Standardized Reporting of Neck Adenopathy with the Accepted Nodal Classification Criteria

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Purpose and Rational

In the early 90's The American Joint Committee on Cancer (AJCC) and the American Academy of Otolaryngology Head and Neck Surgery (AAOHNS) agreed to standard image based reporting of neck adenopathy by defined nodal stations. While this classification system is well understood by head and neck surgeons, it is less well understood by general radiologists and occasionally even neuroradiologists. Accurate reporting of involved nodes by level is important for cancer staging and management planning. Failure to report this data in the radiology report, using the standard nomenclature, can lead to miscommunication with referring specialists. This project seeks to improve use of the accepted standard nomenclature for the reporting of head and neck adenopathy on CT or MRI.

Project Resources
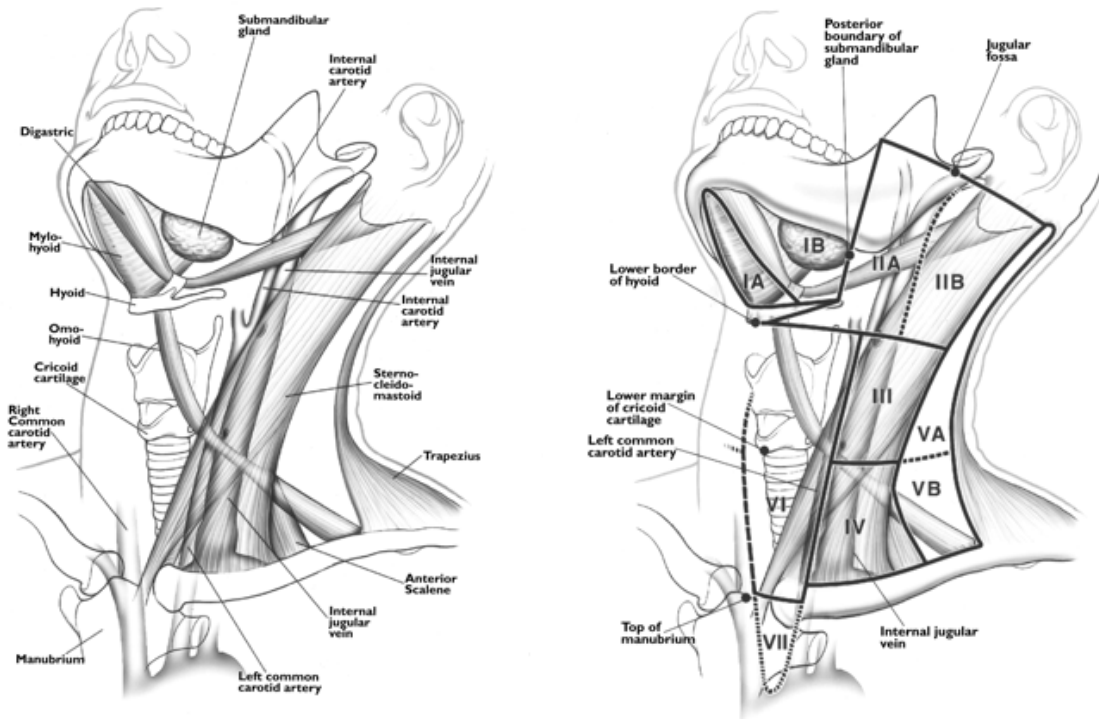
Som, et. al. "Imaging Based Nodal Classification for the Evaluation of Neck Metastatic Adenopathy", AJR:174, Mar 2000.

Project Measures

Numerator: # of sampled reports (Neck CT or MRI with pathological adenopathy) with positive findings using standardized nodal classification system as described in Som et.al.

Denominator: # of sampled reports with positive finding

Baseline Data Collection
Develop a strategy to sample a minimum of 10-30 H&N CT or MRI cases, per quarter, with reports positive for pathological adenopathy. Review the final reports for each exam to determine if the standard nodal classification system was used and score using binary grading, "yes" or "no". This should be a group measure with feedback to individual radiologists.

Potential search strategies:
- ICD9 codes: 784.2, 196 or 200-208.

-CPT codes:
70490 - CT soft tissue neck without contrast
70491 - CT soft tissue neck with contrast
70492 - CT soft tissue without and with contrast
70540 - MRI Face, orbit, neck without contrast
70542 - MRI Face, orbit, neck with contrast
70543 - MRI Face, orbit, neck without and with contrast

Radiology report text search, in RIS or EMR, containing key words such as: node, nodes, or adenopathy. Discard all exams reported as negative for adenopathy.

Data Analysis
The goal is to align the behavior of individual radiologists to improve group reporting metrics. The group should then plan quarterly meetings to analyze data and provide individual feedback. Individual data can be displayed by histogram with individuals anonymized (if desired) by a numerical or alphabetic key. If group reporting is anonymized, consider providing a method so that individual radiologists can understand where they fall within the group metric.

1. First Quarter - Determine baseline and give feedback to individual radiologists. Have radiologists discuss in an open forum strategies to improve group compliance. Strategies might include visual references or report template macros.
2. Second Quarter - Compare metric to baseline data as a group and individually. Discuss potential factors that influence compliance. Consider modifying strategies.
3. Third Quarter - Compare metric to baseline and Quarter 2 data as a group and individually. Discuss ways to maintain sustainability and follow up assessment.

Factors Potentially Influencing Performance:
1. Radiologist lack of awareness of the nodal classification system. <u>Intervention:</u> As part of the initial group meeting, review and discuss the nodal classification system as described in (Som, et.al.).
2. Radiologist failure to use the classification system due to the inconvenience or unfamiliarity of the details and/or complexity of the system. <u>Intervention:</u> Open group feedback and education for individual radiologists to serve as a reminder and improve compliance.
3. The use of standard reporting templates may reduce confusion and further improve compliance. Templates can include memory aids with specific details of the nomenclature system. E.g.
   a. Level 1B = Submental nodes
   b. Level 1B = Submandibular nodes
   c. Level 2A = Upper IJ nodes, jugulodigastric nodes
   d. Level 2B = Upper spinal accessory nodes

e. Level 3 = Mid jugular nodes between hyoid and bottom of cricoid cartilage
f. Level 4 = Low jugular nodes between bottom of cricoid and clavicle
g. Level 5A = Posterior triangle nodes between skull base and cricoid
h. Level 5B = Posterior triangle nodes between cricoid and clavicle
i. Level 6 = Visceral nodes in midline anterior between hyoid and sternal notch
j. Level 7 – Superior mediastinal nodes to level of innominate vein
4. Ready availability of visual memory aids can be placed convenient to the reading stations.

Post Intervention Data Collection
In order to consolidate the changes it is important to have an adequate control period where stability and reliability of the process is documented. Plan to continue quarterly data collection for at least one year and up to 3 years, with distribution of outcomes to all group members. Chart quarterly performance with time and review trend data for addressable patterns.