



Management of Neck Metastases

Neck Dissection

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Ho Chi Minh City, 2019-11-27



- Introduction : neck assessment /treatment
- Classification of neck levels & neck dissections terminology
- Main indications of neck dissection

- *Neck dissection : operative technique & videos (on-site version)*

- *CUP syndrom : diagnostic strategy (with clinical cases, on-site version)*

Neck assessment

Clinical exam

- Bilateral neck palpation
- N+ mobility evaluation
- Mucosal examination, nasofibroscope
- Assessment X, XI, XII

Radiological exams

- CT Scan with contrast +++
- *Ultra-sound (in experienced hands)*
- *PET-CT (low specificity)*

Neck treatment

Surgery

Neck dissection

- Post-op radiotherapy if pN+
- Post-op RTCT if pN+ECE+

Radiation therapy

+/- concomitant chemo

- Unresectable N &/or T
- Rhinopharyngeal UNCT
- Monomodal treatment of small stages HNSCC

Neck dissection

Objectives

Removal of neck lymph nodes

→ Diagnostic and therapeutic aim

Excision

Lympho-adipose tissues of the neck

Monobloc

+/- anatomic structures

- *Muscles*

- *Nerves*

- *Blood vessels*

Classification of neck levels & neck dissections terminology

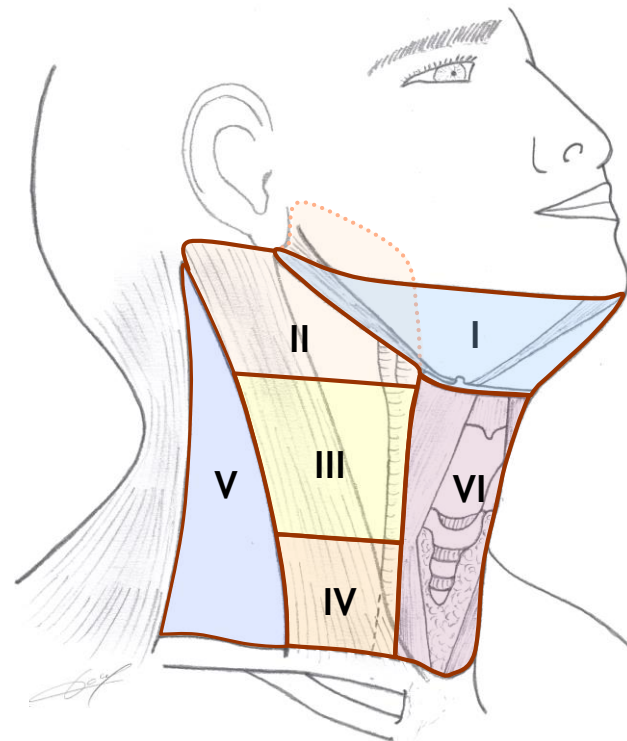
Internationally recognized precise nomenclature

(1991, updated in 2002, 2008 : « Proposal for a rational classification of neck dissection », Ferlito et al, 43 experts worldwide, Head & Neck 2011)

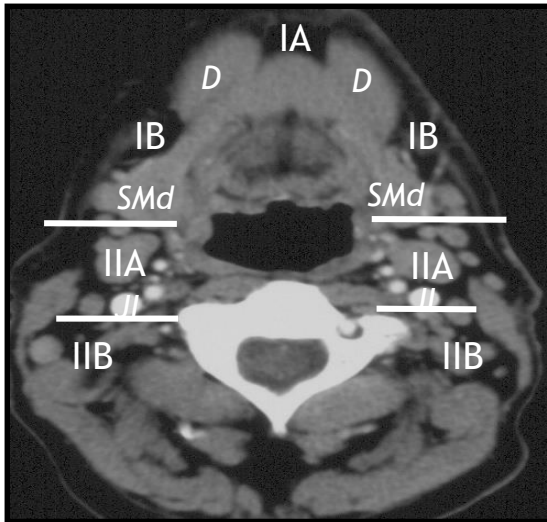
Standardization tool

- **to perform** reproducible procedures
- **to describe & to report** comparable procedures

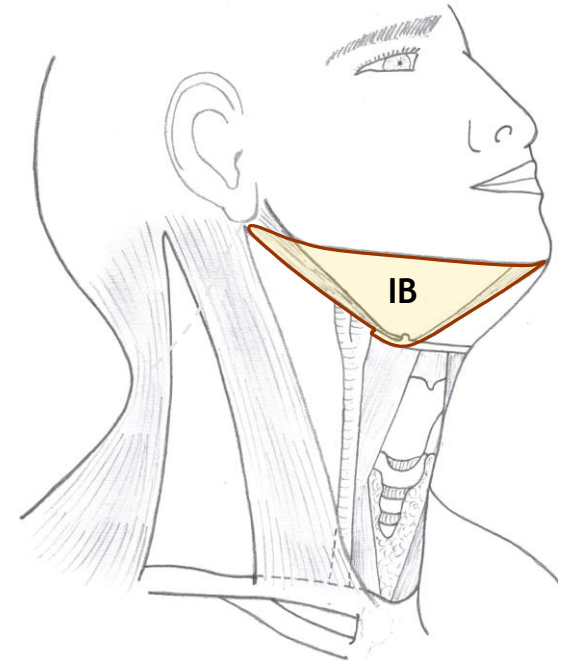
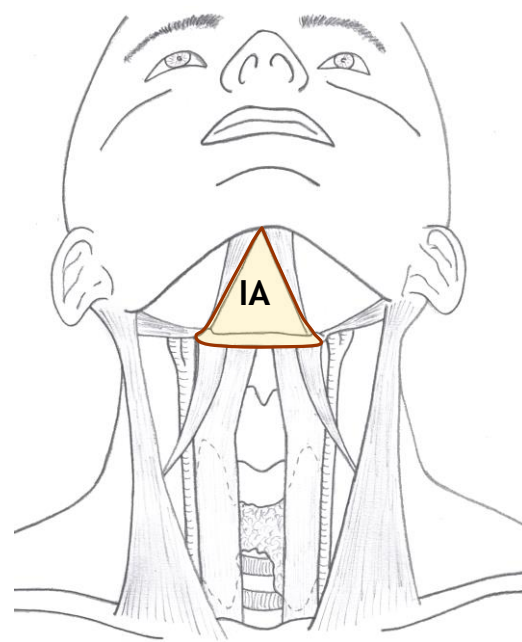
Neck levels



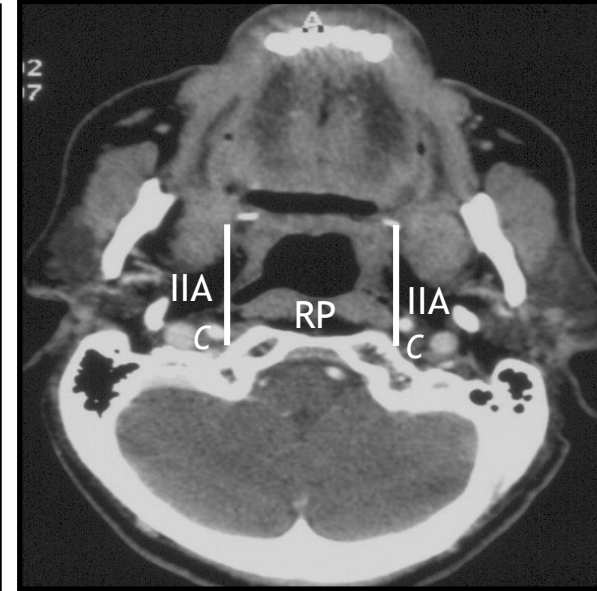
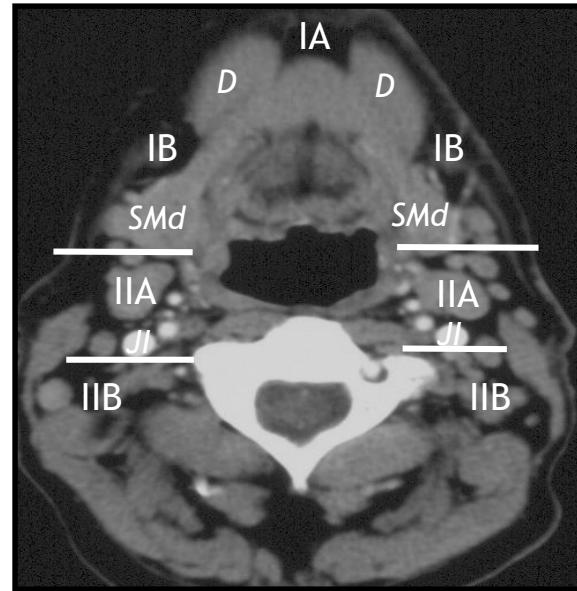
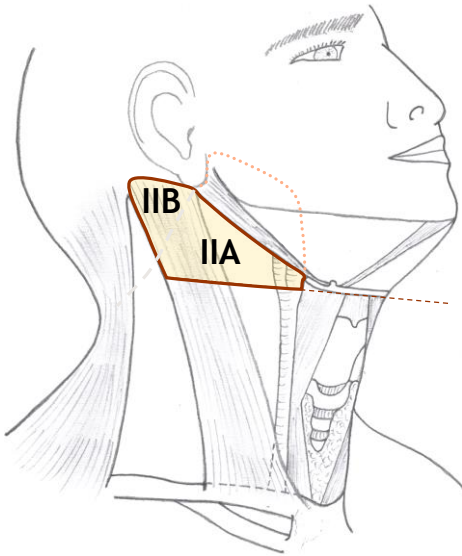
Lallemant B et al,
Ann Otolaryngol 2003



Lallemant B et al,
Ann Otolaryngol 2003

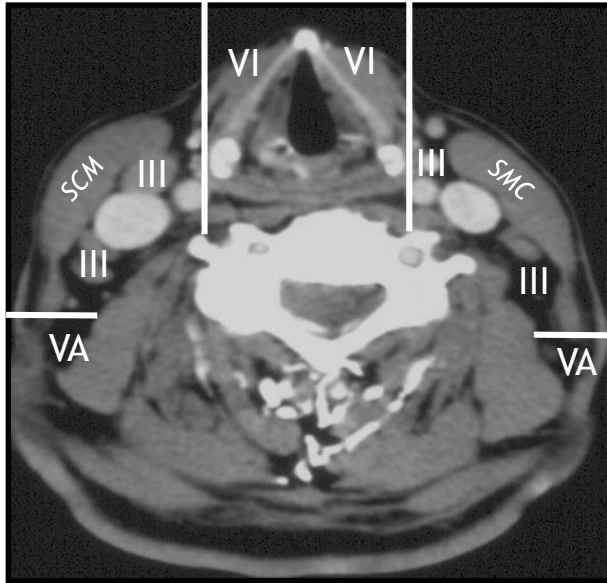


Level Ia Submental group
Level Ib Submandibular group

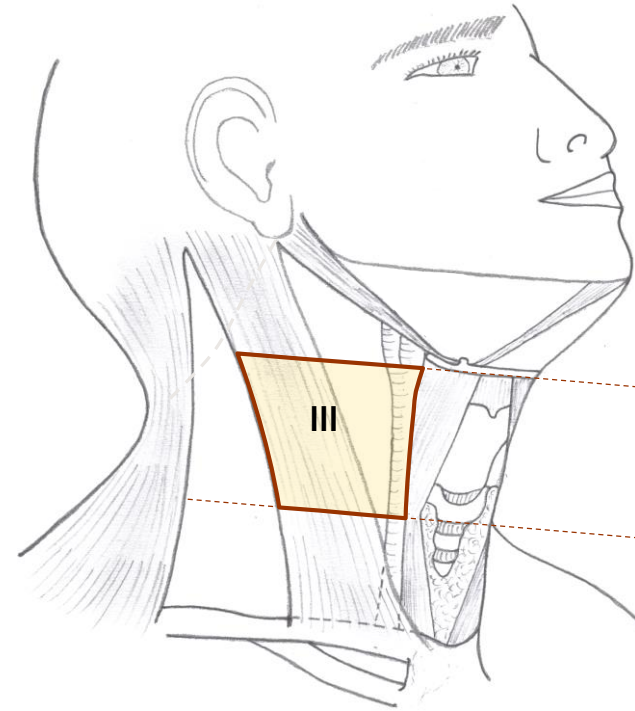


Lallemant B et al,
Ann Otolaryngol 2003

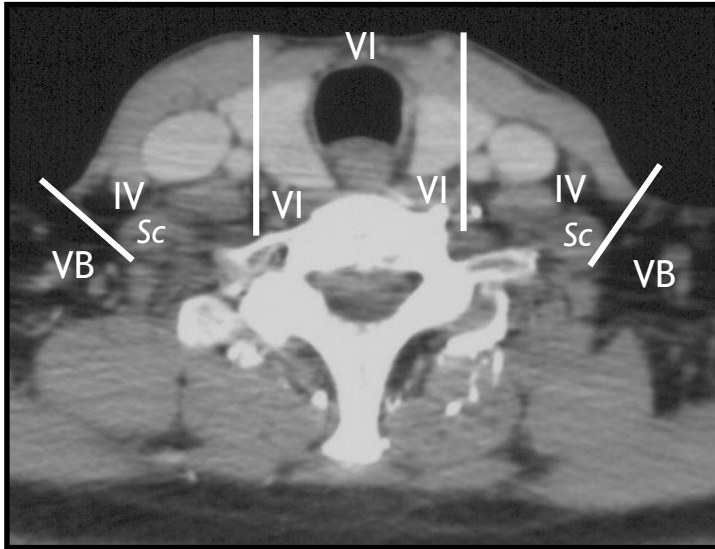
Level II Upper jugular group IIa/IIb



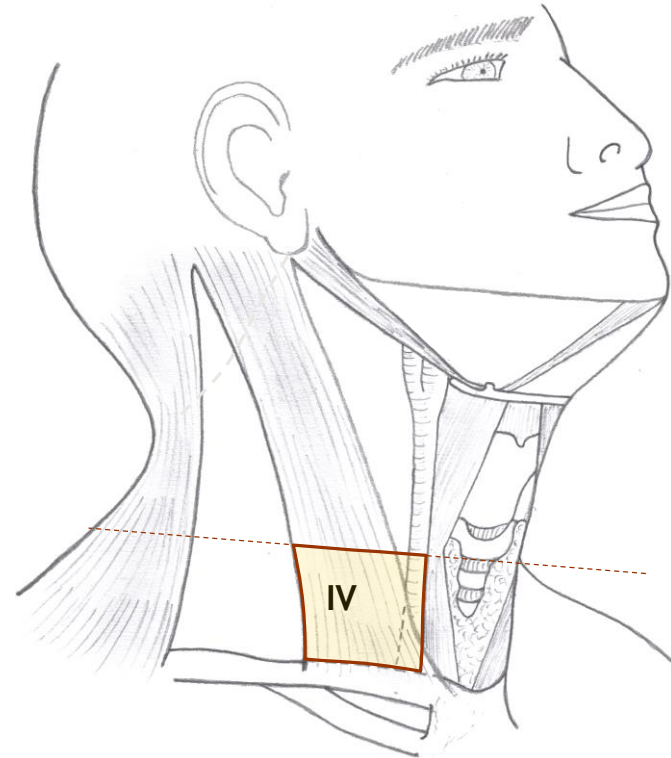
Lallemant B et al,
Ann Otolaryngol 2003



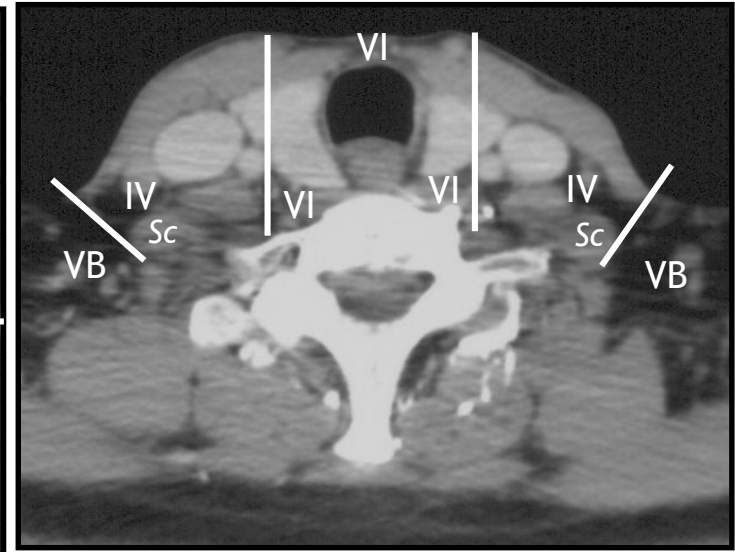
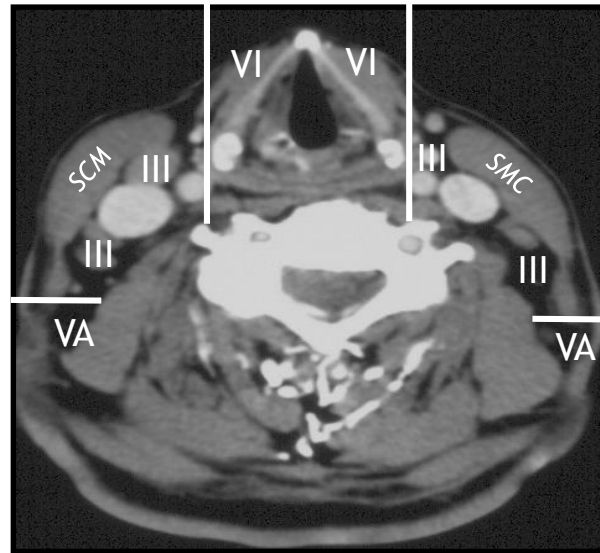
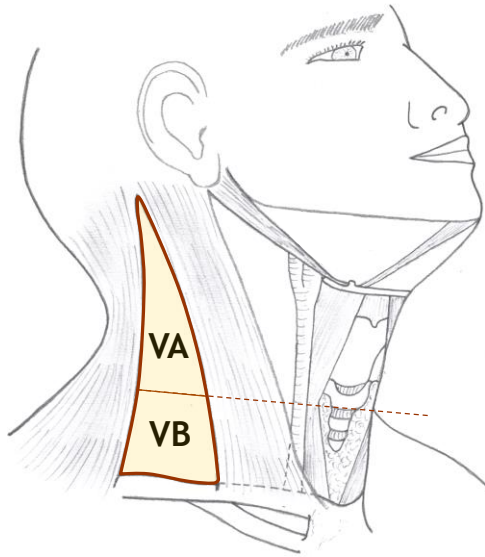
Level III Middle jugular group



Lallemant B et al,
Ann Otolaryngol 2003

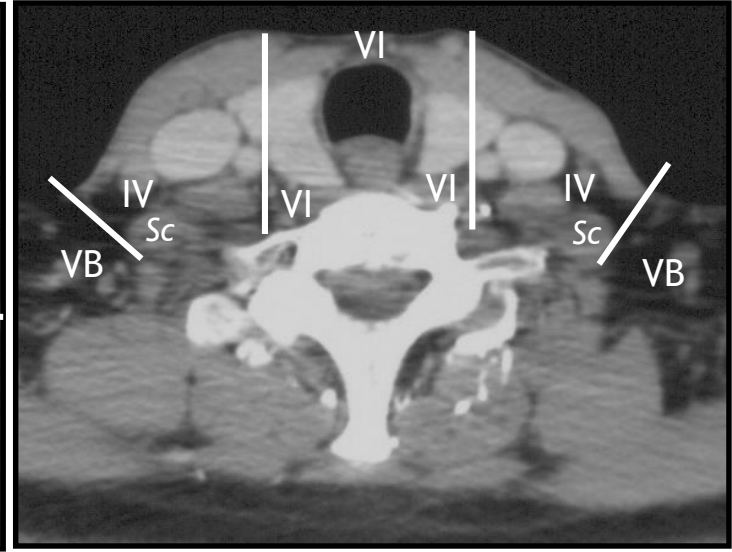
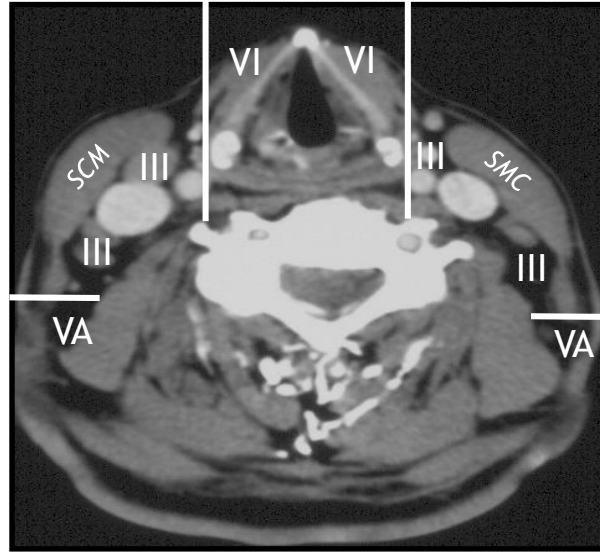
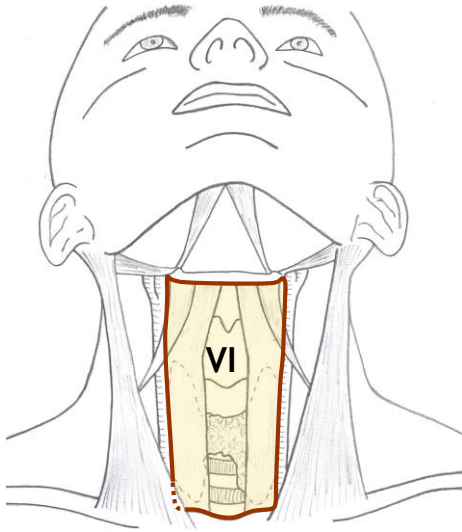


Level IV Lower jugular group



Lallemant B et al,
Ann Otolaryngol 2003

Level V Posterior triangle lymph node group Va/Vb



Lallemant B et al,
Ann Otolaryngol 2003

Level VI



Neck dissection terminology

Therapeutic ND (N+) / Elective ND (N0)

1- Radical ND

2- Radical extended ND

3- Modified radical ND

4- Selective ND

→ Elective ND

Therapeutic ND

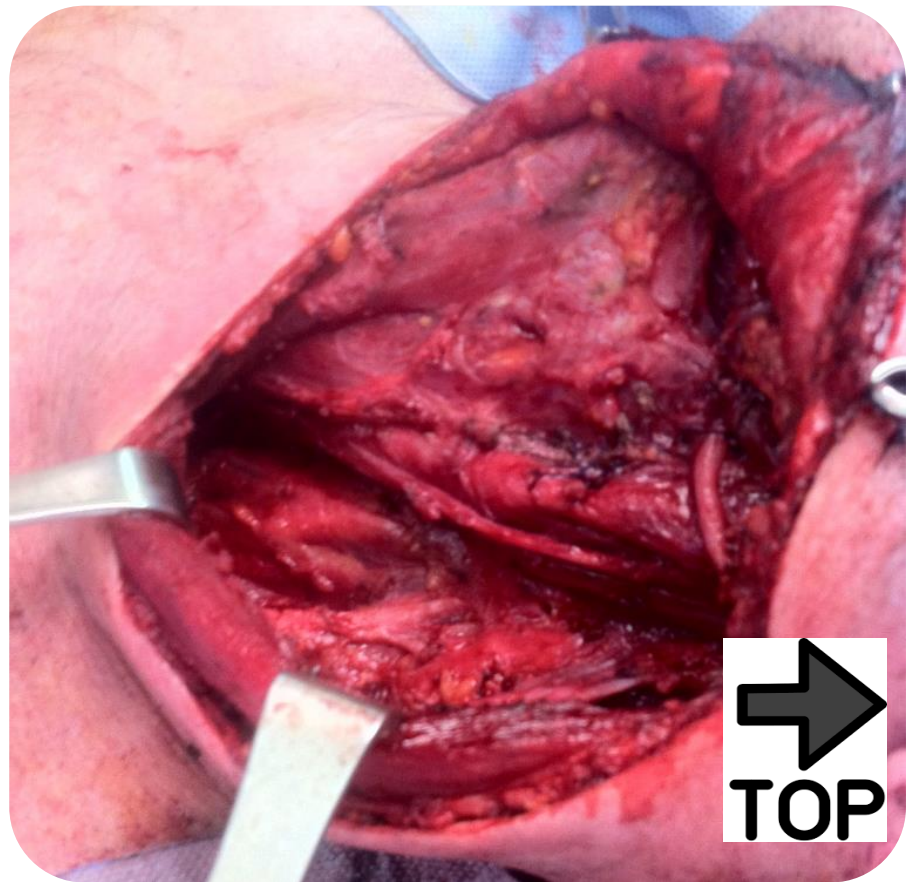
- Level I to V

- **Sacrifice**

Internal jugular vein

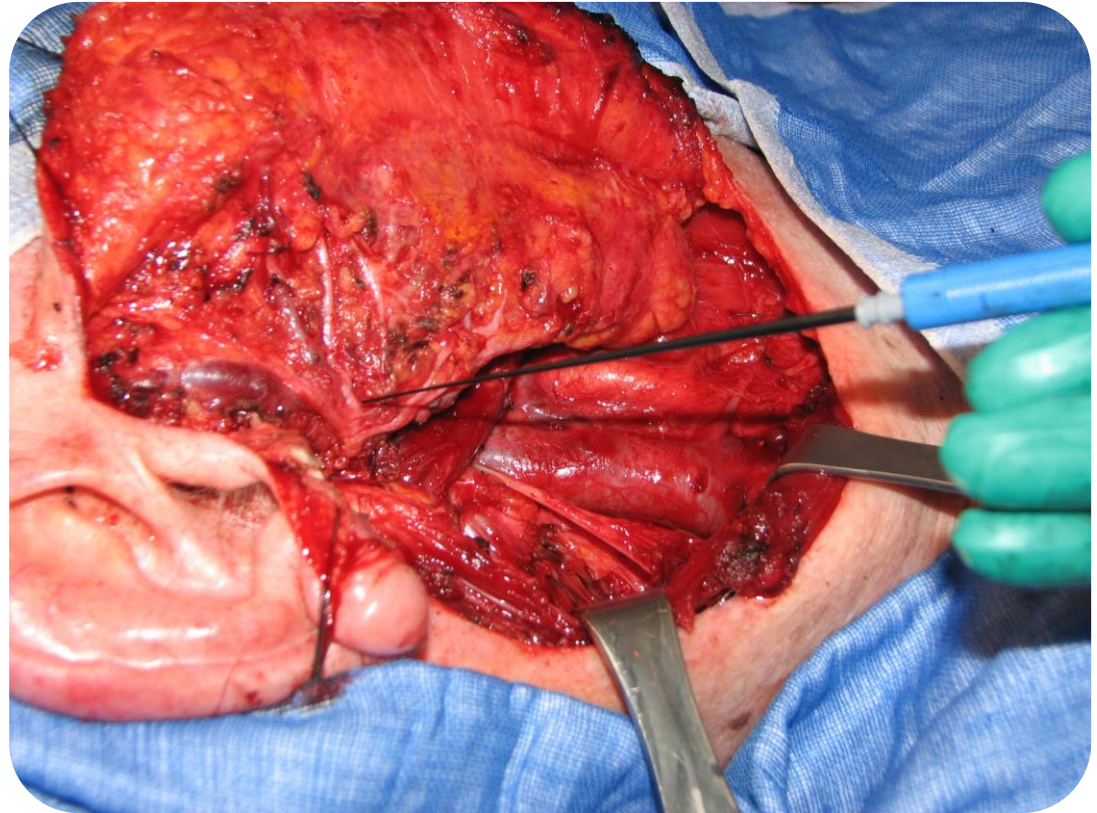
Sternocleidomastoid muscle

Spinal accessory nerve (XI)



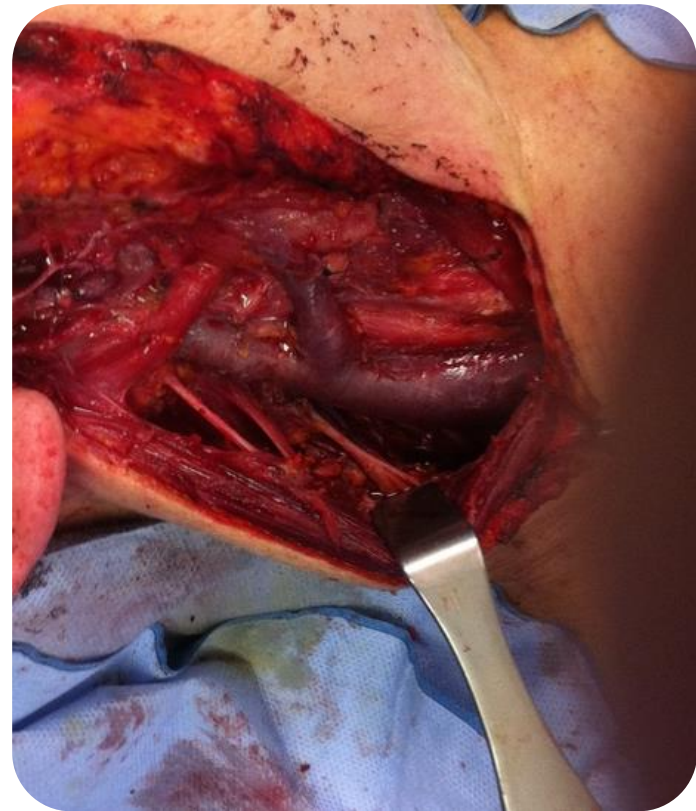
Radical neck dissection

- Level I to V
- Extended to the parotid gland, skin, external carotid artery,.....
- Preservation
 - +/- internal jugular vein
 - +/- SCM
 - +/- Spinal accessory nerve (XI)



Extended radical neck dissection

- Level I to V
- Preservation
 - +/- internal jugular vein
 - +/- Sternocleidomastoid muscle
 - +/- Spinal accessory nerve (XI)



Modified radical neck dissection

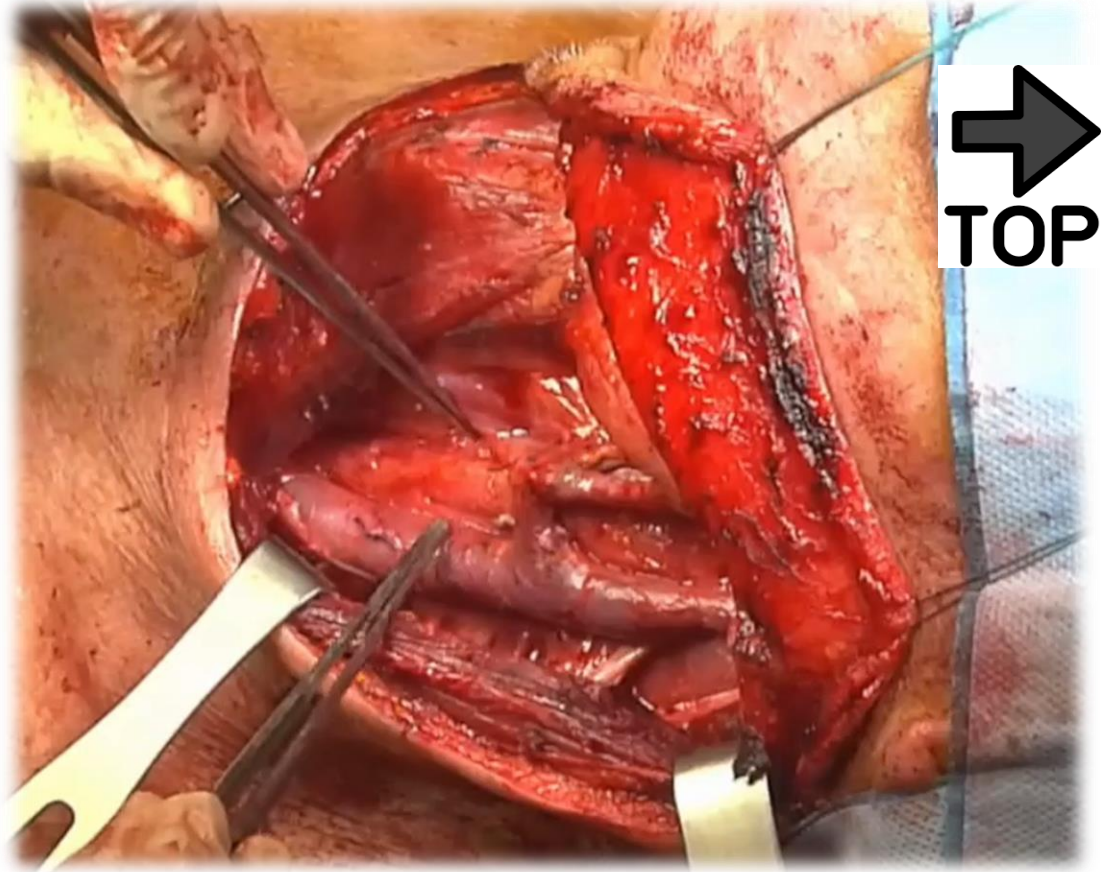
- 3 Levels at least
- Preservation
 - +/- internal jugular vein
 - +/- Sternocleid muscle
 - +/- Spinal nerve (XI)

I-III

II-IV

II-V

....

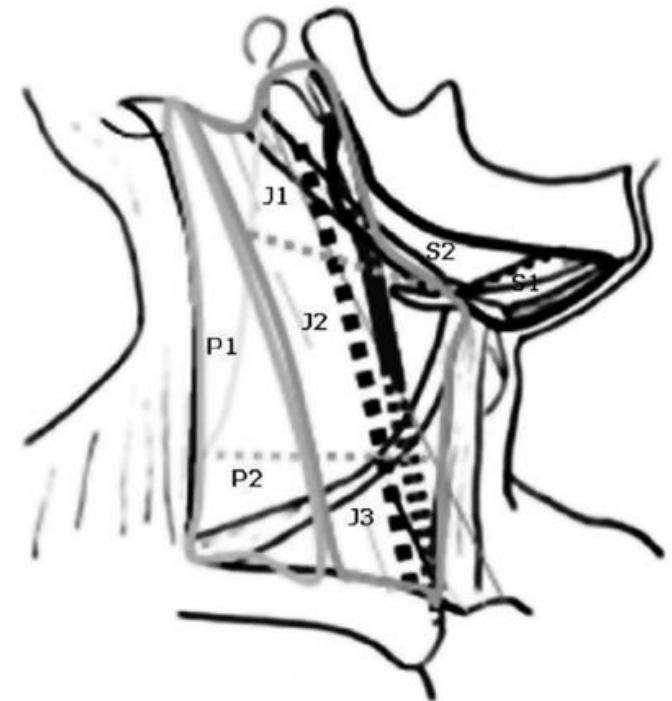


Selective neck dissection

Japanese ND terminology

Comparisons of Japanese and American terminology for different types of neck dissection.

Proposal by JNDSG	Type of neck dissection in accordance with AAO-HNS classification
ND (SJP/VNM)	Radical neck dissection
ND (SJP/VM)	Modified radical neck dissection with preservation of the spinal accessory nerve
ND (SJP/V)	Modified radical neck dissection with preservation of the spinal accessory nerve and the sternocleidomastoid muscle
ND (SJP/M)	Modified radical neck dissection with preservation of the spinal accessory nerve and the internal jugular vein
ND (SJP)	Modified radical neck dissection with preservation of the spinal accessory nerve, the internal jugular vein and the sternocleidomastoid muscle
ND (J) or ND (J1-3)	Selective neck dissection (II-IV)
ND (SJ1-2)	Selective neck dissection (I-III)
ND (J, pt)	Selective neck dissection (II-IV, VI)
ND (pt, sm)	Selective neck dissection (VI, VII)
ND (JP, pt)	Selective neck dissection (II-VI)
ND (JP, rp/VNM, vn)	Selective neck dissection (II-V with retropharyngeal node dissection, with resection of internal jugular vein, spinal accessory nerve, sternocleidomastoid muscle and vagal nerve)



Hasugawa et al, Jpn J Head Neck Cancer 2005

When do we have to perform a LND ?

Neck dissection is usually done at the time of the tumor removal

Routinely associated to a tumoral excision, excepted when :

- The neck has already been treated (reccurrence, 2nd locations)
- A surgery (endoscopic or not) **T1 vocal fold** is planned
- A **sentinel node biopsy** is scheduled (T1T2N0 oral cavity)
- You manage a low grade and low stage of salivary cancers

Which LND ?

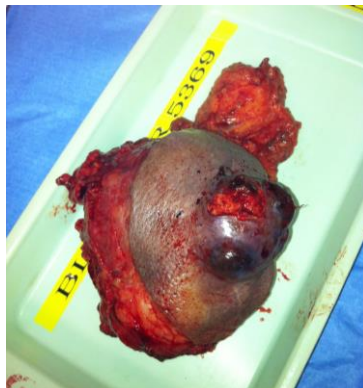
It depends :

- **Status N+/N0**

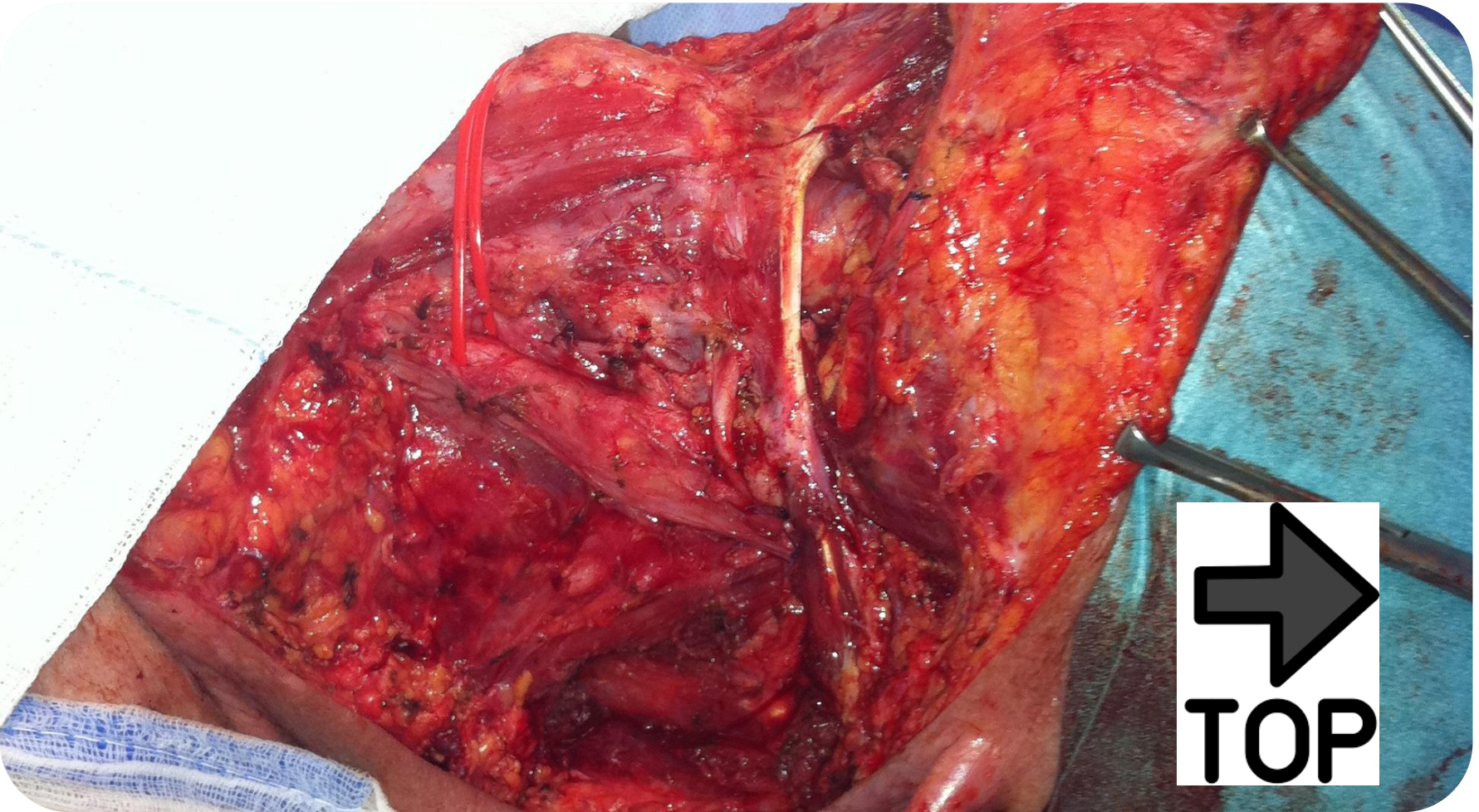
Which LND ?

N3

**N3 resectable : RADICAL neck dissection
(option discussed in multidisciplinary board)**



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Which LND ?

N1 N2

➔ **N1, N2 : Modified radical ND or Selective ND**

Level invaded +/- level close to levels invaded

Eur Arch Otorhinolaryngol
DOI 10.1007/s00405-012-2153-x

REVIEW ARTICLE

The evolving role of selective neck dissection for head and neck squamous cell carcinoma

K. Thomas Robbins · Alfio Ferlito · Jatin P. Shah · Marc Hamoir ·
Robert P. Takes · Primož Strojjan · Avi Khafif · Carl E. Silver ·
Alessandra Rinaldo · Jesus E. Medina

- **Indication of selective ND even for selected N+**

Which LND ?

No

It depends :

- **Status N+/N0**
- **N0 : Theoretical drainage**

Theoretical lymphatic drainage

IA Inferior lip, floor of the mouth, oral cavity

IB Floor of the mouth, oral cavity, sinus

IIA Larynx, pharynx, oral cavity, thyroid

IIB Rhinopharynx, parotid

III Larynx, pharynx, oral cavity, thyroid

IV Larynx, pharynx, thyroid

V Larynx, pharynx, thyroid, parotid

VI Larynx, hypopharynx, thyroid, oesophagus

Which LND ?

No

➔ **N0, Selective ND**

- ➔ Oral cavity : I-III (or SNB /T1T2N0)
- ➔ Oropharynx : II-IV
- ➔ Hypopharynx, Larynx : II-IV +/- VI

Bilateral ? if median or bilateral lesion

LND : operative technique



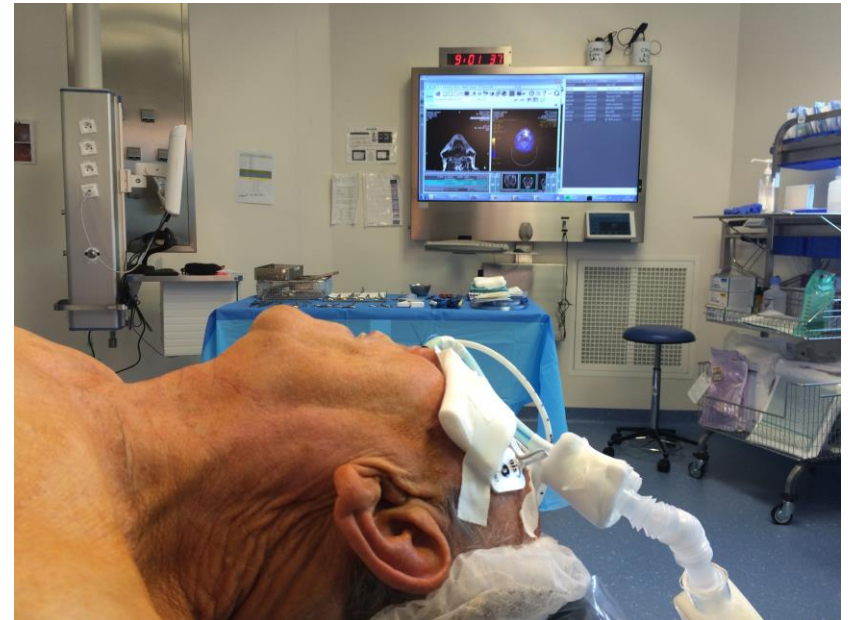
Operative technique

Lymph node dissection

Operative position

Head rotated the opposite side

Ipsilateral arm stretched down

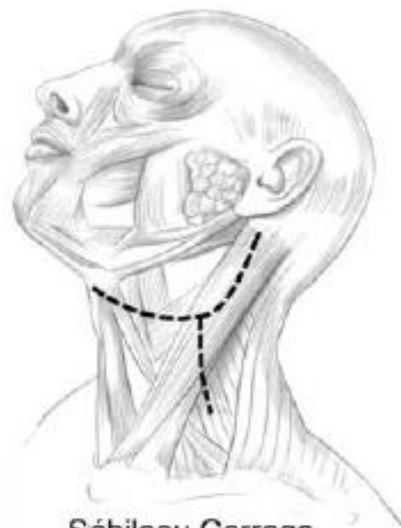


Instrumentation



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Skin incisions



Sébileau-Carrega



Paul André



Mac Fee

Zanaret et al, Encyclopédie MédicoChirurgicale

Landmarks

Muscles

- Platysma
- Sterno-cleido-mastoid
- Digastric (posterior belly)
- Omo-hyoid

Nerves & vessels

- XI
- X
- XII
- Marginal branch VII
- Branches cervical plexus
- Facial / superior thyroid / cervical transverse pedicles

cited in the operative report

➤ Platysmal dissection & Facial marginal branch dissection

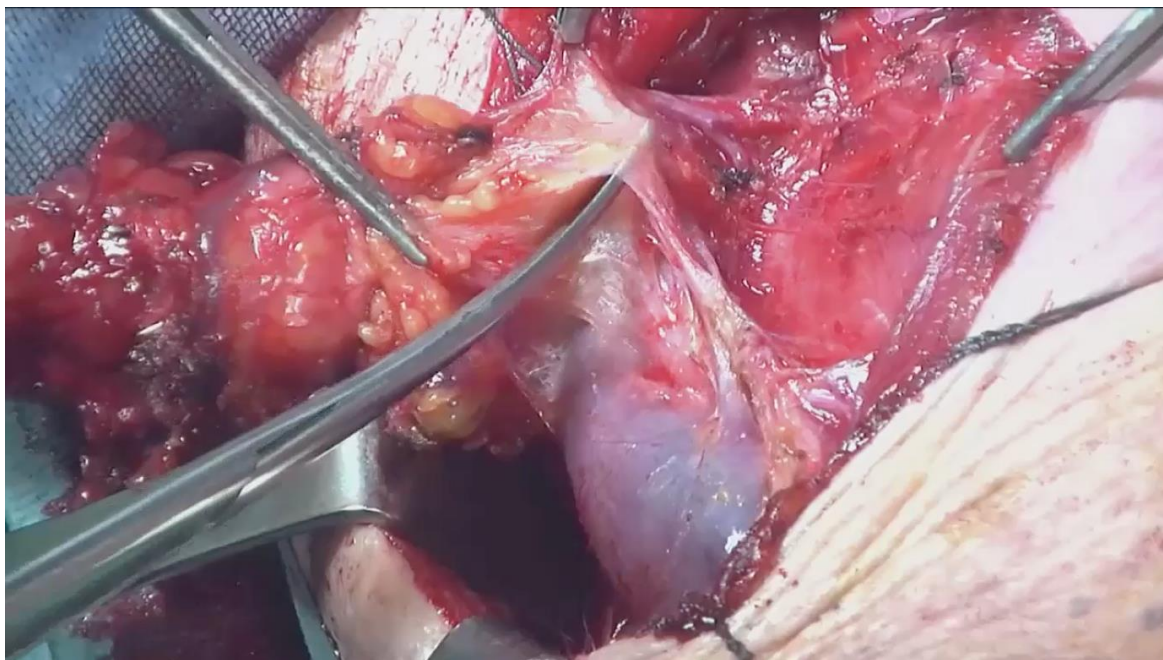
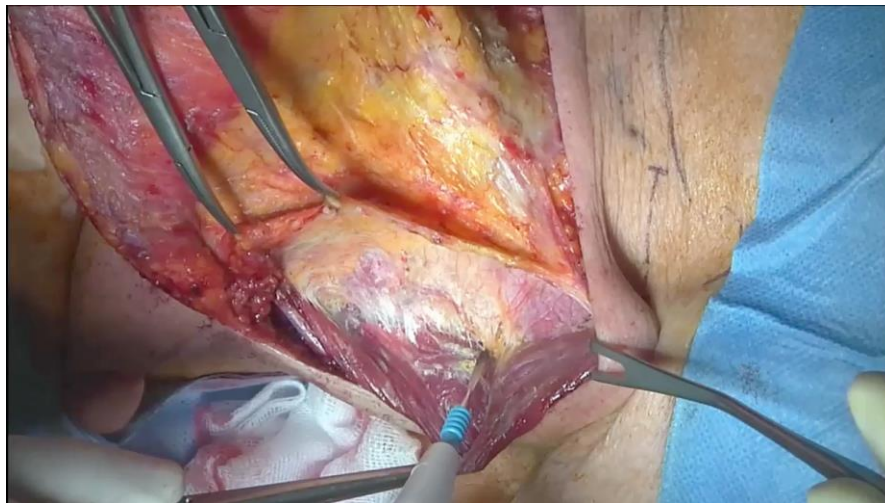
➤ Landmarks dissections

➤ Levels II-III-IV

➤ Sentinel node biopsy (T1N0 oral cavity)

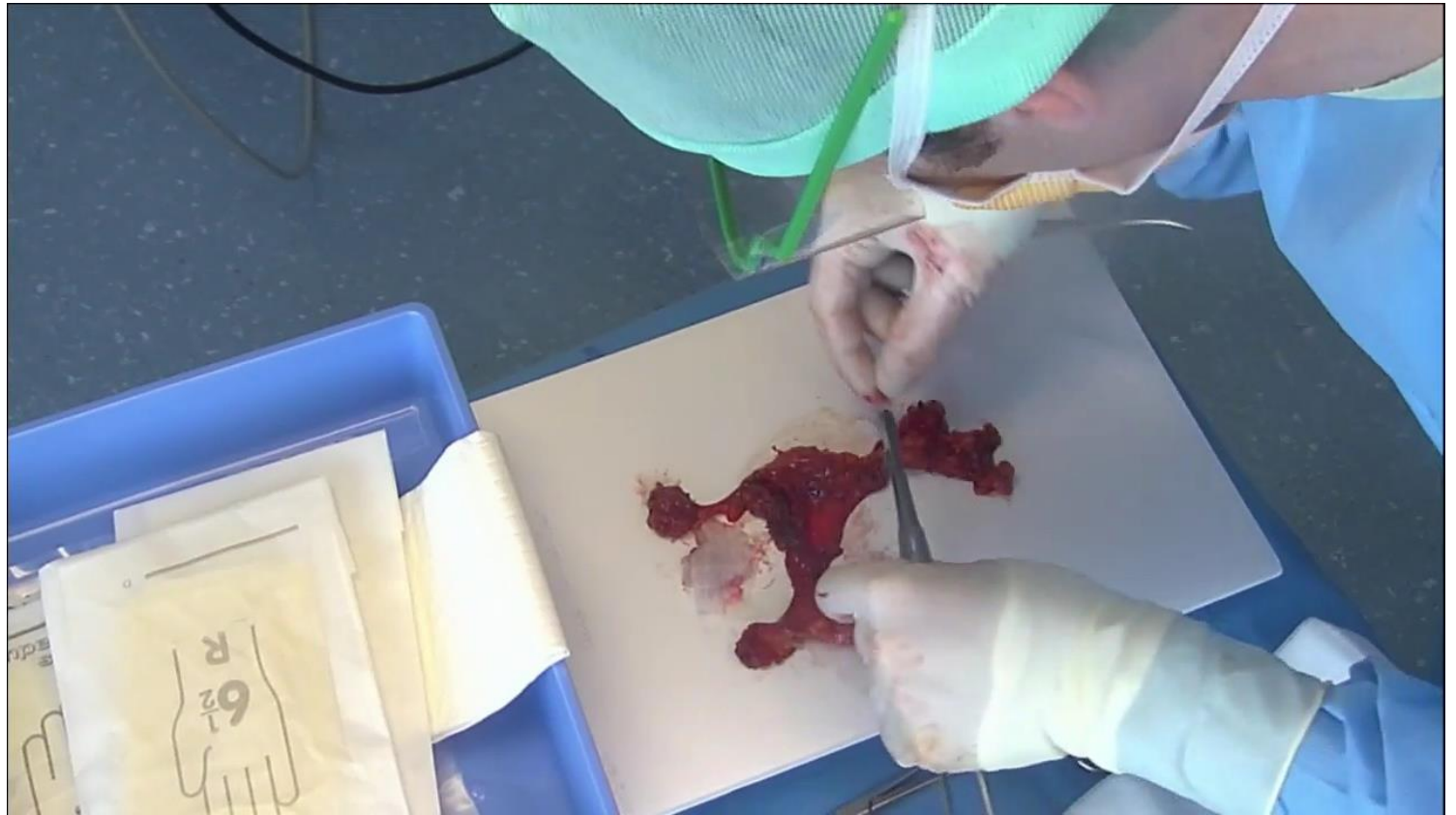
Videos

On-site version
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Oriented specimen / path analysis



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Post-op :

➔ Drains

➔ PHYSIOTHERAPY +++

Information patients



Activité physique
adaptée après curage
cervical



Exercice N° 5



-Position: Assise.

-Mouvements: Réalisez des cercles avec les épaules vers l'arrière **sans forcer et sans douleur**.

-Répétitions: 10 fois /3 fois par jour.

Exercice N° 6



-Position: Allongé ou debout .

-Mouvements: Montez lentement les bras au-dessus de la tête. Pressez les mains l'une contre l'autre **sans forcer et sans douleur**.

-Répétitions: 10 fois /3 fois par jour.

Exercice N° 8



-Position: Assise .

-Mouvements: Pédalez **vers l'arrière** avec les bras **sans forcer et sans douleur**.

-Répétitions: 5 à 10 minutes /3 fois par jour.

Conclusion

Neck dissection : keypoint in the neck treatment of HNSCC

- Objective evaluation of N status
- To optimize Oncological and Functional Outcomes
- ➔ Increasing indications of Selective neck dissections, sentinel node biopsies

Early physiotherapy