Indications for Lacrimal Intubation:
1. Where probing of the lacrimal system has not cured the tearing
2. Where there are definite obstructions of the lacrimal system that would close if they were not kept open
3. Repair of injuries involving cut canaliculi
4. During a dacryocystorhinostomy

The Crawford Lacrimal Intubation System, developed by the late Dr. John Crawford, Chief of Ophthalmology at the Hospital for Sick Children in Toronto, Canada and Professor of Ophthalmology at the University of Toronto, has proven to be a simple yet effective means of achieving intubation of the Lacrimal System (1) (2).

References

*Note: Intubation sets are supplied sterile and are single use products. The hook, stripper, and grooved director are intended to be sterilized at the hospital and can be reused provided they are not damaged.

Video Instructional CD:
A CD demonstrating the use of the Crawford Lacrimal Intubation System and the Codere Endonasal DCR Procedure is available at no charge through JEDMED Instrument Company. Please contact our Customer Service Department.
Separation of the silicone tubing from the probe may occur when intubating patients with severe blockage/narrowing of the lower naso-lacrimal duct or pronounced bony prominence. Refer to “Procedural Problems.”

Ease of passage of the probes through the lacrimal system will vary widely from patient to patient with placement of the tubes in some patients being quite difficult due to narrow openings in the lacrimal system, especially at the lower end of the bony canal.

Each punctum should be dilated.

The lacrimal system is probed to open any blockages by using a standard lacrimal probe such as a Bowman 00. It is suggested that successful probing be confirmed by inserting a second probe into the inferior meatus of the nostril and making metal to metal contact.

The Crawford Probe is passed through the upper punctum and across the upper canaliculus and then oriented down through the lacrimal system into the nose approximately 4cm (Fig. 1). If any difficulties are experienced in locating the wire probe, a 1 or 2 Bowman probe may be used to establish metal to metal contact and define the position of the wire.

The location of the probe is confirmed by inserting the Crawford Retrieval Hook. Note that the flat on the hook handle indicates the orientation of the hook in the nose. Those performing the procedure infrequently or for the first few times may have difficulty locating the probe in the nose. It is generally found more laterally and posteriorly than one would expect. If one pictures the junction of the lateral wall of the nose and the floor of the nose, the wire probe can usually be found by inserting the hook with the hook vertical so it follows this junction. The wire will be located lateral to the inferior turbinate in the inferior meatus of the nose.

When using the original, non-suture product, the large knot may occasionally be pulled up into the lacrimal sac. The Crawford Tubing Remover can be used in this situation. When this occurs, locate the tubing in the eye and pull up on the tubing to create some slack. Feed the remover, olive tip end first, through the lacrimal system alongside the tubing, locating it in the nose with a Crawford Hook. Position the remover so that the enlarged portion of the remover is just outside the punctum. Cut the tubing and feed the end of the tubing, which is now alongside the remover, onto the probe and over the enlarged portion of the remover. Using a fine suture, secure the tubing so it will not pull off the remover. Carefully pull the remover out of the nose with the tubing. Work the knot back down and out of the lacrimal sac by gently pulling on the tubing (Fig. 4).

Occasionally, a patient may pull the tubing out from between the upper and lower puncta. In this case the set should be removed. If desired, a replacement set may be inserted in the normal manner.

The remover may be used in any situation where the surgeon wishes to reattach a tube to a probe.

It is important to note that tearing may persist while the tubes are in place since they do not act as a passage for the tears.

Occasionally, the wire probe is passed and engaged by the hook but a significant resistance is noted. This may occur because the junction of the wire and tubing has become stuck at the lower end of the naso-lacrimal duct. In these cases, the naso-lacrimal duct has a downward and slightly posterior direction and the wire has to be pulled around the bone prominence. Although the tubing is highly elastic and quite strong for its size, it is still much weaker than the wire and can easily be broken or stripped from the wire probe.

When significant resistance is encountered, the loop of an ear curette is slid over and down the wire pushing it posteriorly until the tubing is back in the nose and off the bony prominence (Fig. 3). The wire with the tubing attached is then worked around the bony prominence and pulled out of the nose.

Removal of the tubes is accomplished by locating the tube in the eye between the upper and lower puncta and pulling the tubing upward. The tubing is then cut and removed. The 6-0 silk suture may have to be removed separately from the tubes. This method of removal can be performed during an office visit and eliminates the need for a second anesthetic during removal.

The original Crawford Set (without suture) is inserted in exactly the same manner as described above, however, the tubing itself is tied and the knotted silicone tubing secured by a fine suture of the surgeon’s choice, for example, 8-0 silk. The knotted tubes are then tucked up into the nose. Because of the bulk of the knot, it will not pass through the canalicus and the tubes must be removed through the nose. In older patients, it may be possible to expel the knot by having the patient sneeze, but in small children it may require a second general anesthetic to locate the knot and remove the tubes.

The remover may be used in any situation where the surgeon wishes to reattach a tube to a probe.