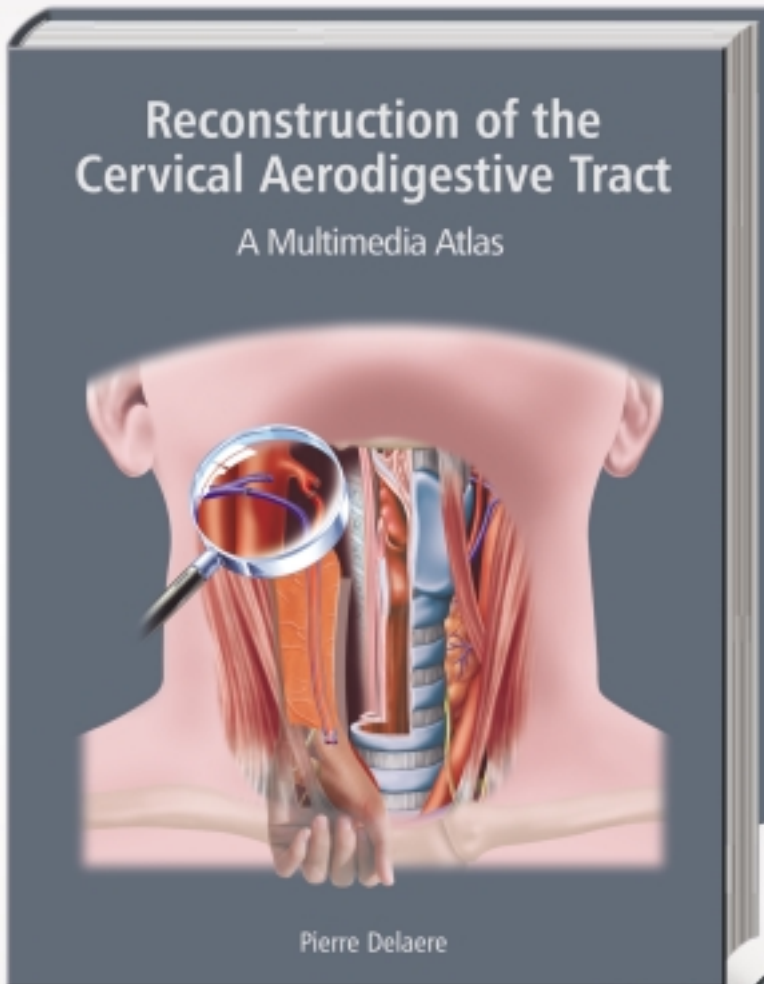


Reconstruction of the Cervical Aerodigestive Tract

A Multimedia Atlas



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

160 pp, hardcover
290 mm x 220 mm

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A DVD-VIDEO
provides illustrations
of the technical details.
34 movies included

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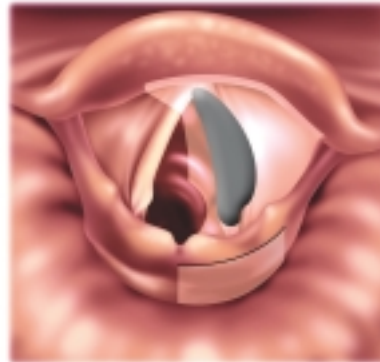
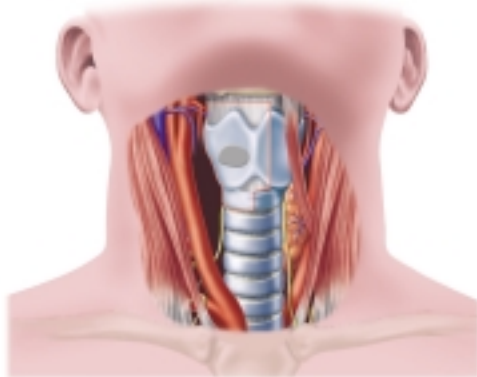
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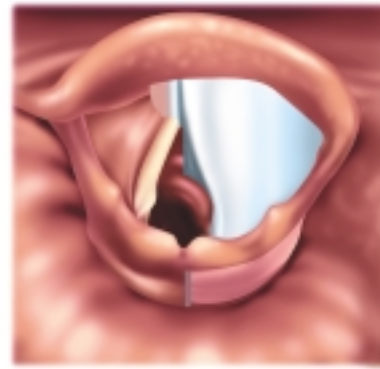
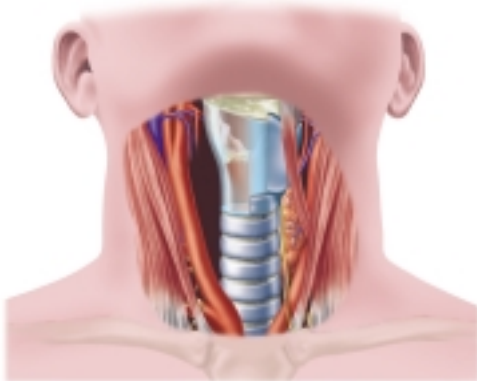


Chapter 1. Larynx Reconstruction

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



T3 glottic cancer with delineation of amount of resection



The optimal reconstruction of the laryngeal defect after resection of an advanced unilateral tumor is shown

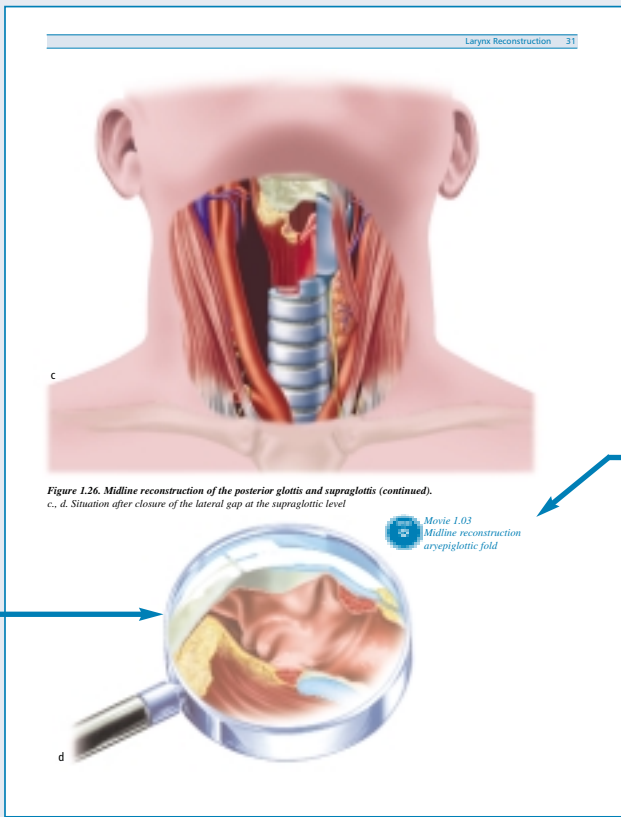


Figure 1.26. Midline reconstruction of the posterior glottis and supraglottis (continued).
c., d. Situation after closure of the lateral gap at the supraglottic level

Movie 1.03
Midline reconstruction
aryepiglottic fold

Enlarged lateral view to show procedure in detail

CONTENTS

- 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
 - Second stage reconstruction – T₃ glottic cancer
 - Closure of tracheostomy
 - Stenosis after tracheal autotransplantation
 - Tracheal autotransplantation for chondrosarcoma
- Treatment of chondroradionecrosis

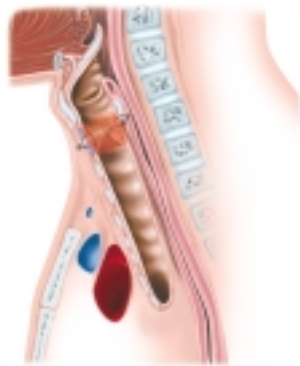
17 movies on larynx reconstruction included

1. Tracheal autotransplantation – overview
2. Tumor resection T3 glottic cancer
3. Midline reconstruction aryepiglottic fold
4. Radial forearm flap
5. Tracheal revascularization
6. Temporary reconstruction and function after first operation
7. Removal of skin flap from defect
8. Tracheal isolation
9. Tracheal transplantation
10. Mediastinal trachea to reconstructed larynx
11. Closure of tracheostomy
12. Closure of tracheostomy with pectoralis major muscle
13. Function after tracheostomy closure
14. Tumor resection chondrosarcoma
15. Function after resection chondrosarcoma
16. Revascularization chondroradionecrosis
17. Delayed exposed skin grafting

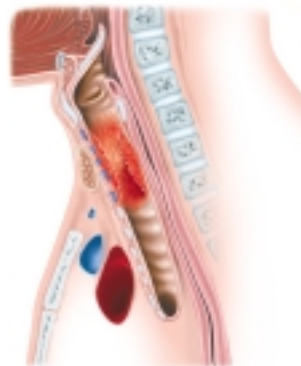


Chapter 2. Trachea Reconstruction

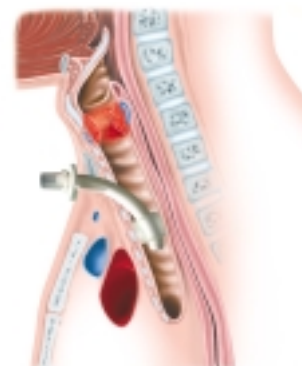
Highlights the tissues that may be used to correct a tracheal restenosis after segmental resection, a long-segment tracheal stenosis and a combined posterior glottic /subglottic stenosis.



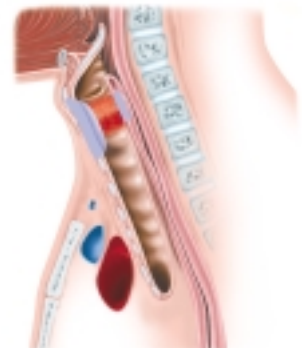
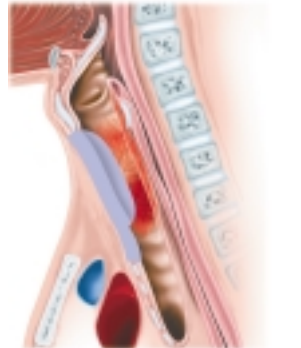
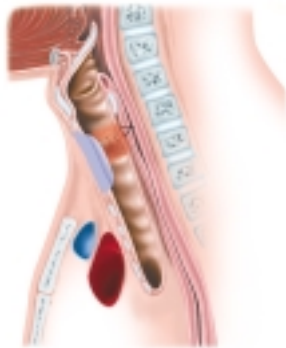
Restenosis before and after reconstruction



Long-segment stenosis before and after reconstruction



Combined glottic/subglottic stenosis before and after reconstruction



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Introduction

Anatomy

Trachea transplantation

Tracheal defects that may need flap reconstruction

The reconstructive tissue

Restenosis

Long-segment stenosis

Combined posterior glottic and subglottic stenosis

Stenosis after percutaneous dilatational tracheotomy

Future prospects

10 movies on trachea reconstruction included

1. Experimental tracheal transplantation
2. Tracheal resection
3. Limits in reconstruction of tracheal stenosis
4. Tracheal reconstruction – overview
5. Experimental tracheal reconstruction: search for optimal tissue
6. Mucosa-lined fascia for restenosis
7. Mucosa-lined fascia for long-segment stenosis
8. Mucosa-lined fascia for combined subglottic and posterior glottic stenosis 1.
9. Mucosa-lined fascia for combined subglottic and posterior glottic stenosis 2.
10. Healing of tubes of autologous cartilage

B2 Cervical Aerodigestive Tract

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.

Figure 2.18. Patch reconstruction to treat a restenosis and a long-segment stenosis.
a. Longitudinal incision of a restenosis (double arrow).
b. Longitudinal incision of a long-segment stenosis (double arrow).
c. Axial section at stenosis: longitudinal incision (double arrow) and expansion (arrows) of stenosis.
d. Reconstructive tissue has to be placed in the anterior defect. The schematic reconstructions represented by the lines 1, 2, 3 may be obtained with tissue that allows for primary healing.
1. Restoration of the concavity of the airway wall is possible with a revascularized tracheal allograft which is made into a patch (Fig. 2.19).
2. 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.
3. A restoration in between the lines 1 and 2 is possible with composite tissue consisting of cartilage and a vascularized mucosal lining. Prefabrication during several weeks is a prerequisite to obtain this composite tissue (Fig. 2.17).



Chapter 3. Reconstruction of Hypopharynx and Cervical Esophagus

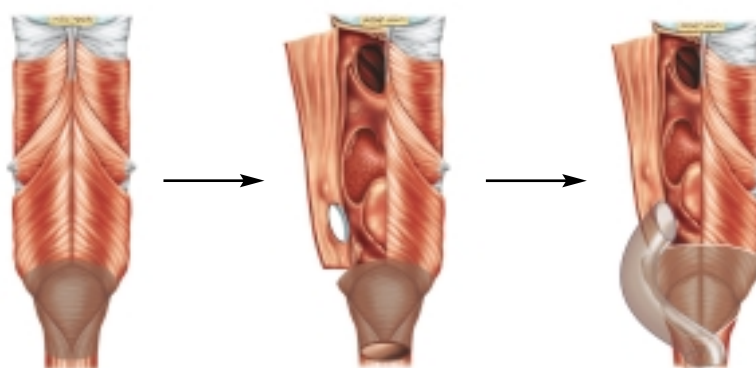
Highlights reconstruction of partial and total pharyngectomy defects after cancer surgery as well as reconstruction for stenosis.



Reconstruction of partial pharyngectomy defect

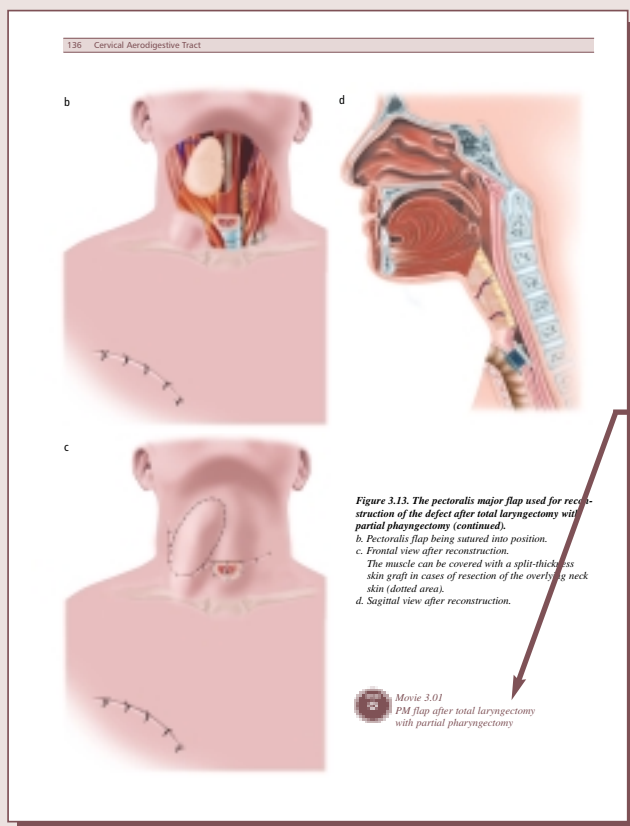


Reconstruction after total laryngopharyngectomy



Posterior stenosis after chemoradiation

Tube reconstruction to bypass stenosis



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Introduction

Defects that may need flap reconstruction

- Reconstruction after tumor removal without laryngectomy
- Breakdown of the pharyngeal closure line after laryngectomy
- Partial pharyngectomy
- Total pharyngectomy
- Total pharyngo-esophagectomy
- Defects resulting from stenosis

Reconstructive tissue

- Muscle and musculocutaneous flap
- Fasciocutaneous flaps
- Visceral flaps

7 movies on reconstruction of pharynx and cervical esophagus included

1. PM flap after total laryngectomy with partial pharyngectomy
2. Protection of pharyngeal closure line
3. Harvesting free jejunum
4. Free jejunum tube
5. Hypopharyngeal reconstruction – general principles
6. Free jejunum patch 1
7. Free jejunum patch 2