Additional advice and information on using the StopLoss Jones tube system

Insertion

Surgery to place the StopLoss Jones tube is normally carried out under general anaesthesia, though local anaesthesia can be used. Surgery may be primary placement of the Jones tube where there has been no previous lacrimal surgery, or secondary placement after previous DCR. In both cases an adequate bony ostium is required as placement of the tube directly through bone is contra-indicated.

Secondary placement

Assess the nasal space into which the tube will be inserted to ensure adequate space is available. It is best to avoid decongestion of the nasal mucosa to enable an accurate assessment to be made.

Assess the shape of the medial canthal area to decide where to begin the track for the tube. It can help to mount a sizing device in reverse on the guide wire (ie with the flange towards the point) and hold the flange in place at the desired final position so that the pointed end of the guide wire engages the tissues and starts the track in the correct location. Great care must be taken with the guide wire in view of its sharp tip. Use a larger or smaller diameter flange as required. Aim for the anterior edge of the flange to be at or just behind the mucocutaneous junction to allow lid closure. Perform a small carunculectomy if required.

With the flange in the desired position use the end cap to push the guide wire through the intervening tissues aiming for the desired exit location within the nose. In general this will involve a direction of insertion approximately in the plane of the iris and with the tip of the guide wire angled downwards from the horizontal by around 30 degrees. Excessive force must not be used. Do not attempt to pass through bone. Enlarge the bony ostium surgically if required.

Examine the nasal space to identify the tip of the guide wire. Caution is needed to ensure it does not penetrate the nasal septum. Check that the tip of the tube to be placed will be clear of obstructions. Reposition the guide wire if needed by partially withdrawing and re-inserting. Remove obstructing tissue such as the anterior portion of the middle turbinate if required.

Remove the end cap, and the reverse-mounted sizing device if used, keeping the guide wire in position.

Insert the dilator, narrow end first, over the guide wire. Holding the guide wire in position, use the central hubs to push the dilator along the guide wire and into the nose. Avoid excessive force, movement of the guide wire or damage to the nasal septum. Examine the nose to ensure the tip of the dilator is fully in the nasal space.

Keeping the guide wire in position, withdraw the dilator off the guide wire and reverse it so that the broader end is leading. Using the central hubs, pass this along the guide wire again to further dilate the track into the nose. Check inside the nose to ensure the tip is fully in the nasal space.

Keeping the guide wire in place withdraw and remove the dilator.

Take one of the sizing devices, usually the 15mm length, with the previously determined external flange diameter and pass it along the guide wire so that the end with sizing bands reaches the nose when the external flange is in position at the medial canthus. If it fails to reach the nose replace it with the longer size (in very exceptional circumstances this may also fail to reach the nose in which case the guide wire can be used to estimate the distance from eye to nose).

Remove the guide wire to let the sizing device settle into a natural position. Check that the flange is in the desired position. Examine the tip of the sizing device in the nasal space, preferably with a nasal endoscope.

The sizing devices have lengths 15mm and 20mm and each has 5 ring markings at mm intervals from the tip. The sizing devices are used to measure the length of the track created between the medial canthus and the lateral nasal wall. The length of this track is the length of the sizing device minus the number of ring markings visible within the nose. Select a StopLoss tube that is 4mm longer than this measurement.

Example 1: Using a 15mm sizing device 3 ring markings are visible. The length of the track is therefore 15mm minus 3mm ie 12mm. The StopLoss tube length required is therefore 16mm.

Example 2: Using a 20mm sizing device 4 ring markings are visible. The length of the track is therefore 20mm minus 4mm ie 16mm. The StopLoss tube length required is therefore 20mm.

Having determined the length of StopLoss tube required, reinsert the guide wire down the sizing device and then remove the sizing device leaving the guide wire in place.

Open the StopLoss Jones tube of the required length and flange diameter. With the silicone flange end leading, pass the tube over the guide wire and push it into the formed track. Light pressure is used to collapse the silicone flange onto the tube as it enters the track. If significant resistance is encountered use the dilator to re-enlarge the track.

The tube can now be pushed fully down the track, with the silicone flange in the collapsed position. Further gentle pressure is then applied to allow the silicone flange to enter the nose and return to its open position.

Check inside the nose to ensure that the flange has opened fully and that the tip of the tube is clear of surrounding tissue. Remove the guide wire and check that the tube is positioned as required.

The introducer set is single use and discarded after tube placement.

To avoid risk of early inwards movement of the tube after insertion it is recommended that the tube is temporarily secured with a suture. This is achieved by passing a suture (for example 6-0 polypropylene or nylon) through the adjacent medial canthal skin to the tube at the caruncle, looping the suture 3-4 times around the tube adjacent to the external flange and returning the suture out to the skin where it is tied over a bolster. This suture can be removed after 1-2 weeeks.

<u>Primary placement</u>

Primary placement as part of either endoscopic or external DCR surgery follows the same sequence as secondary placement once the lacrimal sac has been opened. The guide wire and dilator are used

as before. The sizing devices and the correct positioning of the tube tip and silicone flange can be observed under direct vision during external surgery. Accurate determination of the tube length and position is less predictable due to the need for nasal decongestion and to tissue swelling related to the surgery and the tube may later need to be replaced with one of different dimensions.

Tube removal

If the tube is to be removed and replaced it is recommended that the guide wire is used to maintain the track for the replacement tube. Pass the loop of the removal device around the neck of the tube. Axially rotate the handle of the removal device to tighten the loop around the tube to grip it securely. Pass the guide wire provided down the lumen of the tube. Hold the guide wire in place and apply sustained slowly increasing traction to the tube until the internal flange is felt to collapse. Withdraw the tube over the guide wire.