

Intra-Operative Procedure

- The procedure was conceived in the late 1960s and consists of the extraluminal placement of a prosthesis (suture) between the caudal aspect of the cricoid cartilage and the muscular process of the arytenoid to simulate the action of the cricoarytenoideus dorsalis muscle.
- Placement of a suture or wire between the muscular process of the arytenoid cartilage and the cricoid cartilage. It is placed in such a way as to fix the corniculate process of the arytenoid cartilage in an abducted position, out of the airway.
- The head is placed in a fully extended position using a headstand and stabilized in a sagittal position. The linguofacial vein is marked and 2% lidocaine (10–15 mL) is infiltrated subcutaneously at the proposed incision site, ventral to the linguofacial vein. Lidocaine (20–35 mL) is then sprayed into the left or right nasal passage.
- A standard approach to the caudal aspect of the cricoid cartilage, ventral to the linguofacial vein, should be used. Local anaesthetic solution is sprayed from a syringe (or applied with a local anaesthetic-soaked gauze) to the exposed dorsal aspect of the cricoid cartilage before applying the lateralization suture.
- As the procedure develops, different suture prostheses can be used and changed to enhance the placement of the prosthesis in the cricoid cartilage and muscular process.
- The muscular process of the arytenoid cartilage is exposed by separating the cricopharyngeus and thyropharyngeus muscles. Local anaesthetic-soaked

gauze soaked is applied to the muscular process and surrounding tissue before placing the suture.

- The cricoarytenoid joint is curetted and the suture is passed through the muscular process by using a 13 gauge (1.8 mm) bone marrow needle and a 1.5 mm crochet-style hook 14 (n ¼ 33) or by using a reverse cutting or No. 6 Mayo needle (n ¼ 24).
- Sutures are passed in a slightly craniomedial to caudolateral direction, parallel to the cricoarytenoid joint. Alternatively, they can be anchored by using a 3.5 mm titanium corkscrew with the screw placed in a lateral to medial position.
- Either a single suture or 2 sutures can be used. If 2 sutures are used, the more dorsal suture is passed through the cricoid cartilage, 10 mm lateral to the dorsal midline, and the more lateral suture is placed 10 mm lateral to the dorsal suture. The more lateral suture is passed through the muscular process, 10 mm rostral and 10 mm ventral to the insertion of the cricoarytenoid dorsalis muscle in a medial to lateral direction, and the dorsal suture is then passed through the muscular process, 10 mm rostral to the first suture, engaging the spine in a single or double loop manner.
- The endoscope is inserted through the previously anesthetized nasal cavity, and the sutures are tightened and tied under endoscopic visualization to optimize the degree of abduction of the left arytenoid cartilage. When 2 sutures are used, the lateral suture is tied first. The surgical wound is lavaged and closed in 3 layers.
- Skin is closed using staples. An adhesive dressing or a stent bandage is applied to sutured incision.

