23.9.05

STAFF CLINICAL MEETING

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VOICE REHABILITATION

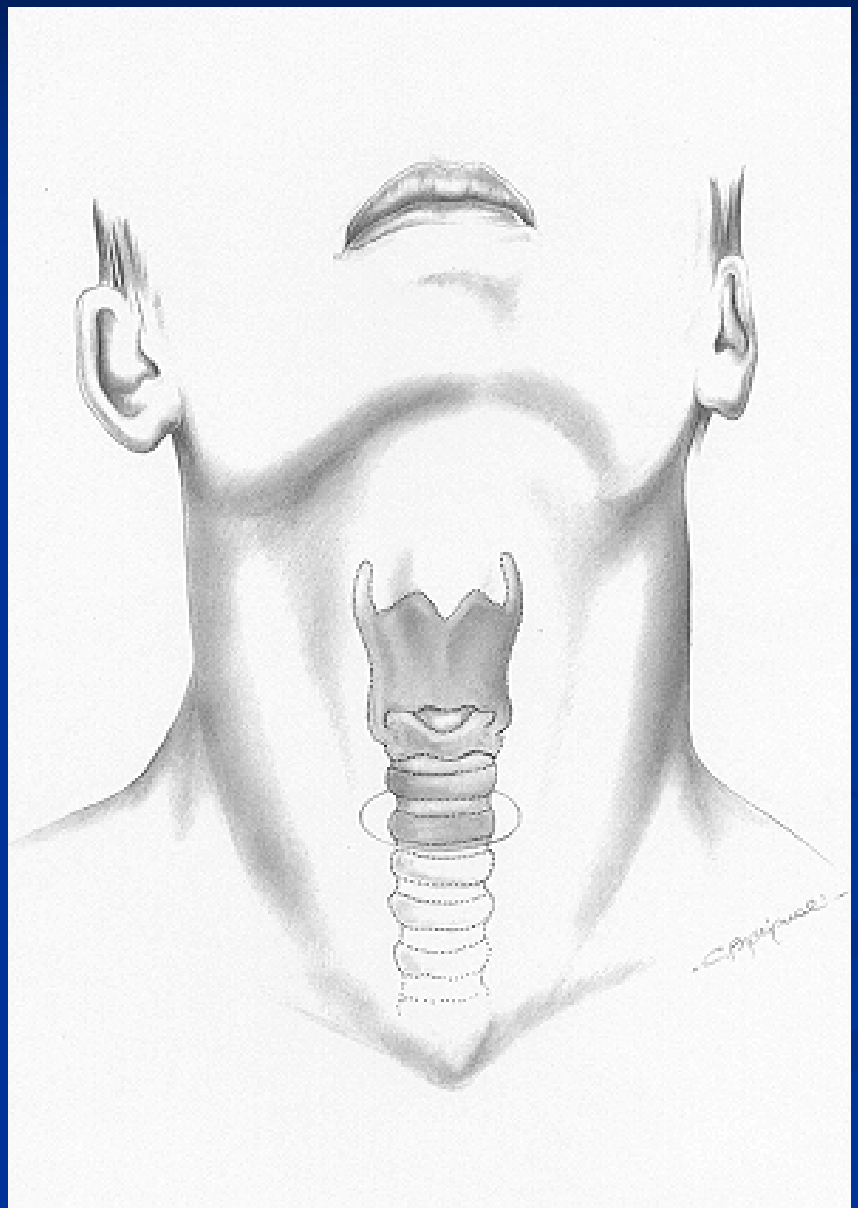
AFTER

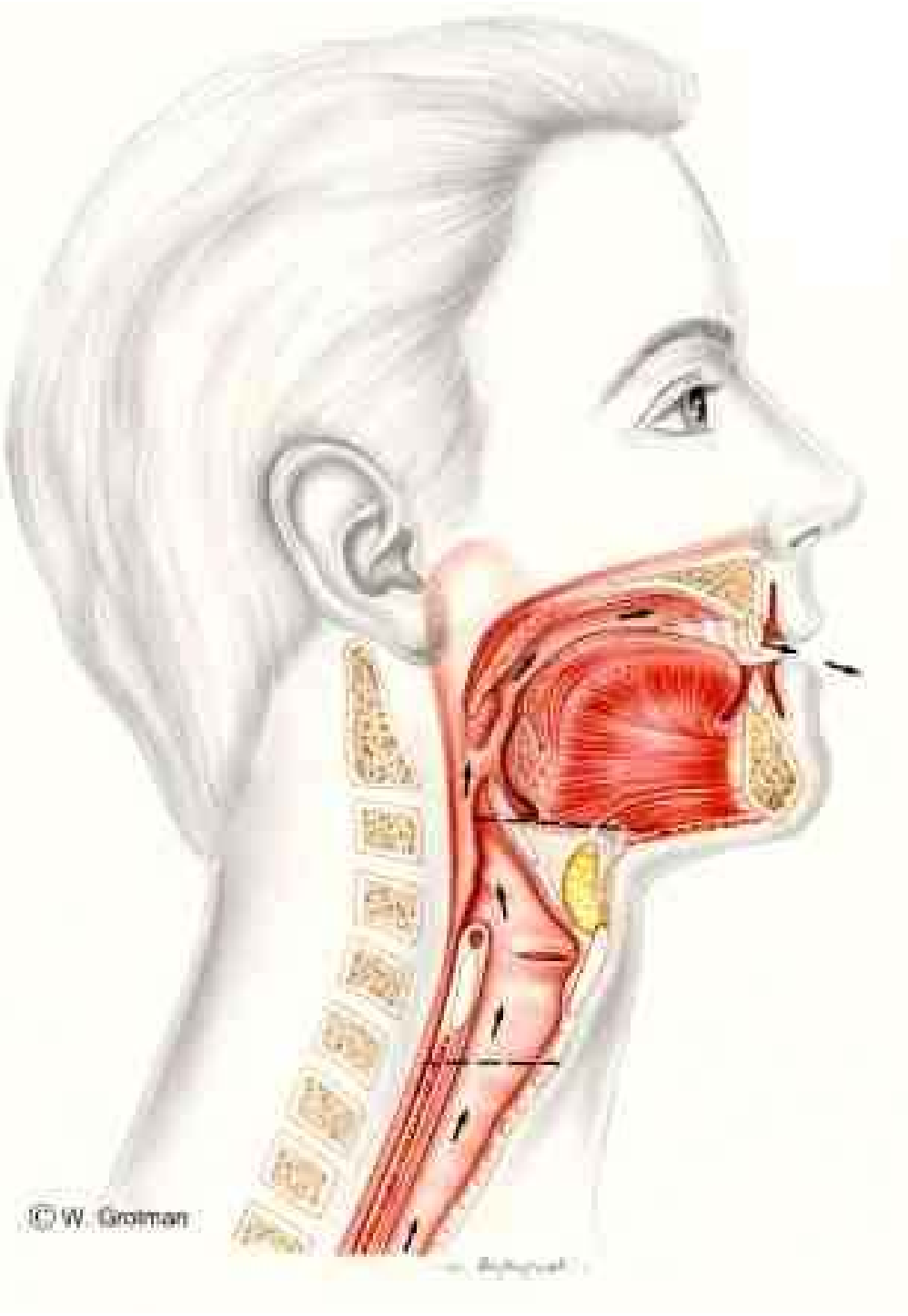
TOTAL LARYNGECTOMY

General Background

- Approximately 1,36,000 cases of cancer of the larynx are diagnosed each year worldwide, with an estimated overall five-year survival rate of 68%, making it one of the more curable types of cancer of the upper aerodigestive tract.
- Patients with advanced or recurrent squamous cell carcinoma of the larynx typically undergo total laryngectomy in the course of treatment.
- Total laryngectomy profoundly alters normal speech, respiration, and the senses of smell and taste.
- Effective voice restoration is an important part of these patients' rehabilitation.

LARYNGEAL APPARATUS

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- Total laryngectomy is the surgical procedure traditionally used to treat patients with advanced-stage cancer of the larynx.
- The impairments resulting from removal of such a small organ are, indeed, profound.
- They include loss of voice and speech; altered respiration, necessitating a permanent breathing opening in the neck; and diminished sense of smell and taste.
- When one considers these factors, successful treatment of laryngeal cancer cannot be measured by survival rate alone. Rapid, effective restoration of voice and speech is one of the primary focuses of rehabilitation and is pivotal to the prevention of the potential psychosocial and economic consequences of total laryngectomy.

Total laryngectomy - the anatomy and closure of the surgical defect .

- To fully understand the methods used for voice rehabilitation following total laryngectomy, it is necessary to comprehend the surgical defect and closure of this defect..
- Widefield total laryngectomy results in removal of the entire larynx including the thyroid and cricoid cartilages, the hyoid bone, partial pharynx, strap muscles, one to three rings of the trachea, and possibly the ipsilateral lobe of the thyroid gland.

HISTORY

- In 1874, Gussenbauer devised the first artificial larynx for Billroth's total laryngectomy patient.
- In the late 1800's, Gluck and Sorensen introduced primary reconstruction of the pharynx.
- Artificial instruments were introduced .
- Esophageal voice became better understood as a means of voice

SPEECH

- Speech is a unique human ability that allows us to communicate with others. It is used primarily to send and receive messages and to express emotions. Speech is such an integral part of our daily life that most of us rarely appreciate its significance until the ability to speak is interrupted.

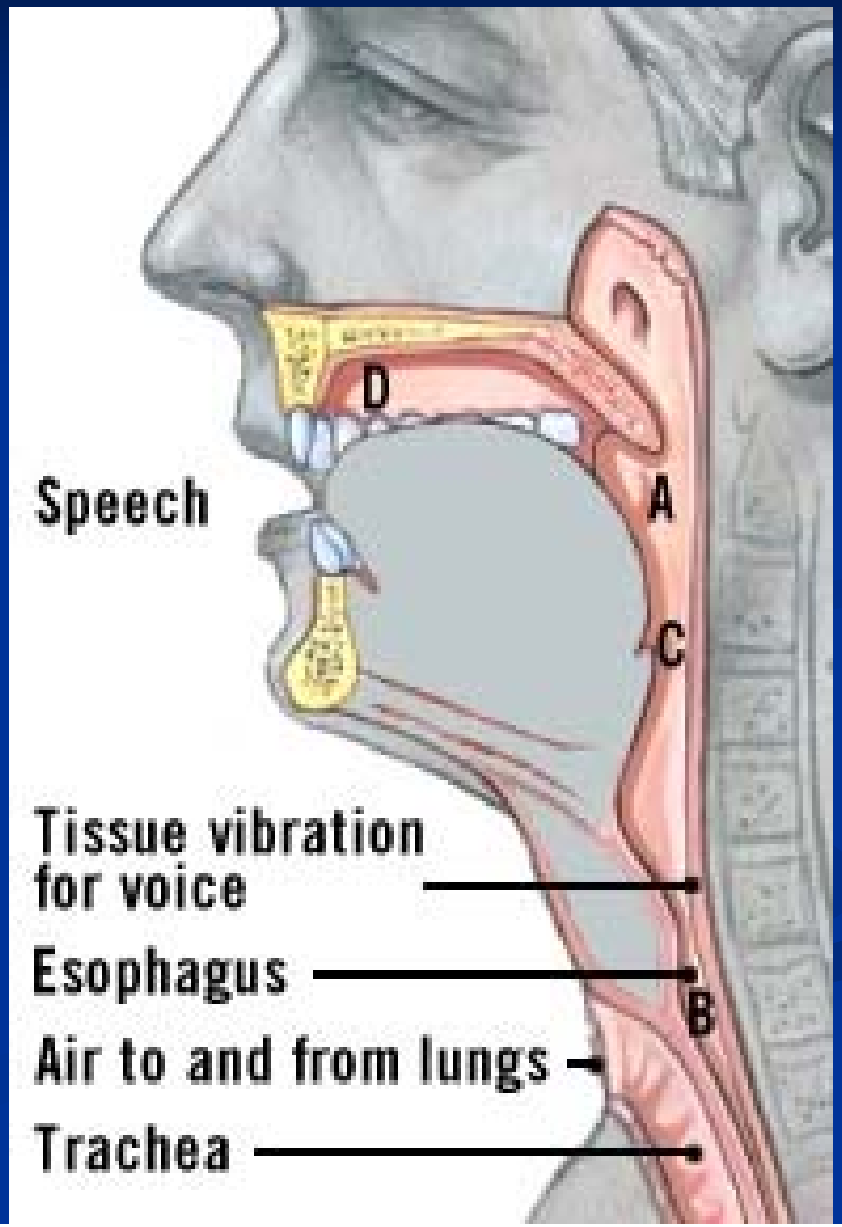
MECHANISM OF NORMAL SPEECH PRODUCTION

VOICE REHABILITATION OPTIONS

- Oesophageal voice .
- Electrolarynx .
- Tracheoesophageal voice.

OESOPHAGEAL SPEECH

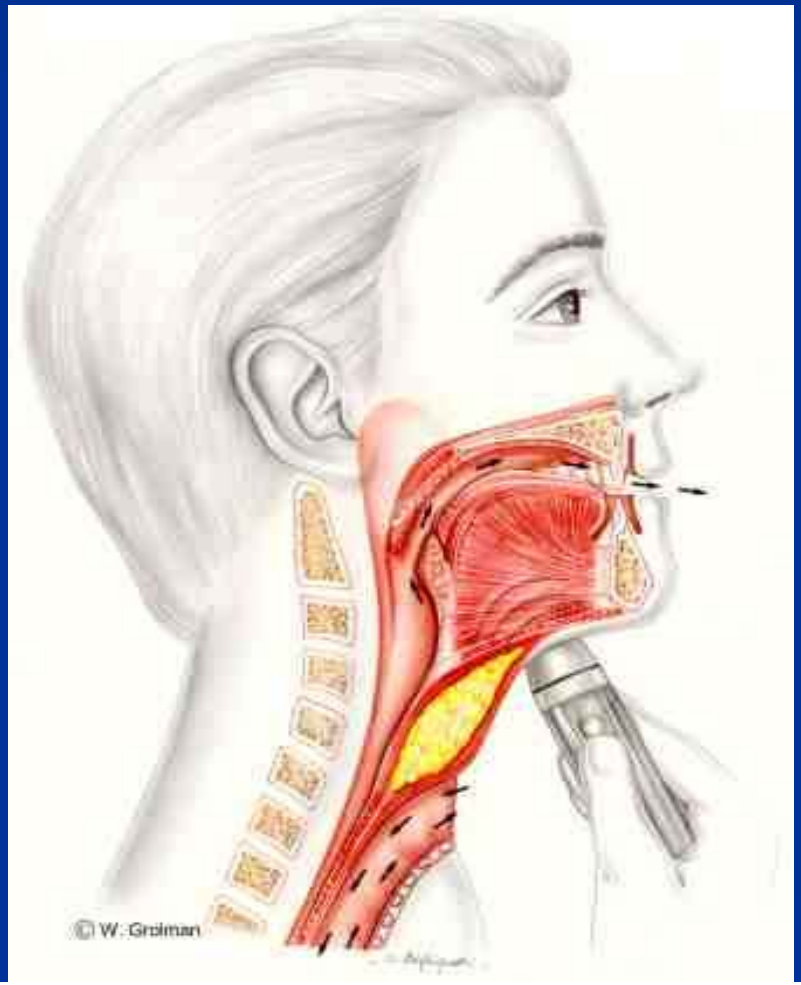
- Tongue press to inject air into esophagus.
- Air enters esophagus.
- Air released from esophagus to produce voice.
- Voice shaped into speech.



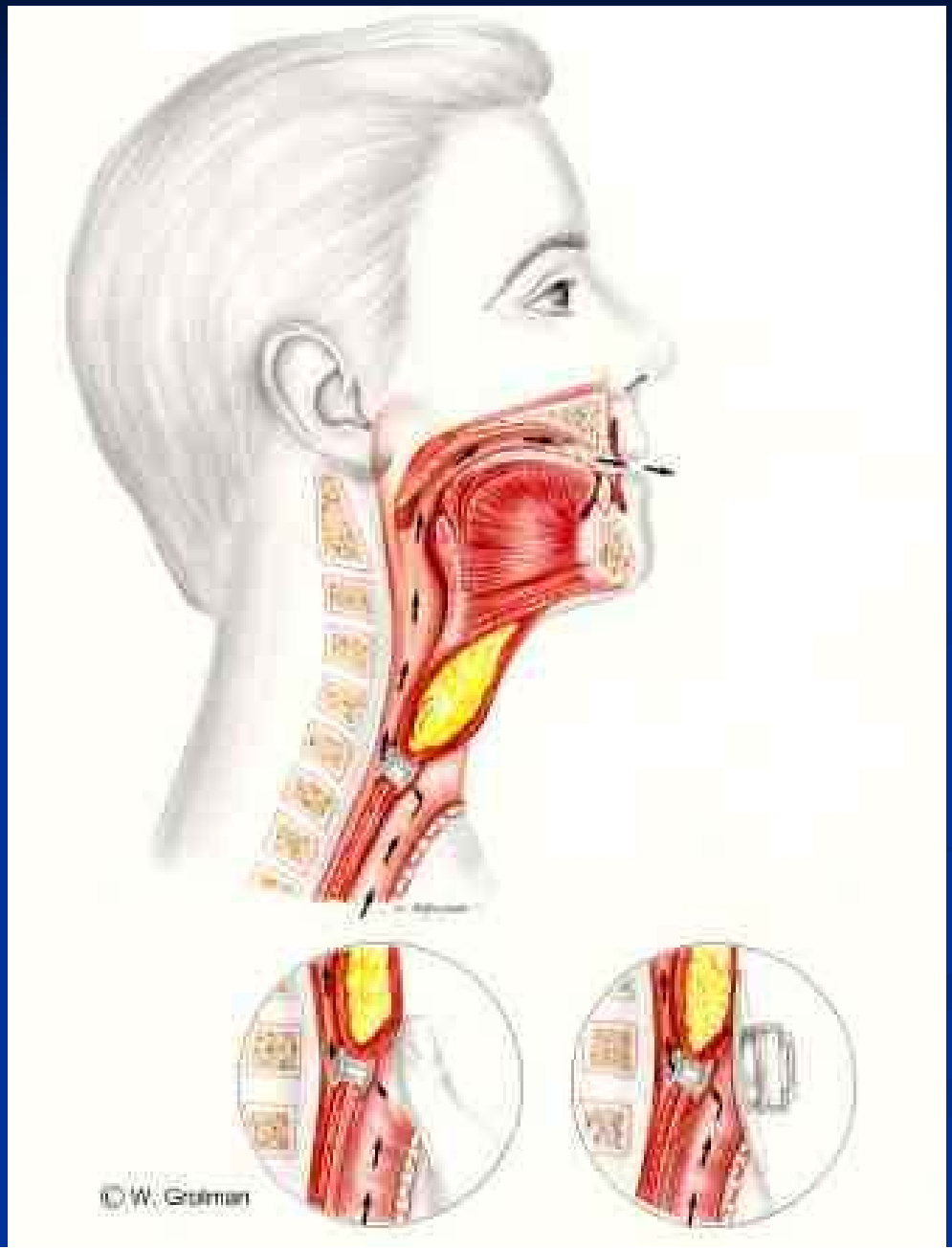
ELECTRO LARYNX

EXTERNAL TYPE

ORAL TYPE



TRACHEOESOPHAGEAL SPEECH



COMPARISON

OESOPHAGEAL

Advantages

1. Natural
2. No device
3. Hands free

Disadvantages

1. Difficult
2. Low intensity

ELECROLARYNX

Advantages

1. Easy
2. High intensity

Disadvantages

1.Unnatural

2.Handheld device

TEP

Advantages

1. Hands
2. High intensity
3. Relatively easy

Disadvantages

1. Expensive
2. Regular care

OUR EXPERIENCE

CASE 1 : OESOPHAGEAL SPEECH

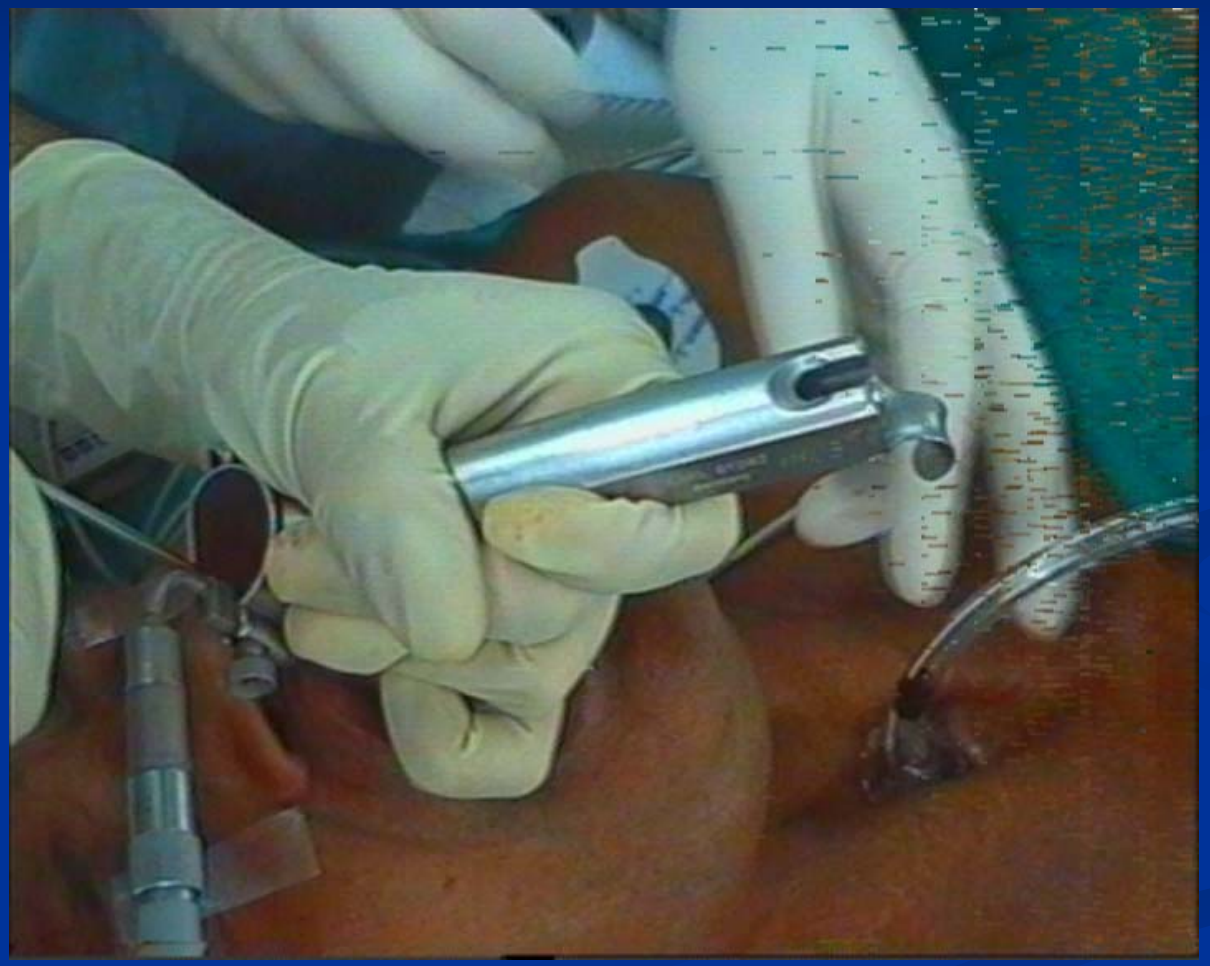
CASE 2 : ELECTRO LARYNX

CASE 3 : TRACHEO – OESOPHAGEAL SPEECH

POST LARYNGECTOMY WITHOUT PROVOX - SPEECH EFFORT

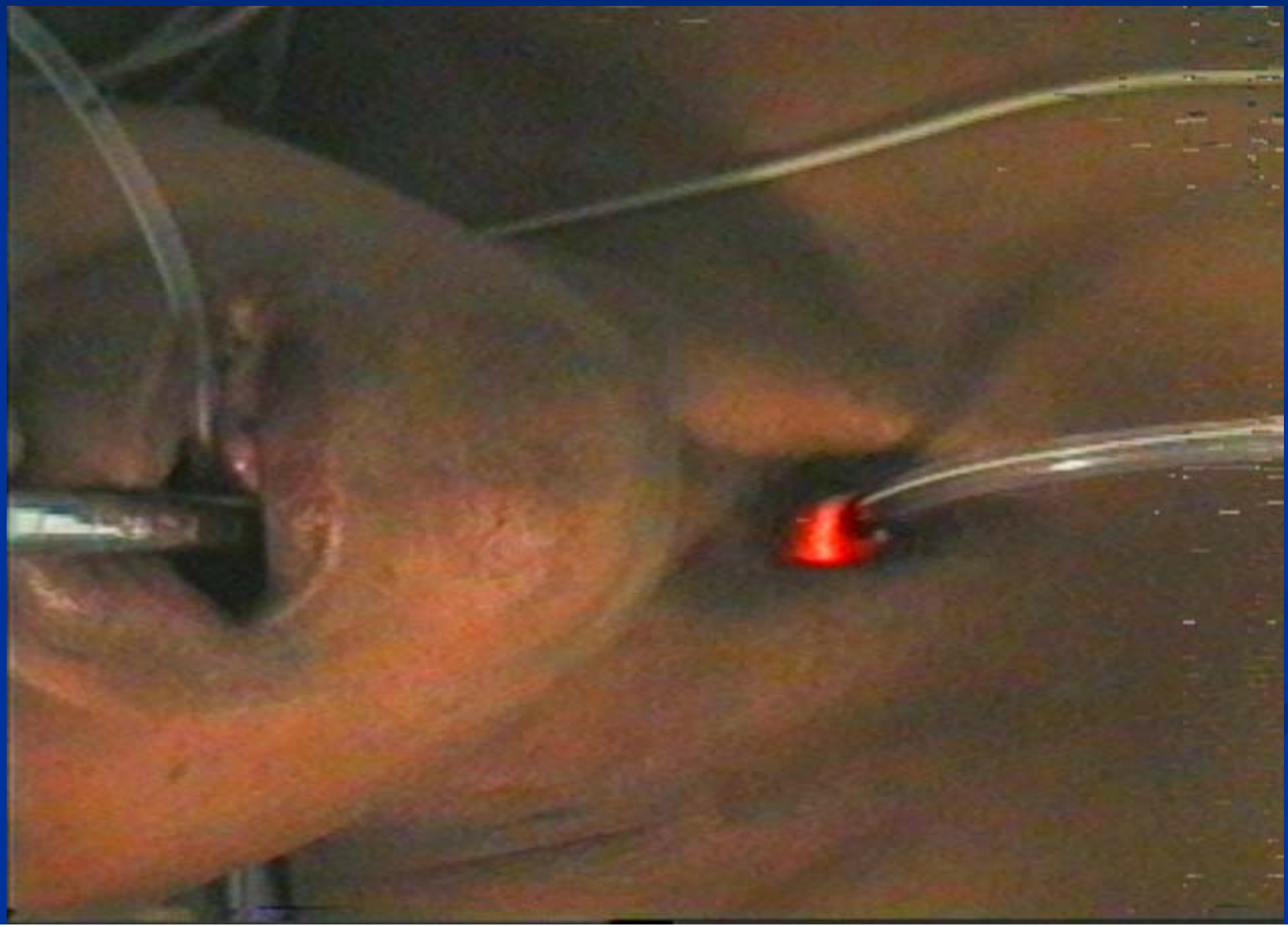
POSITION

D/L SCOPY

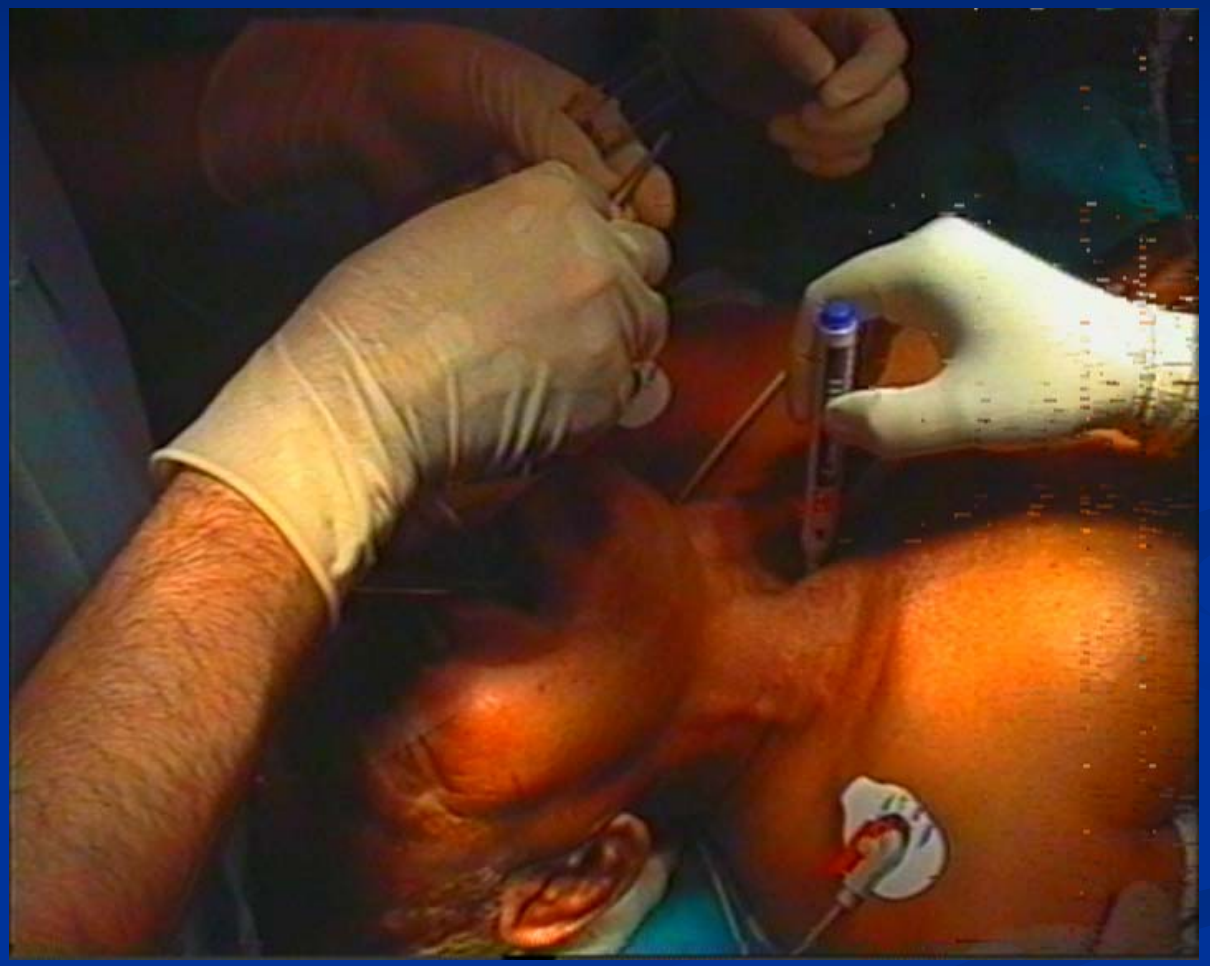


BRONCHOSCOPY

GLOW AT MUCOCUTANEOUS JUNCTION

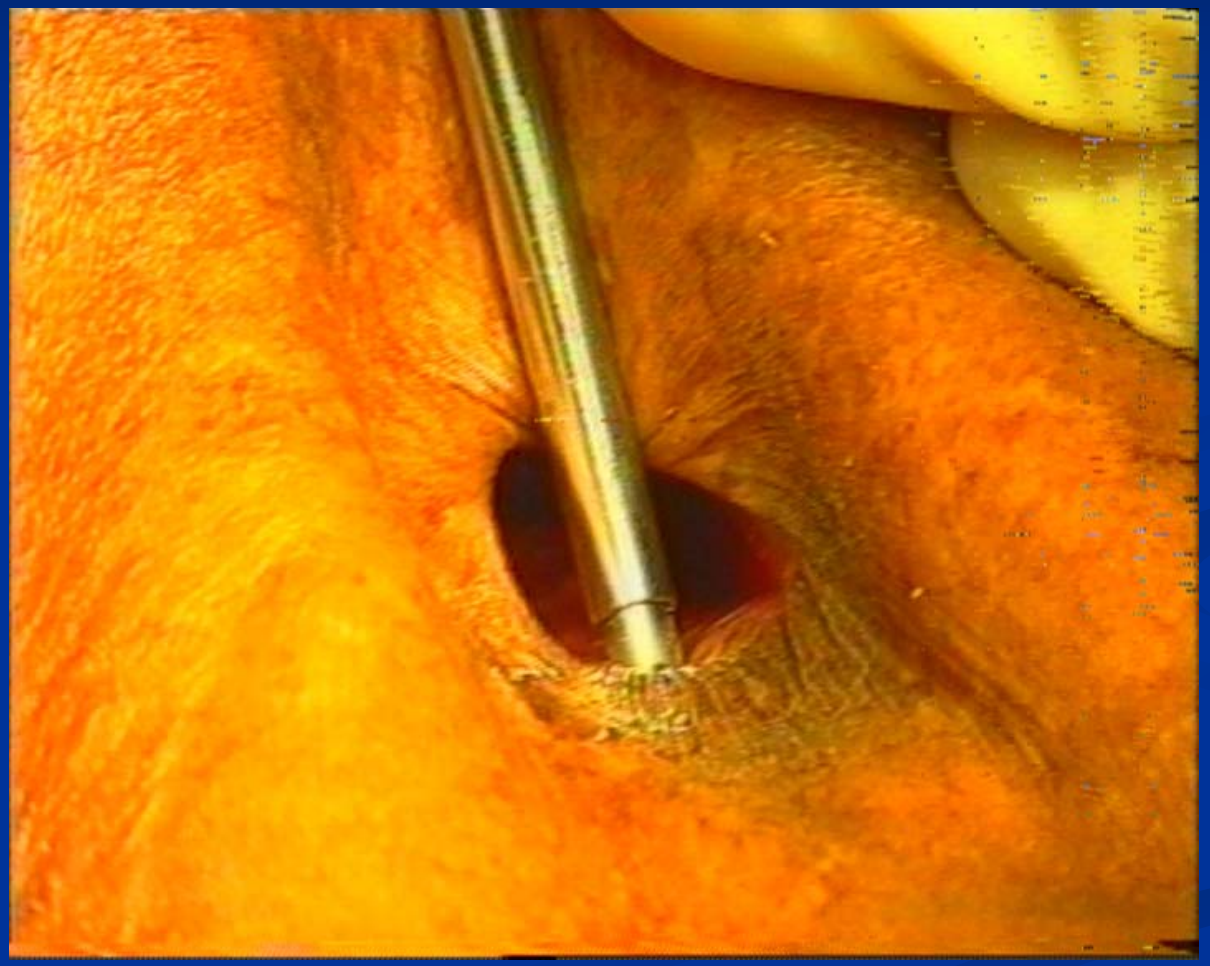


MARKING

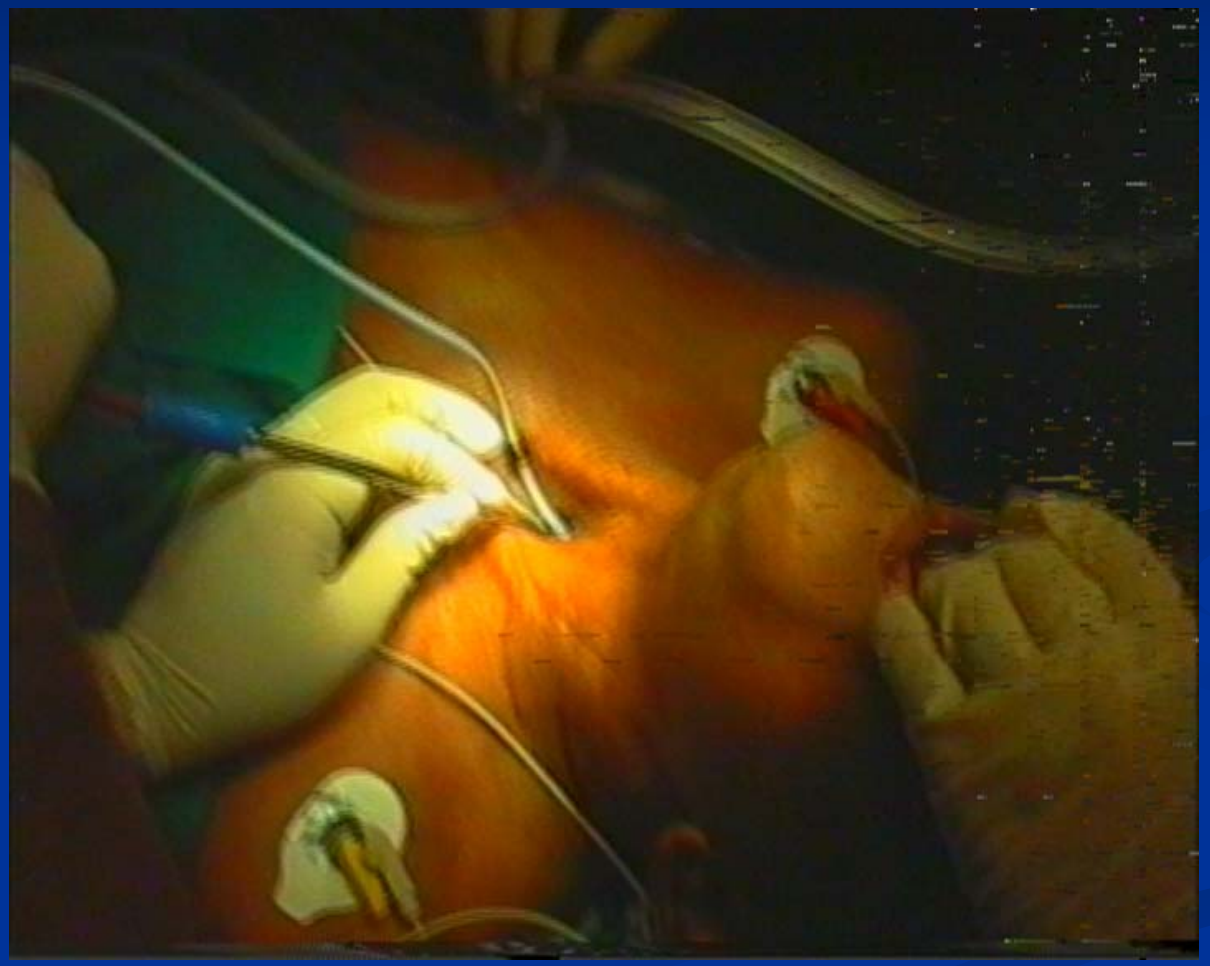


MARK

TRACHEO OESOPHAGEAL FISTULA

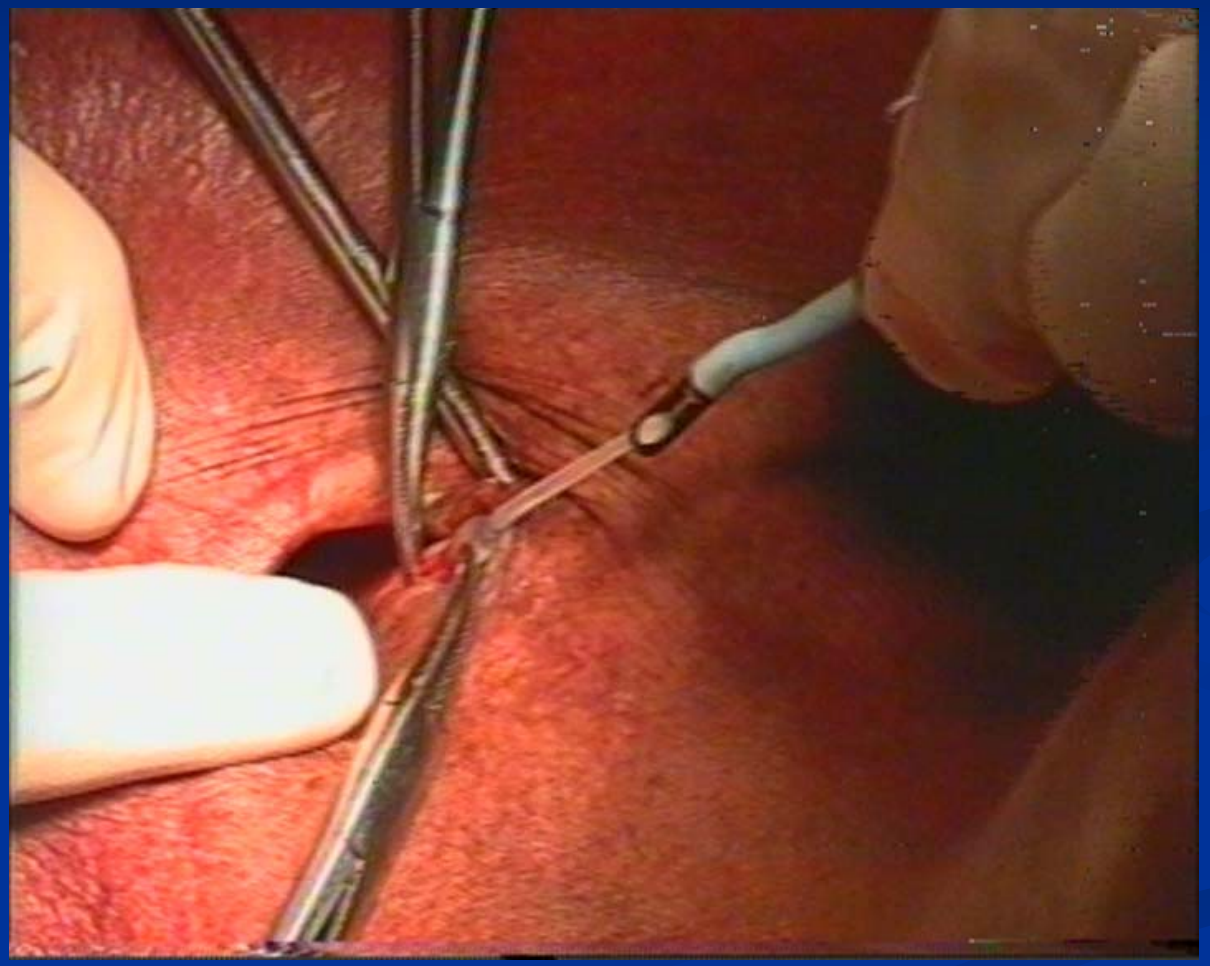


PVC TUBE INSERTION



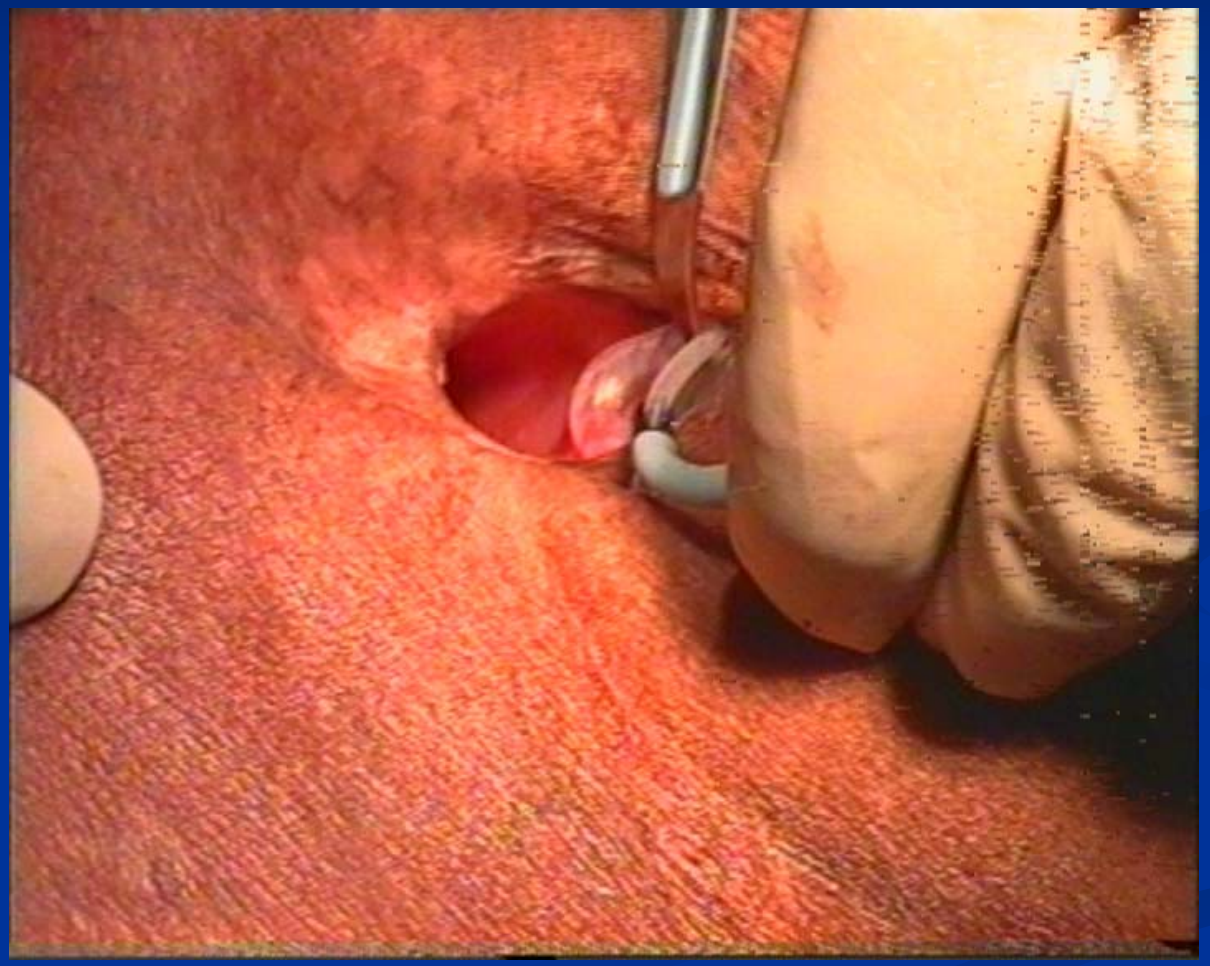
PROVOX VALVE HINGED ONTO THE ORAL END OF PVC TUBE

VALVE BEING PULLED OUT



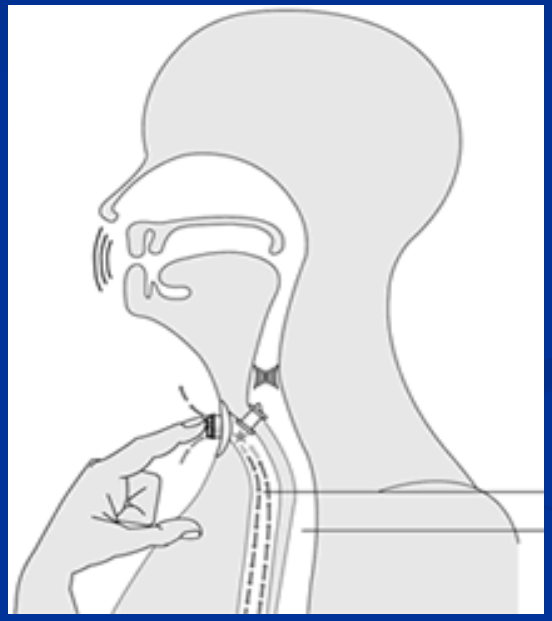
VALVE DELIVERED

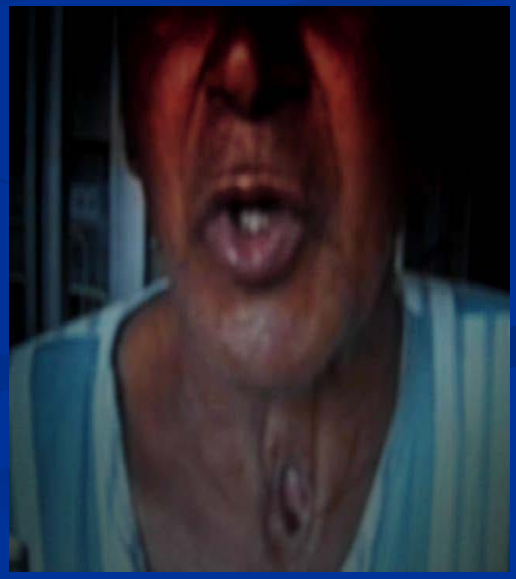
FLANGE CUT



FINAL POSITION OF VALVE

POST OP PROVOX SPEECH





THANK YOU