Speech, swallowing, and respiration are vital functions of the cervical aerodigestive tract. In case of a major defect in this area, flap reconstruction is frequently necessary to preserve maximal postsurgical function. This is the first work devoted exclusively to the reconstruction of the cervical aerodigestive tract. In this lavishly illustrated atlas, flap reconstruction of the larynx, trachea, hypopharynx, and cervical esophagus is covered. It provides step-by-step details of the technique leading to functional repair and improved quality of life.

442 images • 366 in color • demonstrate key concepts

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Chapter 1. Larynx Reconstruction

Illustrates the repair techniques of the larynx by using vascularized tissue transplants.

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- Introduction
- Anatomy
- Total laryngeal replacement
- Partial laryngeal defects that may need flap reconstruction
- Reconstruction of the glottic/subglottic defect
  - The battle of speech and swallowing versus respiration
  - The reconstructive tissue
  - Overview of tracheal autotransplantation
  - First stage reconstruction – T3 glottic cancer
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  - Closure of tracheostomy
  - Stenosis after tracheal autotransplantation
  - Tracheal autotransplantation for chondrosarcoma
  - Treatment of chondroradionecrosis

17 movies on larynx reconstruction included

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2. Tumor resection T3 glottic cancer
3. Midline reconstruction aryepiglottic fold
4. Radial forearm flap
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Chapter 2. Trachea Reconstruction

Highlights the tissues that may be used to correct a tracheal restenosis after segmental resection, a long-segment tracheal stenosis and a combined posterior glottic/subglottic stenosis.

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10. Healing of tubes of autologous cartilage

Patch reconstruction

Another approach to treat a restenosis and a long-segment stenosis consists of longitudinal incision and expansion of the stenotic area (Fig. 2.18). Reconstructive tissue to place into the anterior defect will be necessary.

- Restoration of the concavity of the airway wall is possible with a revascularized tracheal allograft which is made into a patch (Fig. 2.19).
- A reconstruction connecting the incised stenosis linearly can be obtained with a mucosa-lined fascia flap in a 1-stage procedure (Fig. 2.20). The dotted double arrow shows the remaining airway lumen after longitudinal incision and expansion. In contrast to the situation shown in Figure 1.10.c.3, primary healing in a linear position will ensure a restoration of a sufficient airway lumen.
- A restoration in between the lines 1 and 2 is possible with composite tissue consisting of cartilage and a vascularized mucosal lining (Fig. 2.17). Prefabrication during several weeks is a prerequisite to obtain this composite tissue (Fig. 2.17).

Figure 2.18. Patch reconstruction to treat a restenosis and a long-segment stenosis.

- Longitudinal incision (arrows) and expansion (double arrow) of the stenotic area.
- Reconstructive tissue to place into the anterior defect necessary.
- Restoration of the concavity of the airway wall is possible with a revascularized tracheal allograft which is made into a patch.
- A reconstruction connecting the incised stenosis linearly can be obtained with a mucosa-lined fascia flap in a 1-stage procedure.
- A restoration in between the lines 1 and 2 is possible with composite tissue consisting of cartilage and a vascularized mucosal lining.
Chapter 3. Reconstruction of Hypopharynx and Cervical Esophagus

Highlights reconstruction of partial and total pharyngectomy defects after cancer surgery as well as reconstruction for stenosis.

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7 movies on reconstruction of pharynx and cervical esophagus included

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4. Free jejunum tube
5. Hypopharyngeal reconstruction – general principles
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