon enhance visualization to guide placement when using transesophageal echocardiography.

Due to limitations of direct visualization during minimally invasive techniques, echocardiographic or fluoroscopic imaging is recommended.

Maneuverability
Tip deflection up to 30 degrees (up to 40 degrees on manual-inflate models) assists insertion and advancement into the coronary sinus.

TD models are available with auto-inflate or manual-inflate cuff.

Enhanced echogenicity
MiRCSP™ Auto-Inflate balloon

1 Data on file at Medtronic, Inc.
The 13 Fr MiRCSP™ manual- and auto-inflate models achieve traditional cardioplegia delivery flow rates

<table>
<thead>
<tr>
<th>Catalog Code</th>
<th>French Size</th>
<th>Description</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>94113 TDT</td>
<td>13 Fr</td>
<td>Tip Deflecting Thoracotomy manual-inflate cuff</td>
<td>12.5 in (31.8 cm)</td>
</tr>
<tr>
<td>94533 TDT</td>
<td>13 Fr</td>
<td>Tip Deflecting Thoracotomy auto-inflate cuff</td>
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For more information, contact your local Medtronic Cannula Products Representative. U.S. Customer Service: 1-800-328-1357

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician