

QUICK REFERENCE GUIDE TO

**TNM Staging of Head and  
Neck Cancer and Neck Dissection  
Classification**

Fourth Edition



AMERICAN ACADEMY OF  
OTOLARYNGOLOGY-  
HEAD AND NECK SURGERY

F O U N D A T I O N



© 2014 All materials in this eBook are copyrighted by the American Academy of Otolaryngology—Head and Neck Surgery Foundation, 1650 Diagonal Road, Alexandria, VA 22314-2857, and the American Head and Neck Society, 11300 W. Olympic Blvd., Suite 600, Los Angeles CA 90064, and are strictly prohibited to be used for any purpose without prior written authorization from the American Academy of Otolaryngology—Head and Neck Surgery Foundation and the American Head and Neck Society. All rights reserved.

For more information, visit our website at [www.entnet.org](http://www.entnet.org) , or [www.ahns.org](http://www.ahns.org).

eBook Format: Fourth Edition, 2014

ISBN: 978-0-615-98874-0

Suggested citation: Deschler DG, Moore MG, Smith RV, eds. *Quick Reference Guide to TNM Staging of Head and Neck Cancer and Neck Dissection Classification*, 4th ed. Alexandria, VA: American Academy of Otolaryngology-Head and Neck Surgery Foundation, 2014.

**Quick Reference Guide to  
TNM Staging of Head and Neck Cancer  
and Neck Dissection Classification**

*Copublished by*

**American Academy of Otolaryngology—Head and Neck Surgery  
American Head and Neck Society**

*Edited by*

Daniel G. Deschler, MD  
Michael G. Moore, MD  
Richard V. Smith, MD

# Table of Contents

<b>Preface</b> .....	iv
<b>Acknowledgments</b> .....	v
<b>I. Introduction</b> .....	2
A. Upper Aerodigestive Tract Sites .....	2
Oral Cavity .....	3
Oropharynx .....	3
Hypopharynx .....	4
Larynx.....	4
Nasopharynx .....	6
Nasal Cavity and Paranasal Sinuses .....	7
B. Radiation Therapy and Chemotherapy.....	7
<b>II. American Joint Committee on Cancer (AJCC) Tumor Staging by Site</b> .....	11
A. Oral Cavity.....	11
B. Oropharynx .....	12
C. Larynx .....	12
D. Hypopharynx.....	14
E. Nasal Cavity and Paranasal Sinuses.....	15
F. Salivary Glands.....	16
G. Neck Staging under the TNM Staging System for Head and Neck Tumors .....	17
H. TNM Staging for the Larynx, Oropharynx, Hypopharynx, Oral Cavity, Salivary Glands, and Paranasal Sinuses .....	18

<b>III. AJCC Tumor Staging—Nasopharynx, Thyroid, and Mucosal Melanoma</b> .....	19
A. Nasopharynx .....	19
B. Thyroid.....	20
C. Mucosal Melanoma .....	23
<b>IV. Definition of Lymph Node Groups</b> .....	25
A. Levels IA and IB: Submental and Submandibular Groups .....	25
B. Levels IIA and IIB: Upper Jugular Group .....	26
C. Level III: Middle Jugular Group.....	26
D. Level IV: Lower Jugular Group .....	27
E. Levels VA and VB: Posterior Triangle Group.....	28
F. Level VI: Anterior (Central) Compartment Group .....	28
<b>V. Conceptual Guidelines for Neck Dissection Classification</b> .....	29
A. Radical Neck Dissection.....	29
B. Modified Radical Neck Dissection .....	30
C. Selective Neck Dissection .....	30
D. Extended Radical Neck Dissection.....	34

# Preface

Staging is the language essential to the proper and successful management of head and neck cancer patients. It is the core of diagnosis, treatment planning, application of therapeutics from multiple disciplines, recovery, follow-up, and scientific investigation. Staging must be consistent, efficient, accurate, and reproducible. The head and neck cancer caregiver can never be too fluent in this mode of communication, as we educate patients and navigate them toward cure. The simple clarification that Stage IV disease is not synonymous with a “death sentence” has powerful impact for patients and their families. With this imperative, the American Academy of Otolaryngology—Head and Neck Surgery Foundation and the American Head and Neck Society present the fourth edition of *Quick Reference Guide to TNM Staging of Head and Neck Cancer and Neck Dissection Classification*.

Just as our knowledge of and therapeutics for head and neck cancer evolve, so does the language we use in managing the disease. Such terms as “chemoradiation,” “organ preservation,” “HPV positive,” and “de-escalation” are now central to care planning discussions. Likewise, the staging system evolves to incorporate current knowledge and reflect state-of-the-art treatments.

This new edition of *Quick Reference Guide to TNM Staging of Head and Neck Cancer and Neck Dissection Classification* incorporates the changes from the seventh edition of the American Joint Commission on Cancer (AJCC) Cancer Staging Manual, as well as updated discussions of site-specific cancers.

We hope this *Quick Reference Guide* will serve the practitioner and the patient equally well as we ready ourselves for further evolution of head and neck cancer staging and management.

Daniel G. Deschler, MD  
Co-editor

Michael G. Moore, MD  
Co-editor

Richard V. Smith, MD  
Co-editor

## Acknowledgments

The American Academy of Otolaryngology—Head and Neck Surgery and the American Head and Neck Society acknowledge the input from their Head and Neck Surgery Oncology Committee and Head and Neck Surgery Education Committees for the review of this publication.

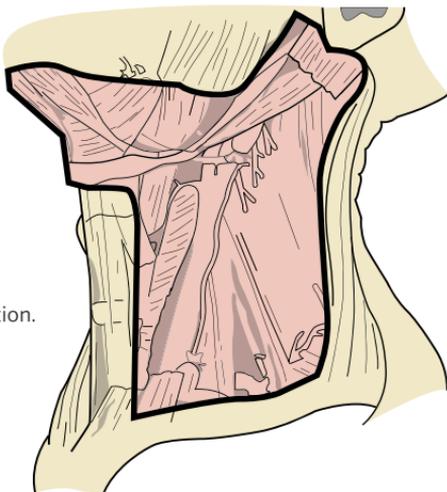
All staging information in Chapters II and III are used with the permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Seventh Edition (2010), published by Springer Science and Business Media LLC, [www.springer.com](http://www.springer.com).

All photos have been graciously donated by Richard V. Smith, MD.

## V. Conceptual Guidelines for Neck Dissection Classification

### A. Radical Neck Dissection

Radical neck dissection (Figure 4) is considered to be the standard basic procedure for cervical lymphadenectomy. All other procedures represent one or more alterations of this procedure. Radical neck dissection refers to the removal of all ipsilateral cervical lymph node groups extending from the inferior border of the mandible superiorly to the clavicle inferiorly; from the lateral border of the sternohyoid muscle, hyoid bone, and contralateral anterior belly of the digastric muscle medially; to the anterior border of the trapezius muscle laterally. Included are all lymph nodes from Levels I through V. The spinal accessory nerve, internal jugular vein, and sternocleidomastoid muscle are also removed. Radical neck dissection does not include removal of the suboccipital nodes, periparotid nodes (except infraparotid nodes located



**FIGURE 4**  
Radical neck dissection.

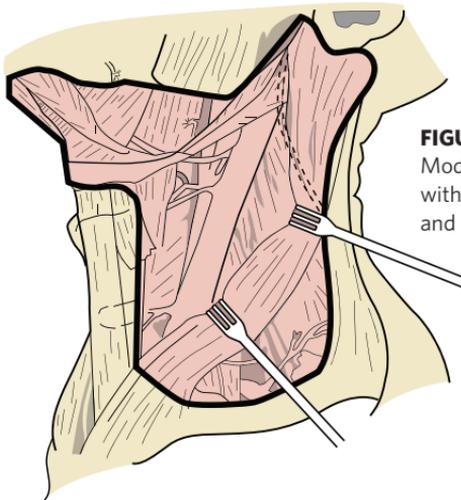
in the posterior aspect of the submandibular triangle), buccinator nodes, retropharyngeal nodes, and midline visceral (central compartment) nodes.

## B. Modified Radical Neck Dissection

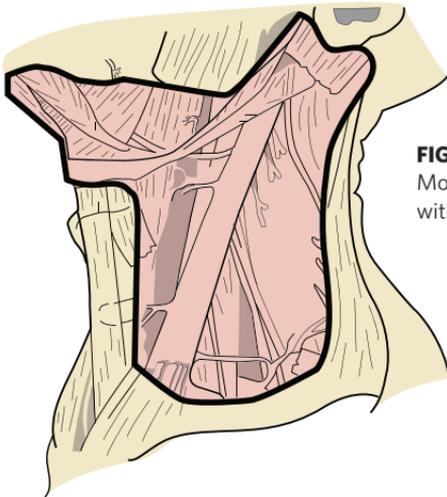
[Modified radical neck dissection](#) (Figures 5a–c) refers to the excision of all lymph nodes routinely removed by the radical neck dissection, with preservation of one or more nonlymphatic structures: i.e., spinal accessory nerve (SAN), internal jugular vein (IJV), and sternocleidomastoid muscle (SCM). The structure(s) preserved should be specifically named—e.g., “modified radical neck dissection with preservation of the spinal accessory nerve.”

## C. Selective Neck Dissection

Selective neck dissection (SND) refers to a cervical lymphadenectomy in which there is preservation of one or more of the lymph node groups that are routinely removed in the radical neck dissection. The lymph nodes groups removed are based on the patterns of metastases that are predictable relative to the primary site of disease. For oral cavity cancers, the lymph nodes at greatest risk are located in Levels I, II, III, and upper IV. The lymph nodes at greatest risk for oropharyngeal, hypopharyngeal, and laryngeal cancers are located in Levels II, III, and IV; for thyroid cancer, they are located in Level VI.

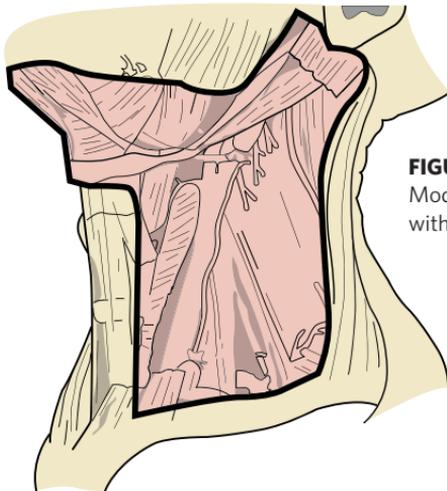


**FIGURE 5A**  
Modified radical neck dissection  
with preservation of SCM, IJV,  
and SAN.



**FIGURE 5B**

Modified radical neck dissection with preservation of IJV and SAN.



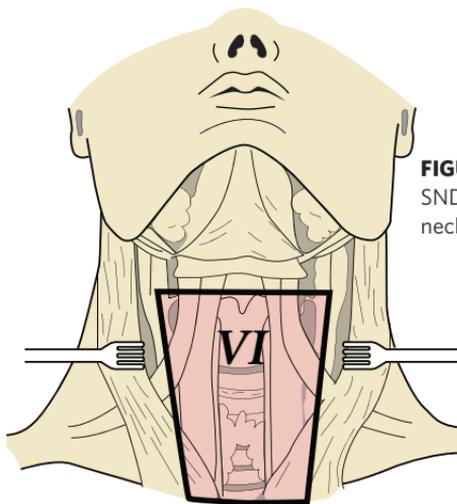
**FIGURE 5C**

Modified radical neck dissection with preservation of SAN.

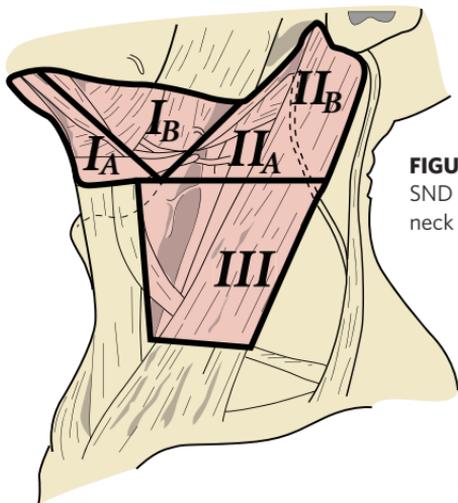
Specific variations of the selective neck dissection include:

- [Anterior Neck Dissection](#)—Includes Level VI (Figure 6).
- [Supraomohyoid Neck Dissection](#)—Includes Levels IA & IB, Level IIA or Levels IIA & IIB, and Level III (Figure 7).
- [Lateral Neck Dissection](#)—Includes Level IIA or Levels IIA & IIB, Level III, and Level IV (Figure 8).
- [Posterolateral Neck Dissection](#)—Includes Levels II, III, IV, & V (Figure 9).

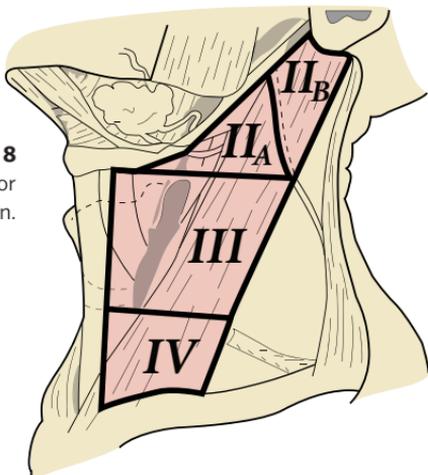
Since there is variation of levels and sublevels associated with the names given to the various types of SND, it is recommended to use the term “selective neck dissection” or “SND,” followed by the levels and/or sublevels removed—e.g., SND (IB, IIA, and III).



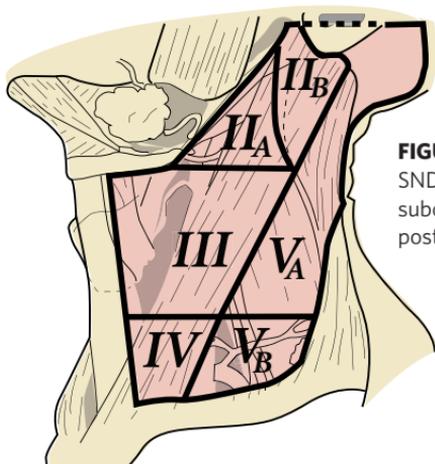
**FIGURE 6**  
SND (Level VI) or anterior  
neck dissection.



**FIGURE 7**  
SND (Levels I-III) or supraomohyoid neck dissection.



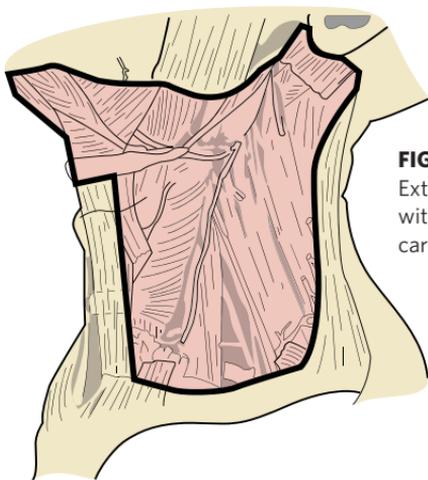
**FIGURE 8**  
SND (Levels II-IV) or lateral neck dissection.



**FIGURE 9**  
SND (Levels II-V), postauricular, suboccipital, external jugular, or posterolateral neck dissection.

## D. Extended Radical Neck Dissection

[Extended radical neck dissection](#) (ERND) refers to the removal of one or more additional lymph node groups or nonlymphatic structures, or both, not encompassed by the radical neck dissection (Figure 10). Examples of such lymph node groups include the parapharyngeal (retropharyngeal), superior mediastinal, perifacial (buccinator), and paratracheal lymph nodes. Examples of the nonlymphatic structures include the carotid artery, overlying skin, hypoglossal nerve, vagus nerve, and paraspinal muscles. The additional lymphatic or nonlymphatic structure(s), or both, should be identified.



**FIGURE 10**

Extended radical neck dissection with removal of the common carotid artery or ERND.

The American Academy of Otolaryngology—Head and Neck Surgery Foundation’s education initiatives are aimed at increasing the quality of patient outcomes through knowledgeable, competent, and professional physicians. The goals of education are to provide activities and services for practicing otolaryngologists, physicians-in-training, and nonotolaryngologist health professionals.

The Foundation’s AcademyU® serves as the primary education resource for otolaryngology–head and neck surgery activities and events. These include expert-developed knowledge resources, subscription products, live events, eBooks, and online education. In addition, the AAO-HNSF Annual Meeting & OTO EXPO<sup>SM</sup> is the world’s largest gathering of otolaryngologists, offering a variety of education seminars, courses, and posters. Many of the Foundation’s activities are available for *AMA PRA Category 1 Credit*<sup>TM</sup>.

Visit [www.entnet.org/academyu](http://www.entnet.org/academyu) to find out how AcademyU® can assist you and your practice through quality professional development opportunities.

## AHNS MISSION

On May 13, 1998, The American Head and Neck Society (AHNS) became the single largest organization in North America for the advancement of research and education in head and neck oncology. The merger of two societies, the American Society for Head and Neck Surgery and the Society of Head and Neck Surgeons, formed the American Head and Neck Society. The American Head and Neck Society remains dedicated to the common goals of its parental organizations:

- To promote and advance the knowledge of prevention, diagnosis, treatment, and rehabilitation of neoplasms and other diseases of the head and neck,
- To promote and advance research in diseases of the head and neck, and
- To promote and advance the highest professional and ethical standards.

For more information about the AHNS, visit [www.ahns.info](http://www.ahns.info).



AMERICAN ACADEMY OF  
OTOLARYNGOLOGY—  
HEAD AND NECK SURGERY

FOUNDATION

American Academy of  
Otolaryngology—Head and  
Neck Surgery Foundation  
1650 Diagonal Road  
Alexandria, VA 22314-2857

Phone: 1.703.836.4444

Fax: 1.703.683.5100

Web: [www.entnet.org](http://www.entnet.org)



The American Head and  
Neck Society (AHNS)  
11300 W. Olympic Blvd.,  
Suite 600  
Los Angeles CA 90064

Phone: 1.310.437.0559

Fax: 1.310.437.0585

Email: [admin@ahns.info](mailto:admin@ahns.info)

Web: [www.ahns.info](http://www.ahns.info)