

Experience with endoscopic management of laryngeal Cancer and CO-2 Laser



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Endoscopic Management of Laryngeal Cancer



Is it oncologically safe?

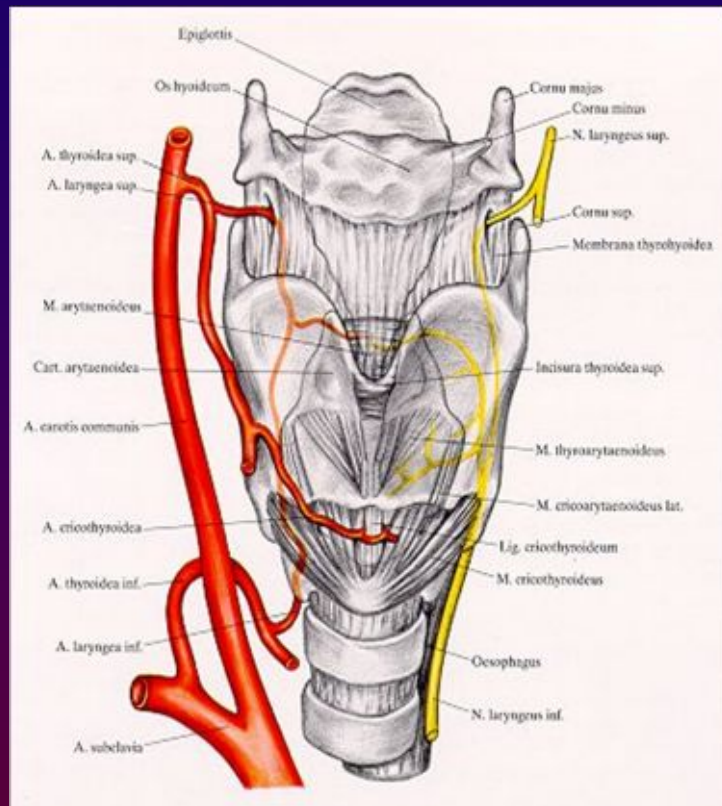
Prognostic factors



Local control

Neck Met's

Distant Metastases

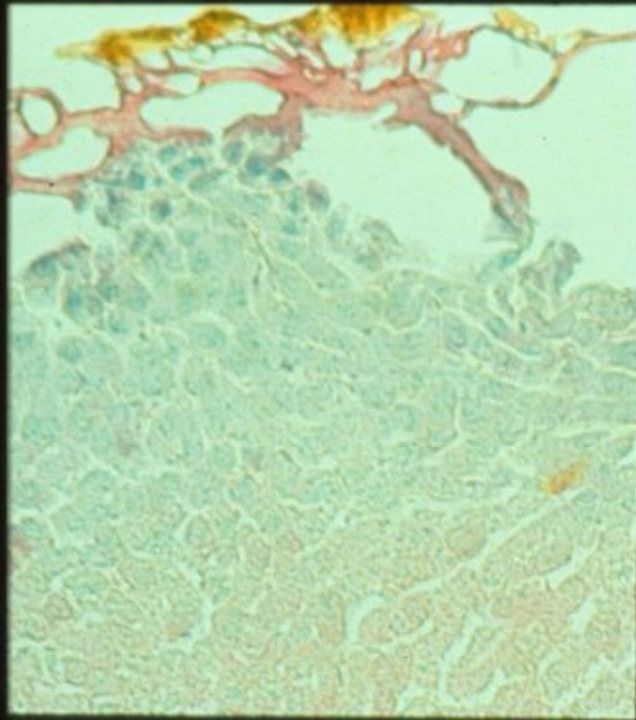


Gefäßversorgung von Larynx und Hypopharynx

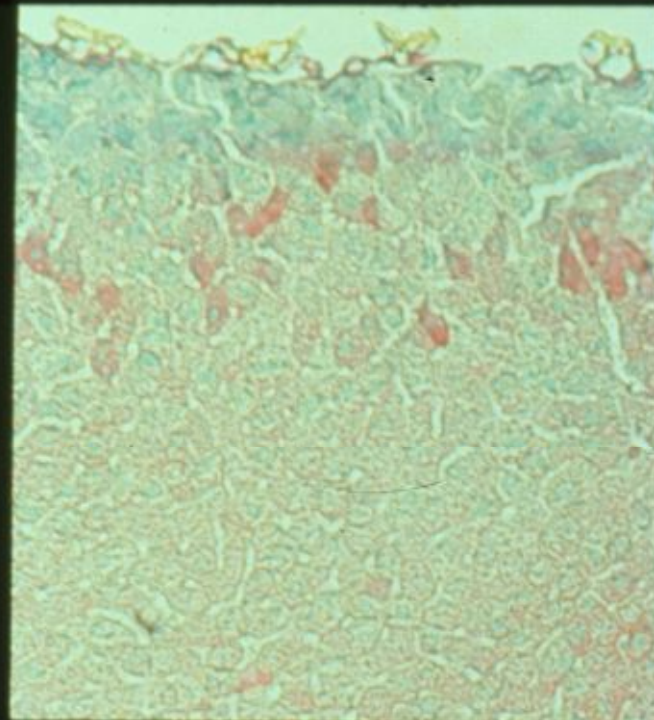


Korrosionspräparat der A. carotis und der A. subclavia

Focus and Effect

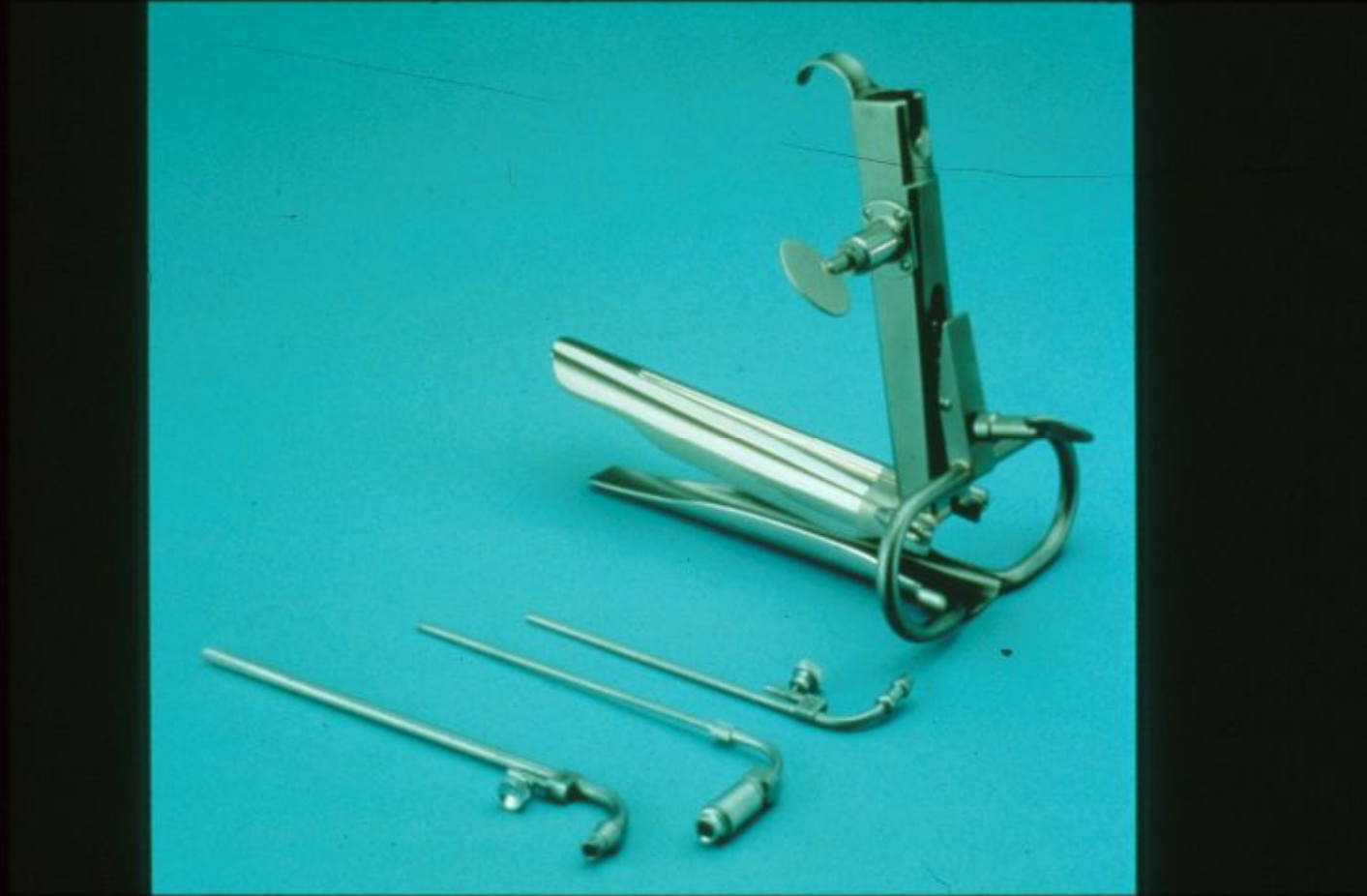


13 W, 0.64 mm, 2 sec

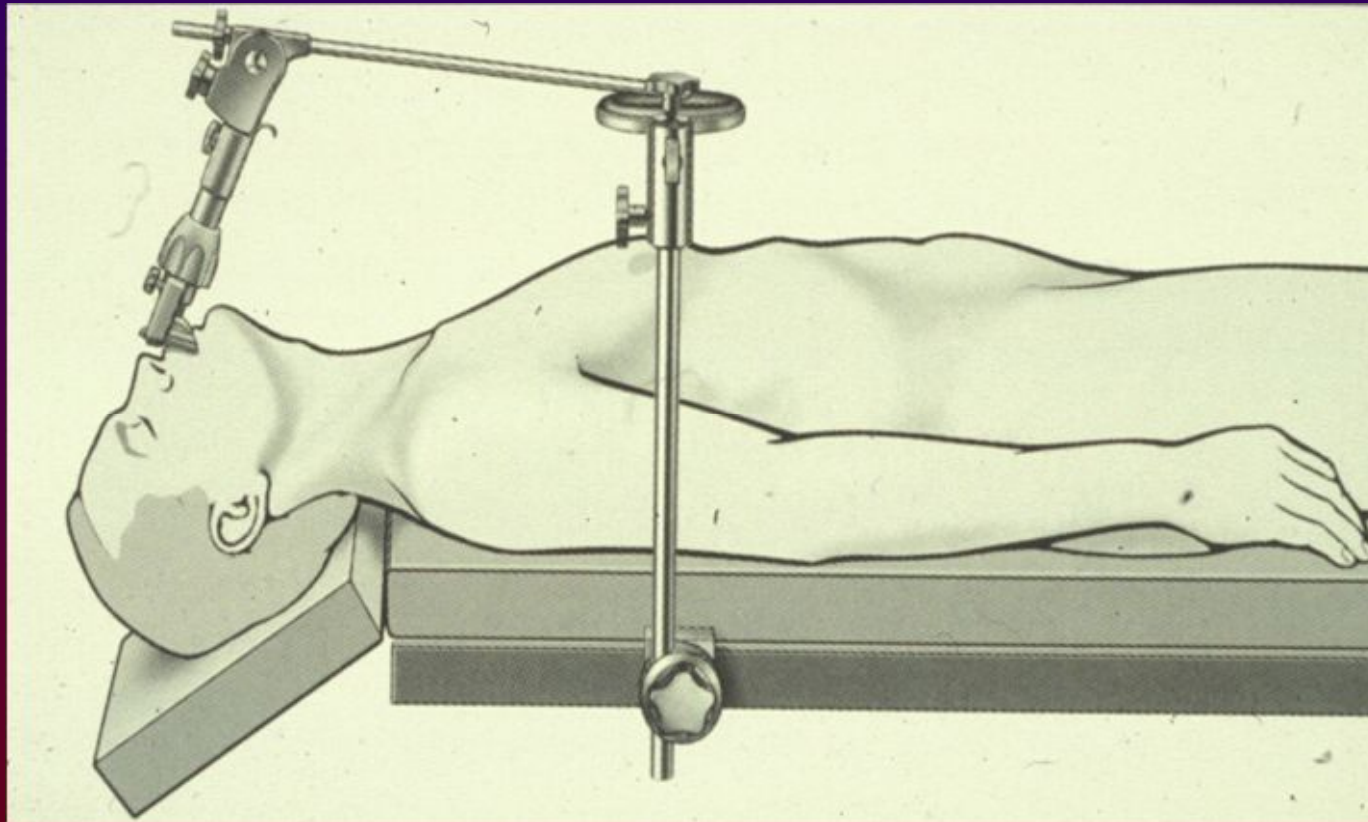


2 W, 0.25 mm, 2 sec

Laryngoskop n. Weerda mod. n. Rudert

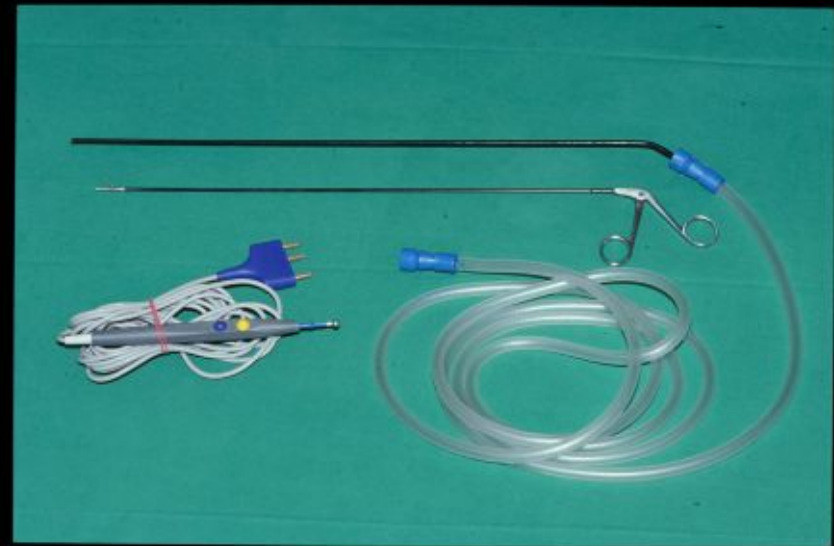
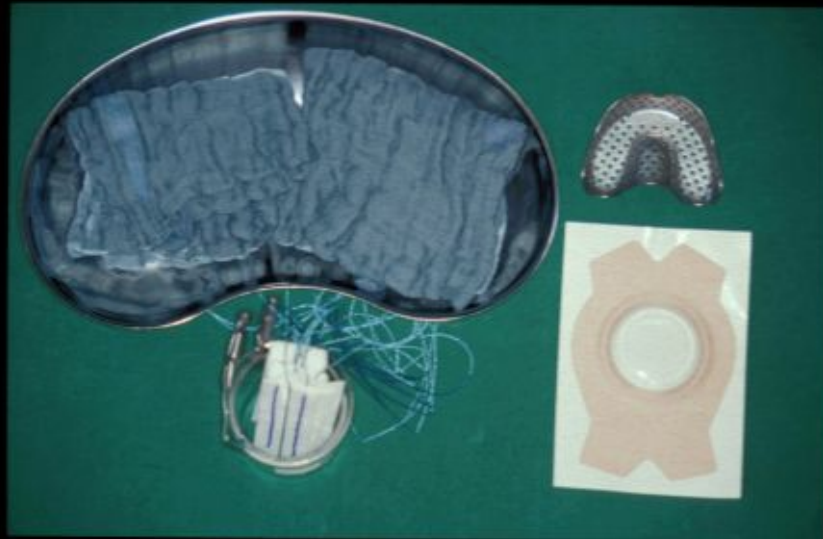


Endoscopic Technique

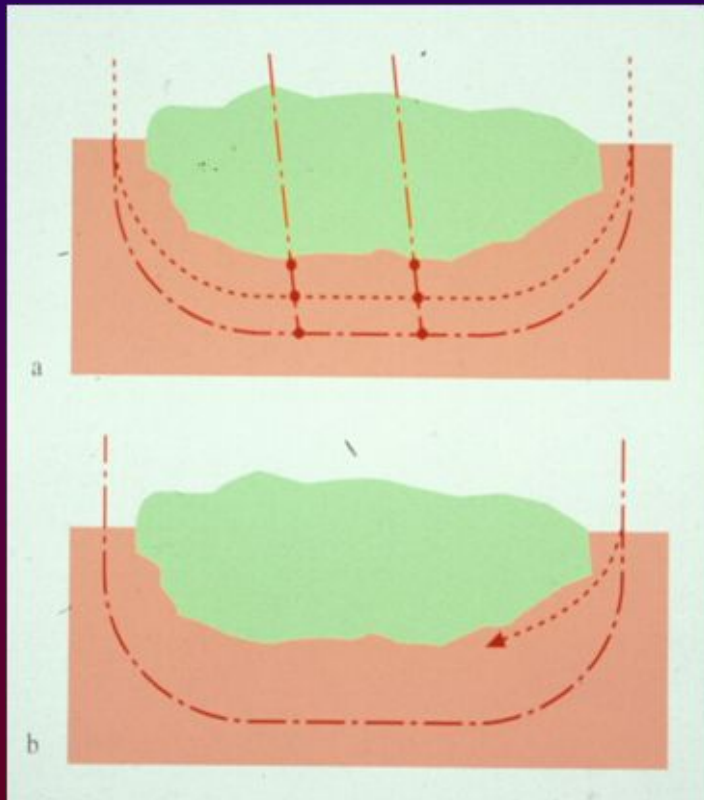


Laser Surgery

Management of Safety



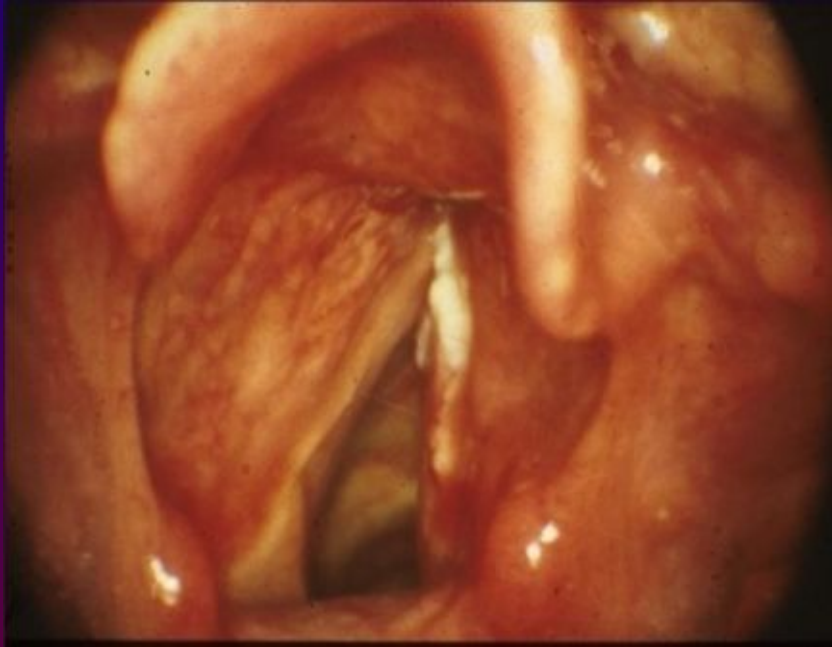
Resection



„blockwise Resection

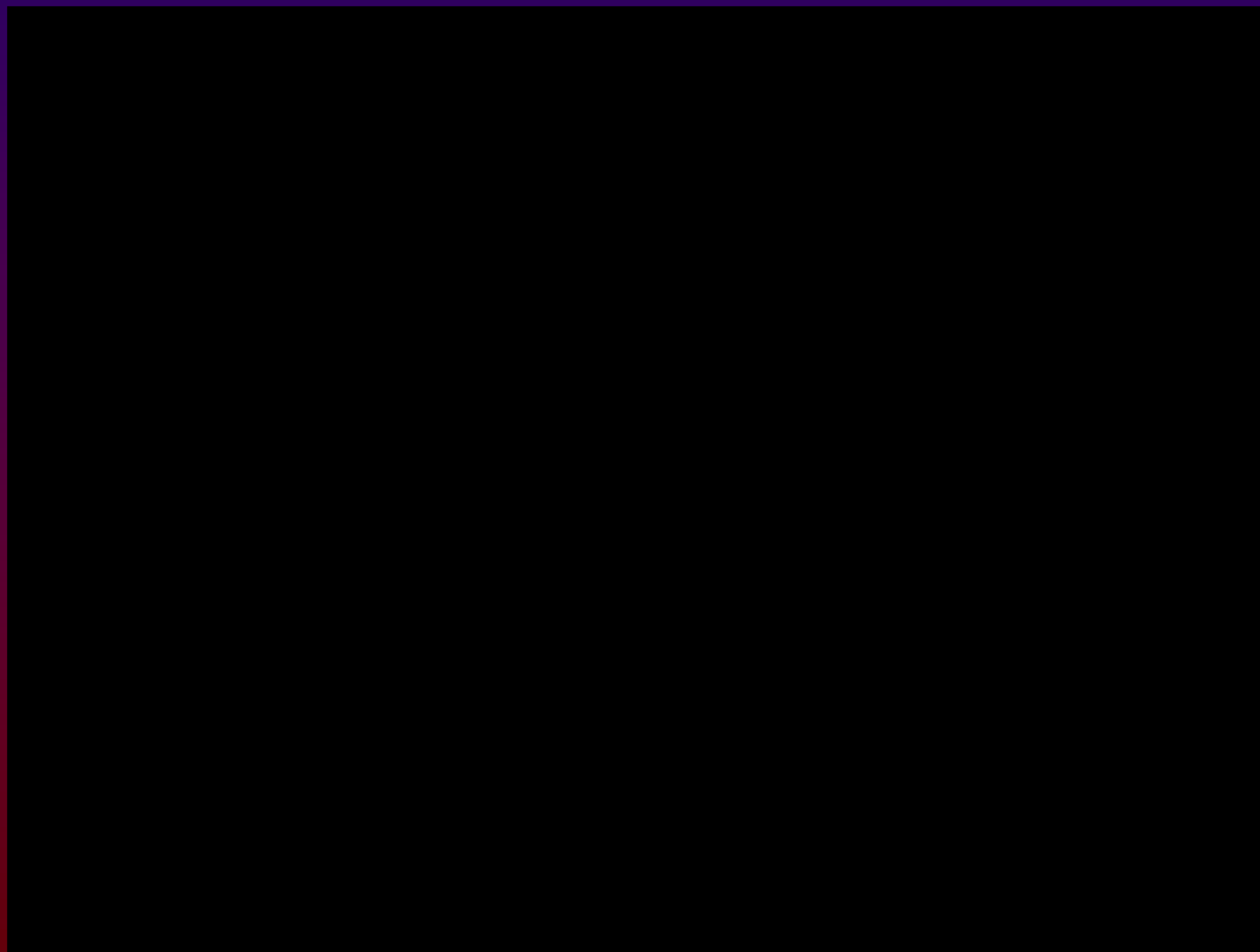
- Good overview
- Control of infiltration
- Identification of tissue
Cartilage, Bone, Soft Tissue
- Individual Resectionse

T3 Glottic Cancer

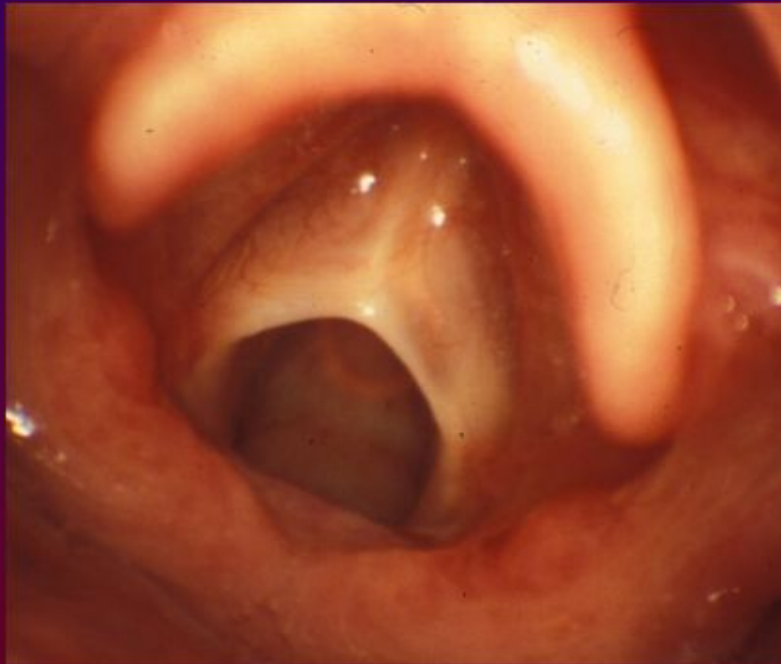


Postoperative Status

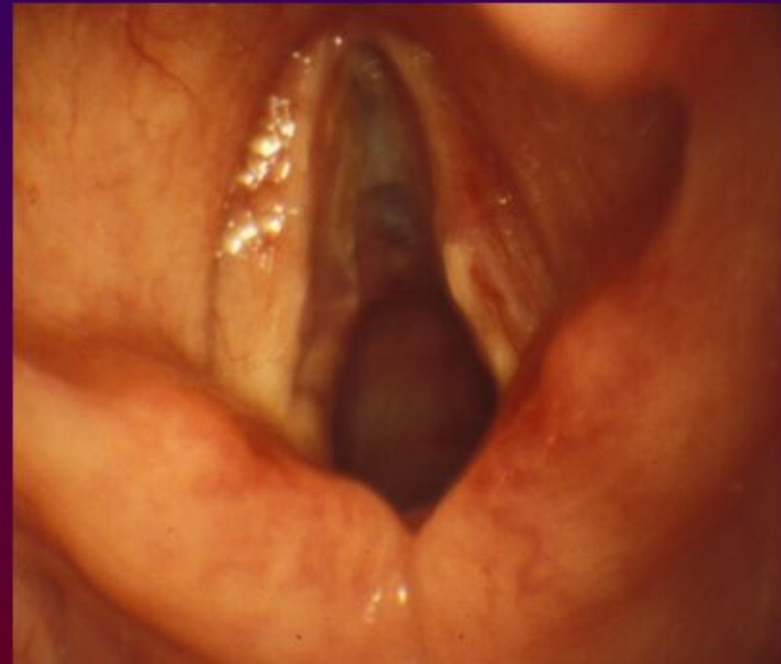
Glottic T 1a left



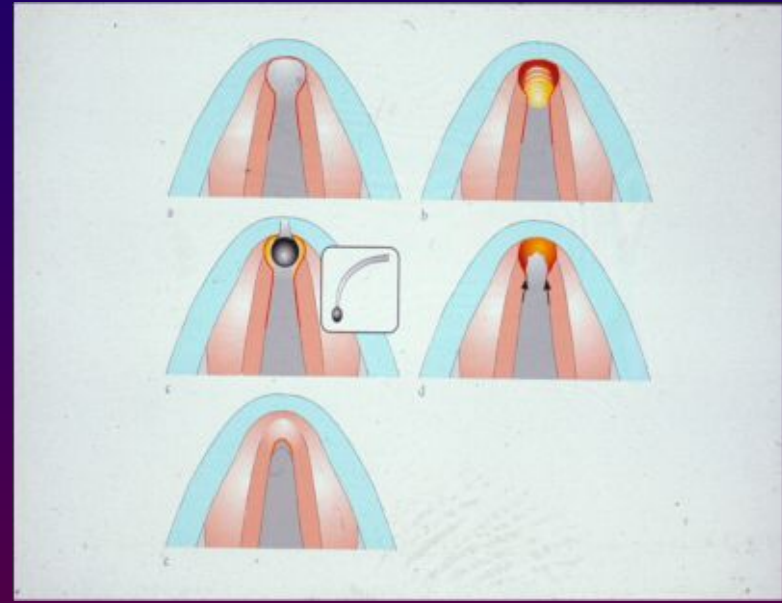
Problem Synechien



Glottic Synechia



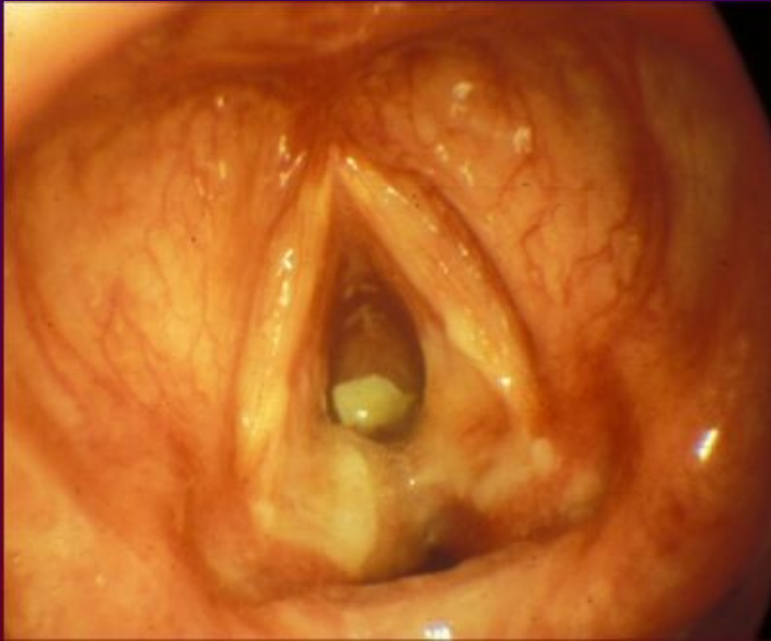
Postoperative Status



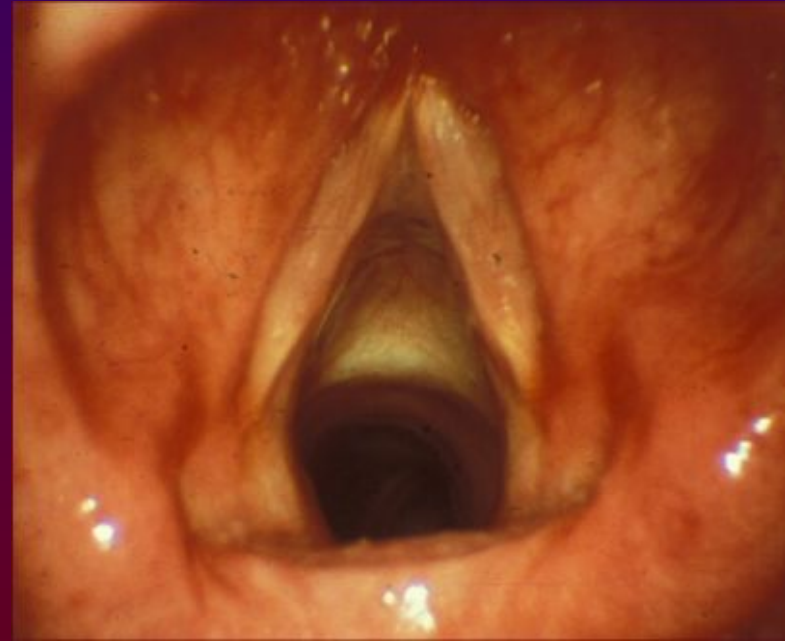
Mitomycin intraoperativ

Lokale Nachsorge zur Synechieprophylaxe

Postoperative Stenosis

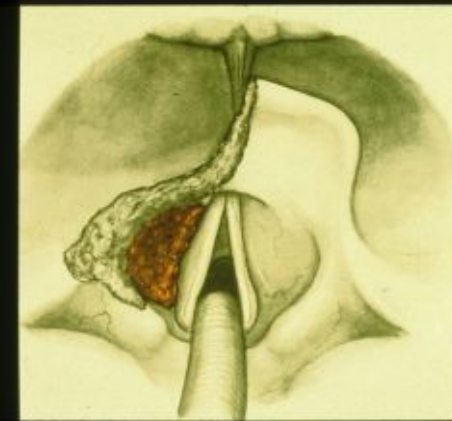
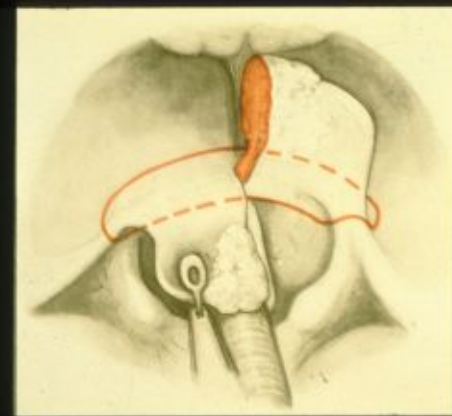
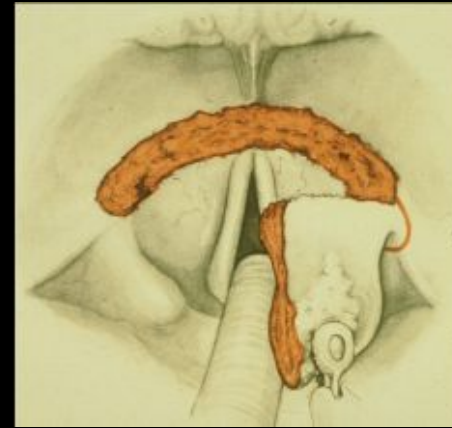
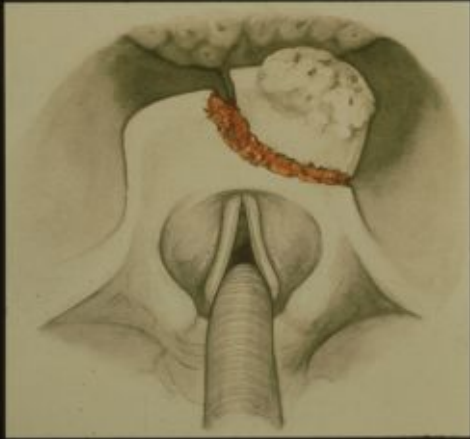


Posterior glottic Stenosis

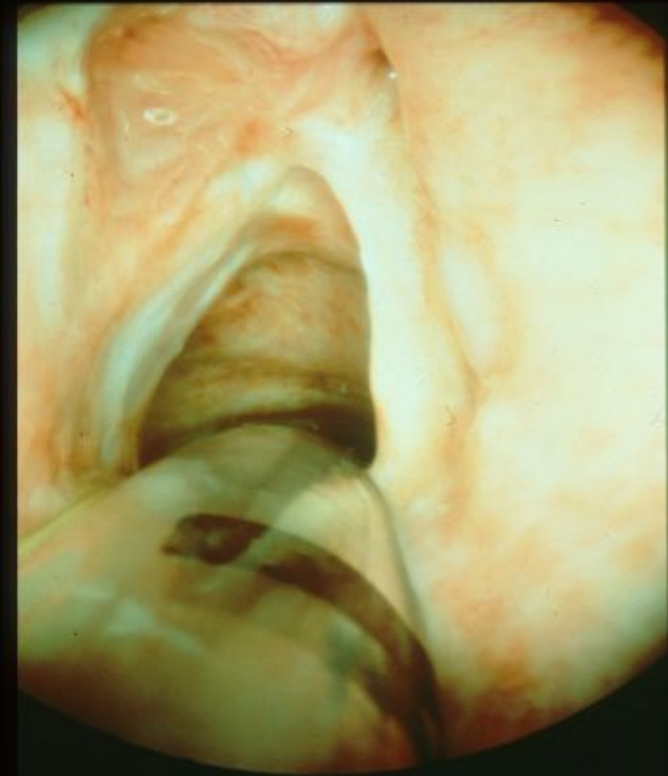
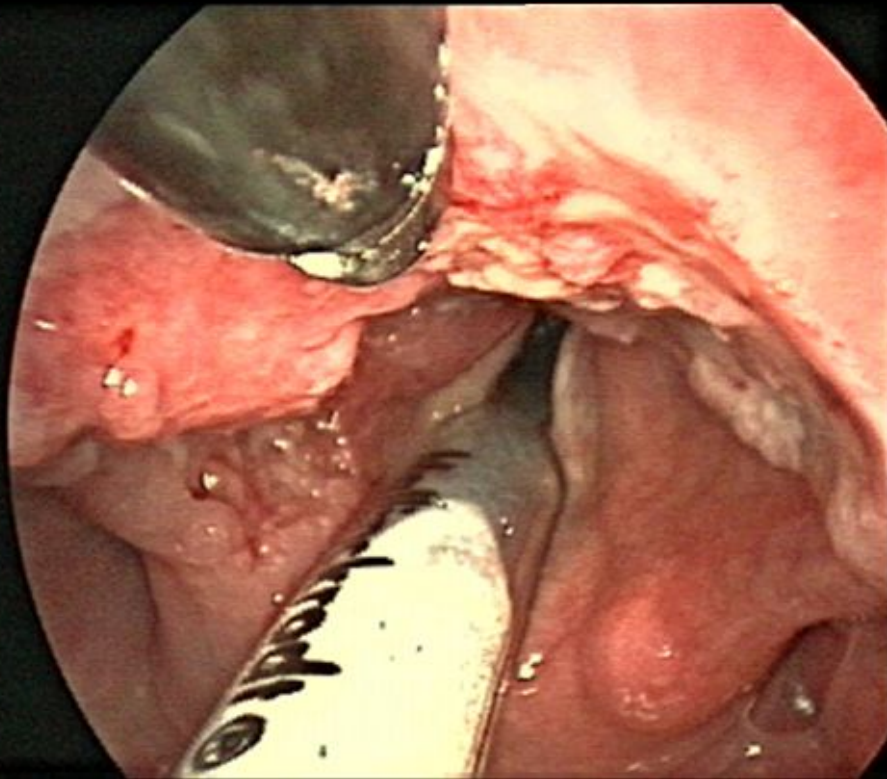


Postoperative Status

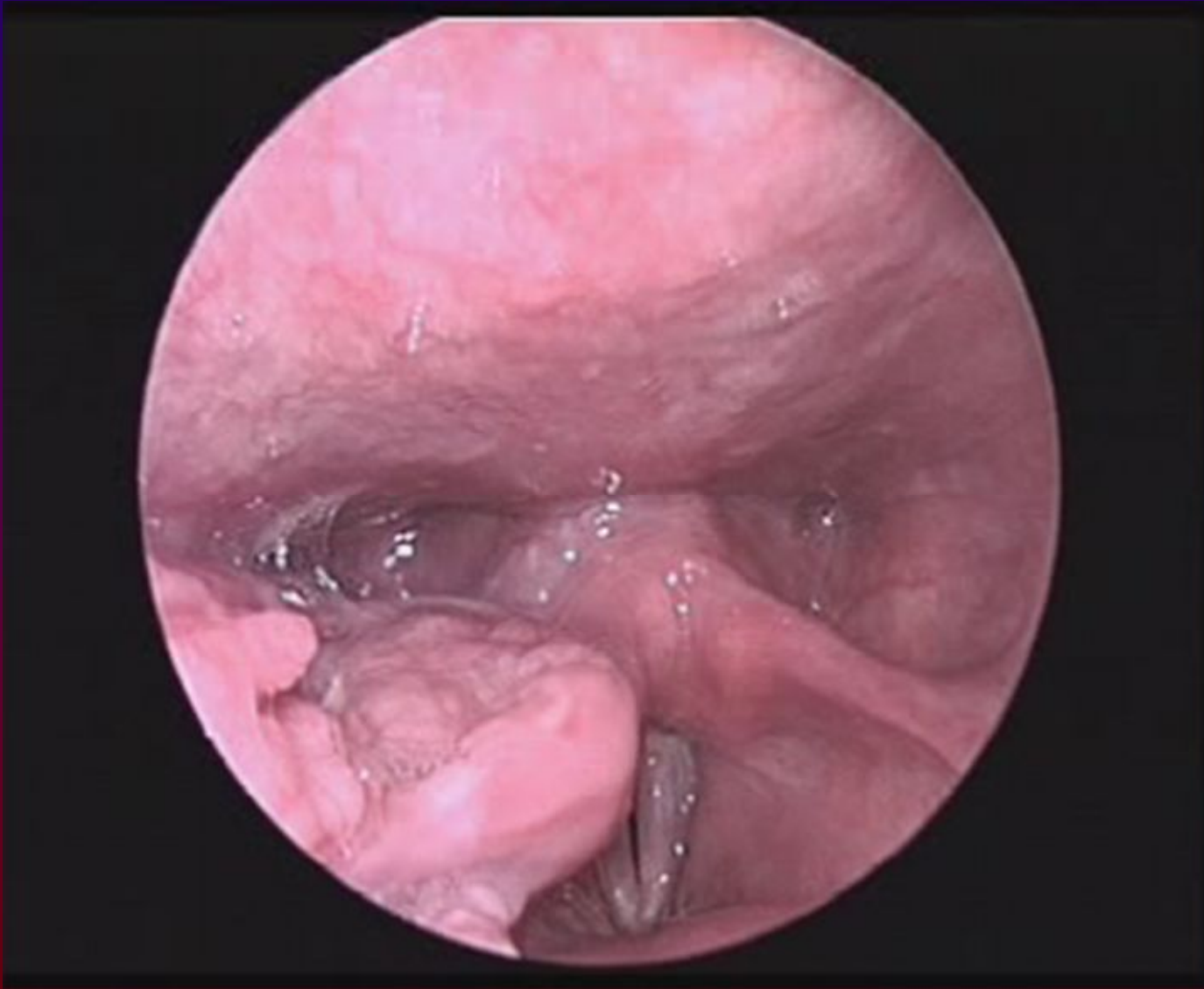
Supraglottic Resections



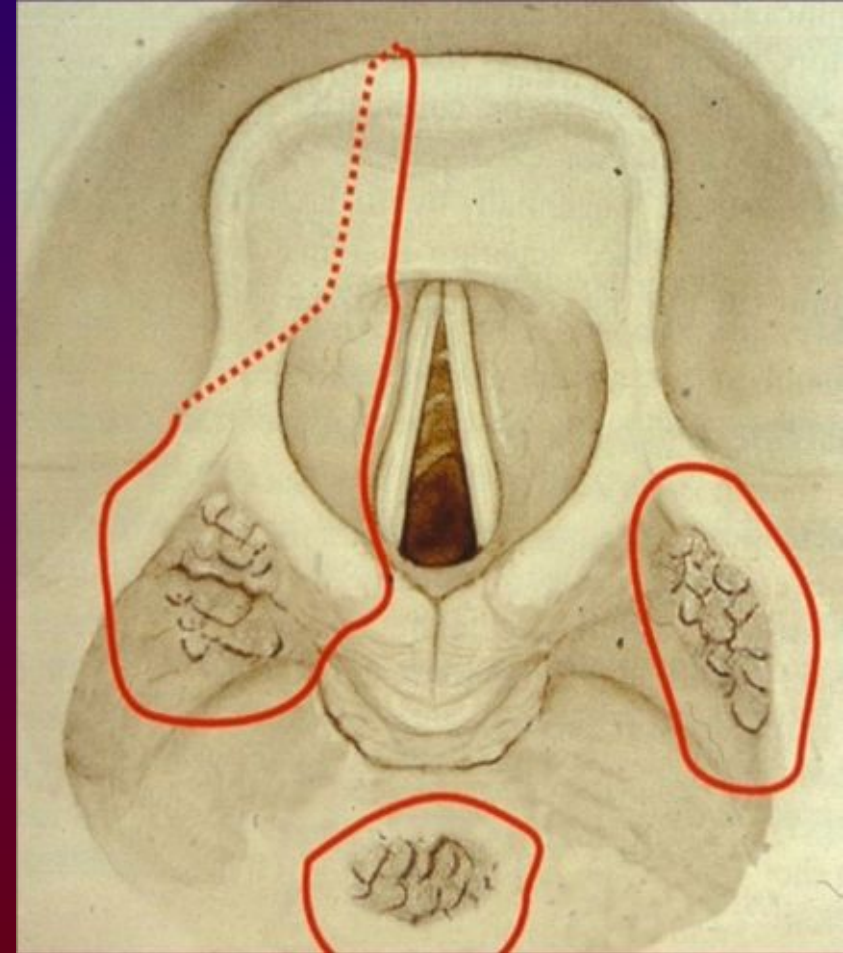
Supraglottic Resection



Supraglottic Carcinoma



Hypopharynx



Prof. B. Tillmann, Inst.f.Anatomie Kiel

Transorale Laserchirurgische Resektion



Endoscopic Laser Surgery for supraglottic Carcinoma

Author	Number Patients	Local Controll	Indikation
Davis 1990	14	8/8 4/6	T1, T2 T3
Zeitels 1994	22 23	100% 83%	T1 T2, T3
Rudert 1995	30	97%	T1-T3
Ambrosch 1997	99	92% 81%	Stadium I, II Stadium III, IV
Ambrosch 1998	48	92%	T1, T2
Iro 1998	141	84%	Stadium I-IV
Rudert 2000	56	77%	T1-T4

Tumor Marker

HPV	Mellin et al. 2000
p53 AAK	Gottschlich et al. 2000
VEGF	Smith et al. 2000
EGF-R	Smith et al. 2001
HER-2	Xia et al. 2001
Cyclin D1	Akervall et al. 2001
p53	Vielba et al. 2003

No
Consequences

Needs for an intelligent Therapy

selective Tumorrecognition
(Diagnostics PT, Metastasen)

Precise, functional Resection techniques

Support of Immunsystem

Reproducibility

Less Side Effects

Diagnostic

Endoscopy (90° Optik, flexibles Endoskop) Larynx/ Pharynx

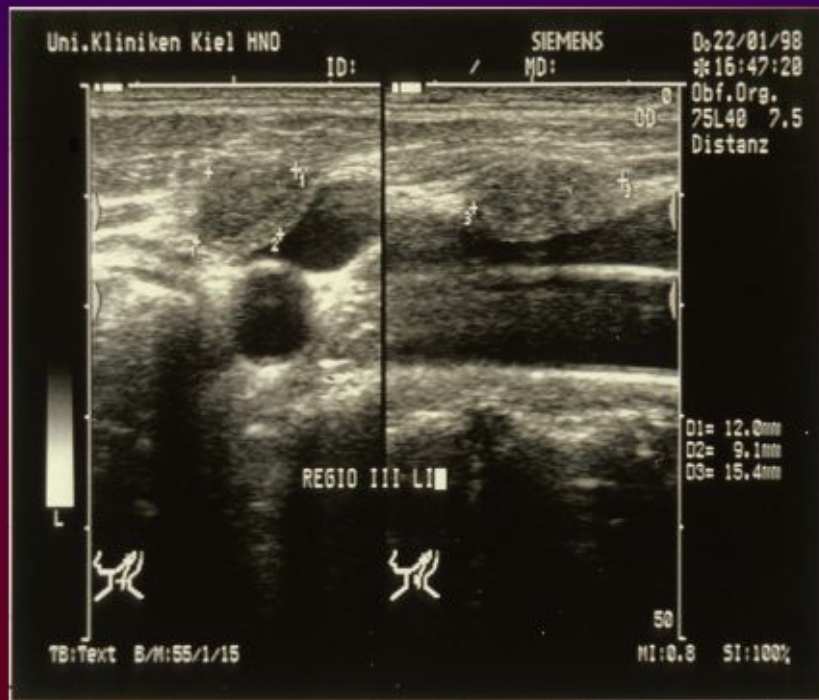
Ultrasound of the Neck

Panendoscopy

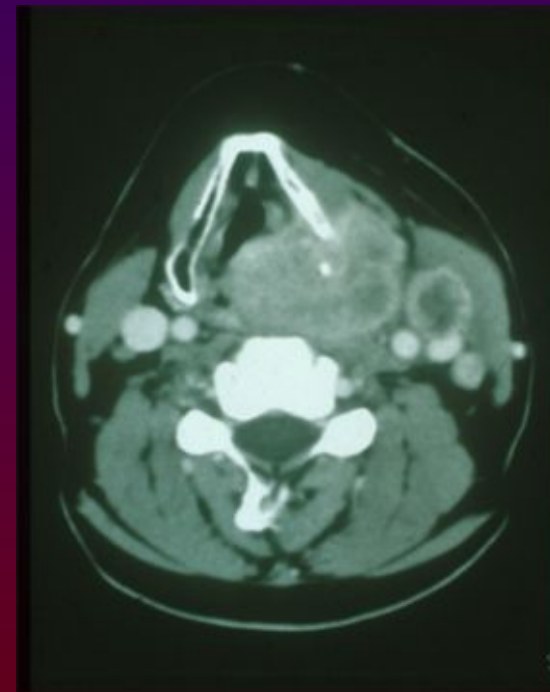
CT/ MRT/PET

Imaging

Ultrasound



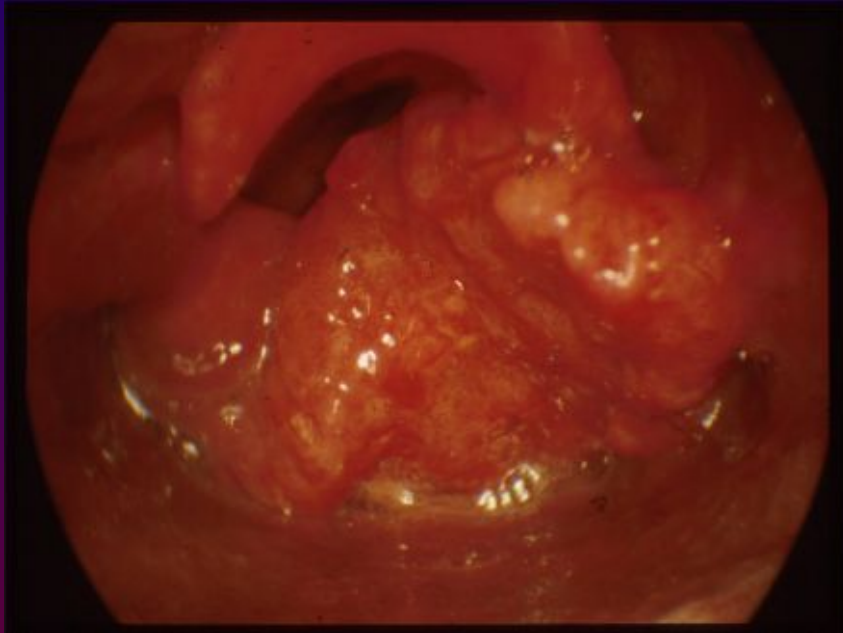
CT/MRT/PET



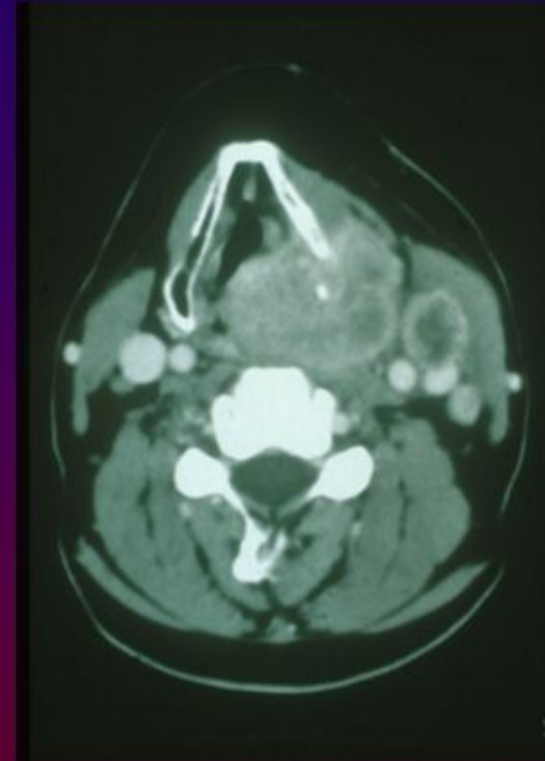
Laryngeal Cancer: Minimal invasive Stepcourse

Stufe 1	Laser Surgery, Phono
Stufe 2	Laser Surgery, selective Neck dissection Phono/ Swallow
Stufe 3	Laser Surgery, Neck dissection, Radio-Chemoherapy, Phono/ Swallow
Stufe 4	Laryngopharyngectomy, Rekonstruction, Neck Dissection, Radio-Chemoth., Surgery of distant Met`s, Voice prothesis, Phon-Swallow therapy

Limits



Unzureichende Exposition des Tumors
Hohes Risiko schwerer postoperativer
funktioneller Störung: Aspiration oder Stenose

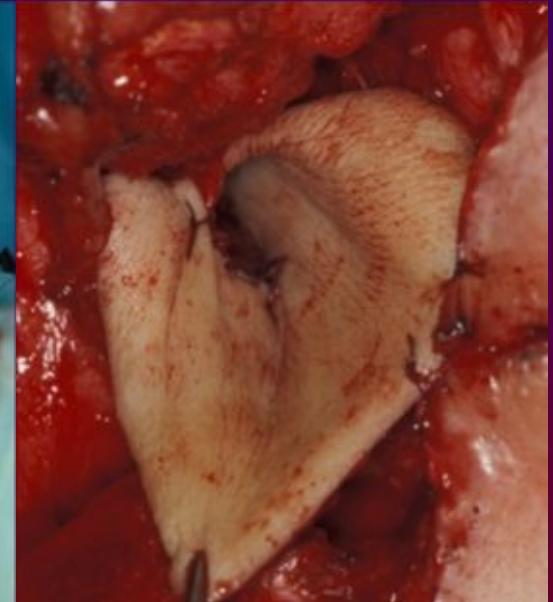
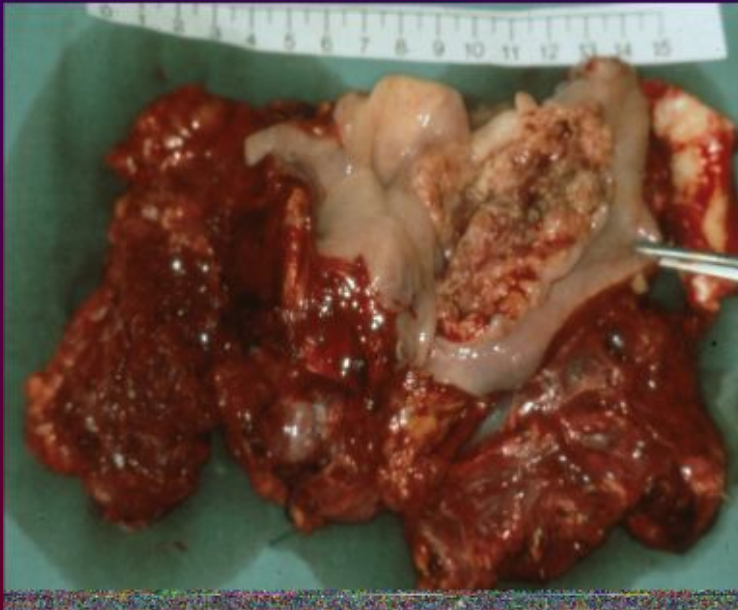


Extensive Infiltration of the Thyroid or
Neck tissue

Maximal Chirurgische Therapie Primärtumor

Laryngo-Pharyngektomie

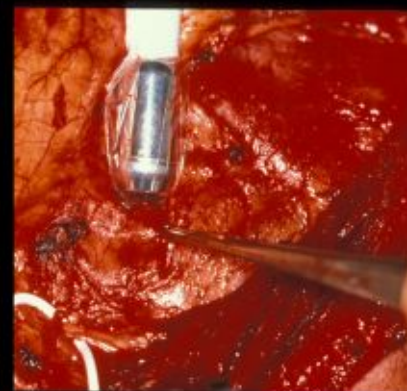
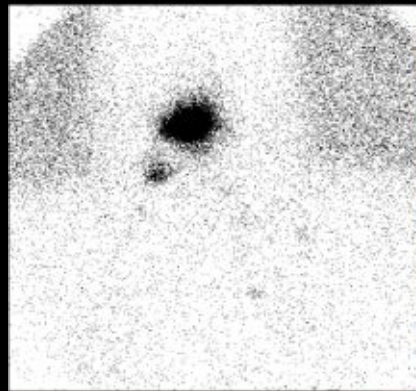
ggf. Rekonstruktion



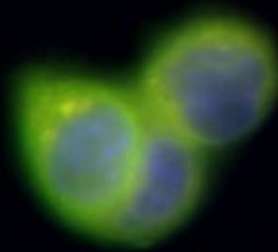
Lymphknotenmetastasen

N + selektive oder modifiziert-radikale ND

N 0 experimentell „Sentinel“ Exstirpation



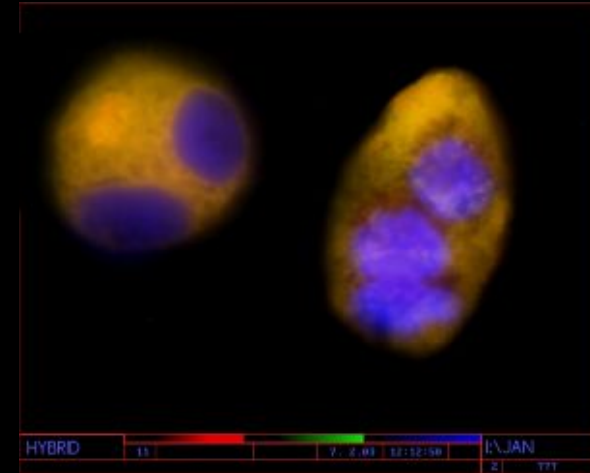
Tumorzelle + Dendritische Zelle



Tumor FITC-konjugiertes anti-HEA



DC R-PE-konjugiertes anti-HLA-DR



Hybridome

(Weise et al., Anticancer Research 2003)

Laser Surgery Summary

same onkologic Outcome

Functional Advantages

Higher Quality of Life

Summary II

Diagnostic

Endoskopisch, Ultraschall, CT, MRT, PET

Therapy

4 Step Concept

Resektion (Transoral/ von aussen), Neck Dissektion,
Strahlentherapie, Chemotherapie, Fernmetastasen Chirurgie

Outlook

Immunological Approaches
may be ???

Thanks to
Prof. Heinrich Rudert
Prof. Petra Ambrosch
Prof. B. Tillmann (Anatomy)



Kiel, Germany