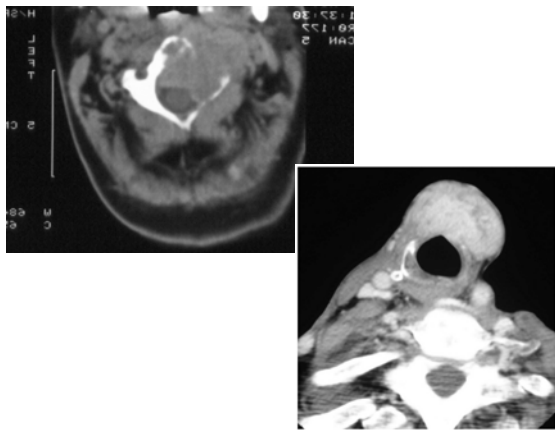
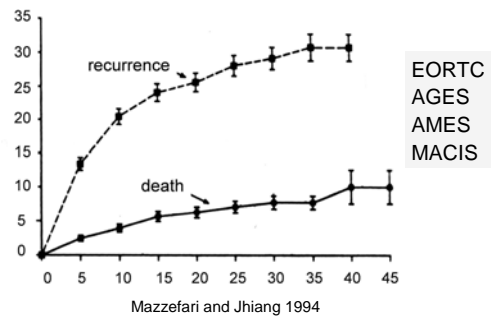


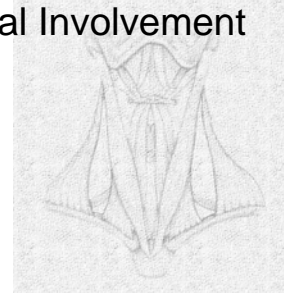
Treatment of Cervical Lymph Node Metastases Differentiated Thyroid Cancer


 R Nason
 Head & Neck Disease Site Group
 CancerCare Manitoba

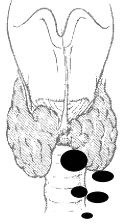
Well Differentiated Thyroid Cancer Natural History and Prognosis



Incidence and Patterns of Nodal Involvement



Incidence of Node Metastases

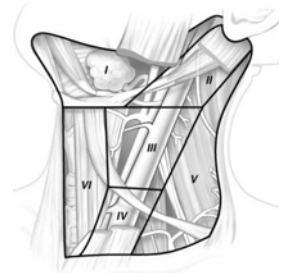


Papillary Ca 30 - 90%
Follicular Ca 10 - 15%

Central Compartment



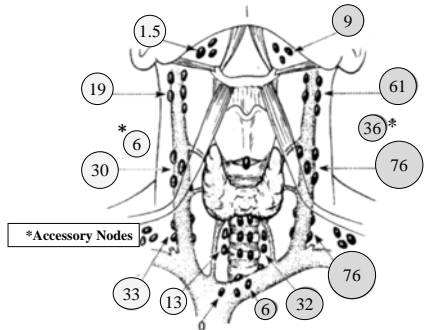
Lateral Compartment



Distribution of Lymph Node Metastases

Frazell and Foote Cancer 1955;8:1164

Clinically Negative Clinically Positive

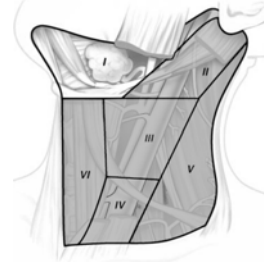


Plan for Selective Neck Dissection

Clinically Negative

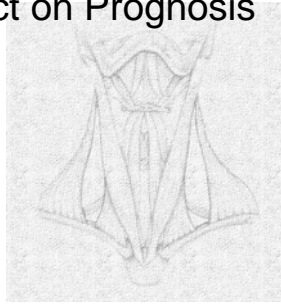
Clinically Positive

VI
?II
III
IV



VI
II
III
IV
V

Impact on Prognosis

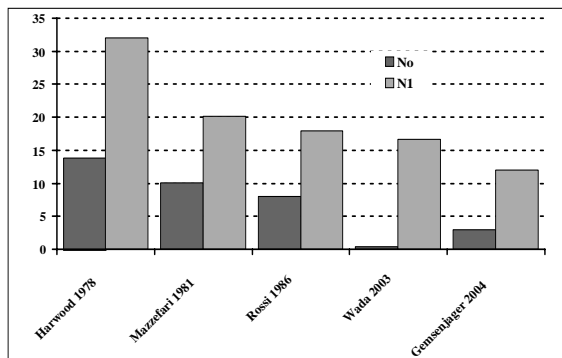


Clinically Significant Prognostic Factors for DTC. A Population-Based, Nested Control Study

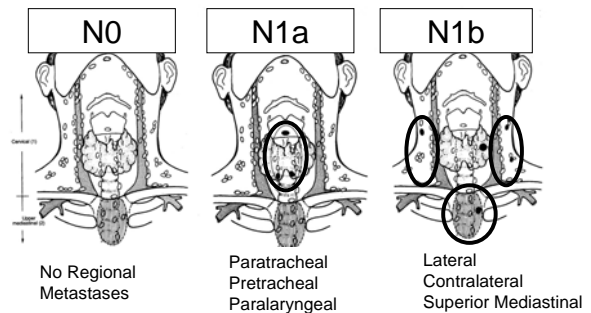
Lundgren et al. Cancer 2006;106(3):524-531

Variable	OR (95% CI)
Stage IV vs Stage II	9.1 (5.7-14.6)
Distant Mets vs No Mets	6.6 (4.1-10.5)
Incomplete vs Complete Tumor Removal	4.2 (3.1-5.6)
Poor vs Well Diff	2.7 (1.8-3.9)
Cervical Node Metastases	2.5 (1.6-4.1)
FTC vs PTC	1.4 (1.1-1.9)

Impact of Lymph Node Metastases in DTC on Recurrence: "Nodes beget Nodes"



TNM Staging N-Regional Lymph Nodes



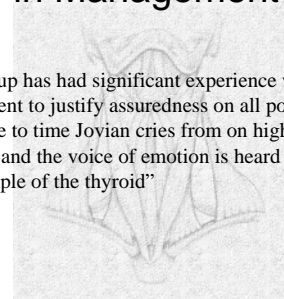
TNM Staging DTC >Age 45

	N0	N1a	N1b
T1	I	III	IV
T2	II		
T3			IV
T4			

Trends in Management

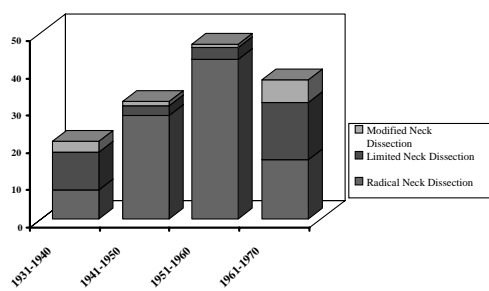
“.... no single group has had significant experience with all forms of treatment to justify assuredness on all points. However from time to time Jovian cries from on high or elsewhere ringout, and the voice of emotion is heard throughout the temple of the thyroid”

Frazzle & Foote 1955



Cervical Node Metastases-Trends in Management

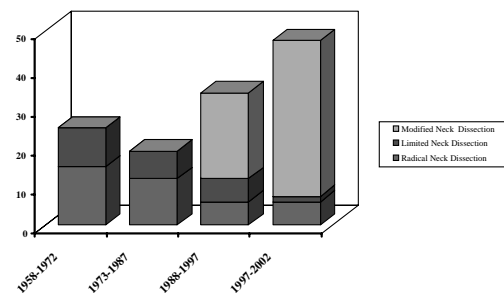
1930 - 1970



Cady et al. Ann Surg 1976;184(5):541-553

Frequency and Type of Lymph Node Dissection

1958-2002



Palazzo et al. EJSO 2006;32:340-344

Elective vs Therapeutic Neck Dissection II

Study Site	Lymph Node Dissection	Death from Thyroid Ca
Helsinki (n=199)	No Information	11.1
Goteborg (n=195)	Microdissection	1.6
Bergen (n=167)	Node Picking	8.4

Tissel et al. World J Surg 1996;20:854-859

Elective Treatment of the Central Compartment

Arguments for:

- High Incidence of metastases
- Low risk of complications with elective dissection
- High risk of complications with re-operation

Elective Treatment of the Central Compartment

Arguments against:

- No evidence of survival benefit
- Higher incidence of hypoparathyroidism
- Re-operation can be done relatively safely

TT VS TT & CND

Complications

	TT	TT & CND
Nerve Palsy	0%	1.8 - 1.9%
Transient Hypocalcemia	8 - 9.6%	14 - 58%
Permanent Hypocalcemia	0- 0.5%	1- 4.6%

Henry Arch Surg 1998 Sywak Surgery 2006
 Steinnmuller Arch Surg 1999 Roh Head Neck 2006
 Periera Surgery 2005

Morbidity following central compartment reoperation for recurrent or persistent thyroid cancer.

Kim et al. Arch Otolaryngol Head Neck Surg. 2004;130:1214-16

- Nerve Palsy 0%
- Transient Hypocalcemia 20%
- Permanent Hypocalcemia 5%

Elective Treatment of the Central Compartment

The risk/benefit ratio - a personal perspective

	TT (n=100)	TT & CND (n=100)
Transient Hypocalcemia	5	20
Permanent Hypocalcemia	1	3
Re-operation (Central)	10	0
Hypocalcemia with Re-operation	1	-
Cummulative Risk of Hypocalcemia	2	3



Node Picking and Recurrence

Extent of Dissection	Recurrence (%)
Node Picking	100
Formal Dissection	9

Musacchio et al. Am Surg 2003;69(3):191-196

Summary

Biology of Cervical Lymph Nodes WDTC

- Lymph node metastases are common
- Influence on overall survival is minor
- They do influence recurrence
- Clinical significance increases in older patients



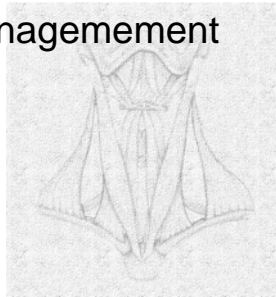
Summary

Management of Cervical Lymph Nodes WDTC

- Elective neck dissection is difficult to justify
- Limited neck dissections for positive nodes are not acceptable
- Compartment orientated selective neck dissections are indicated for positive nodes



Recommendations for Management

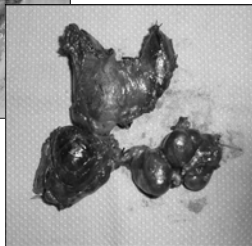
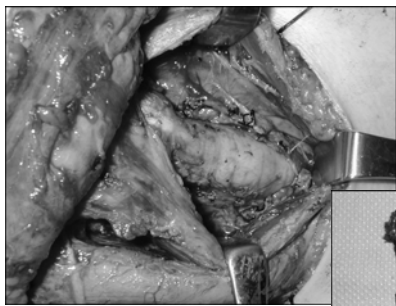
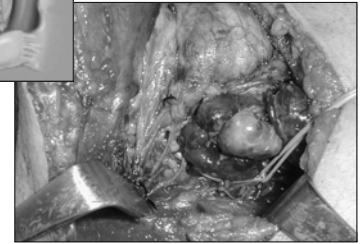
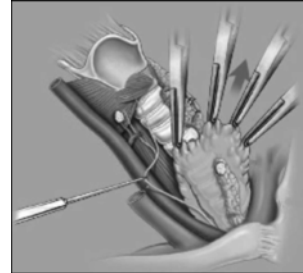


Imaging for LN Metastases

- Size is not the only criteria
- Characteristics
 - Shape
 - Echogenicity
 - Punctate calcification
 - Cystic change
- Anatomic imaging important for determining the location and extent of metastases

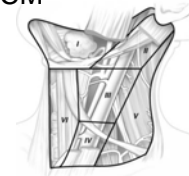
The Central Compartment

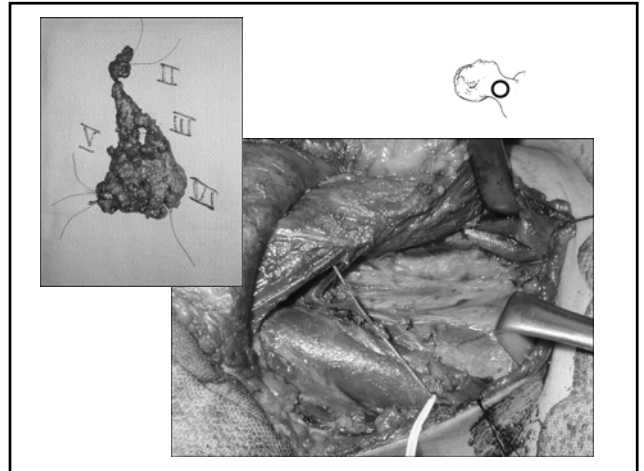
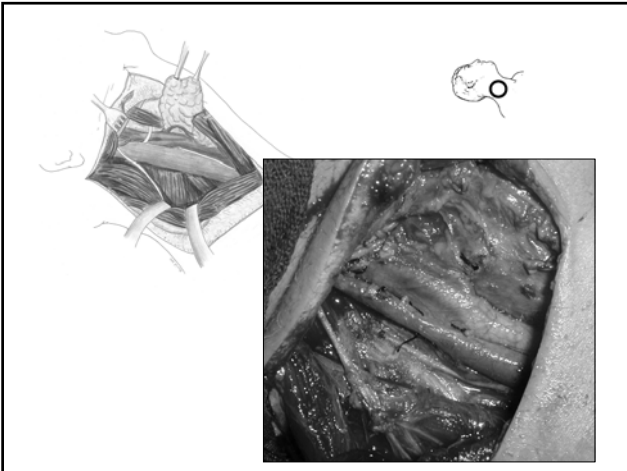
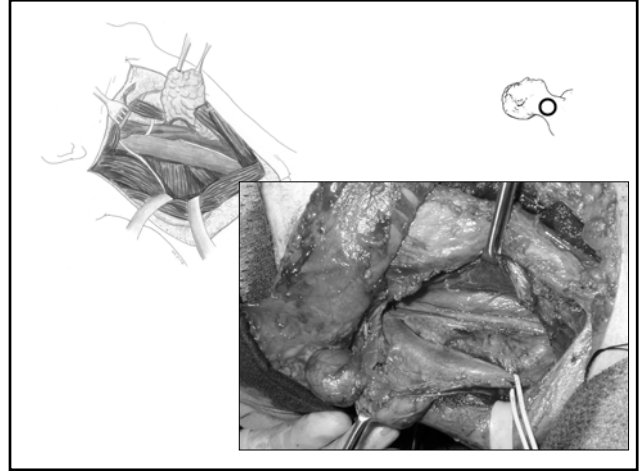
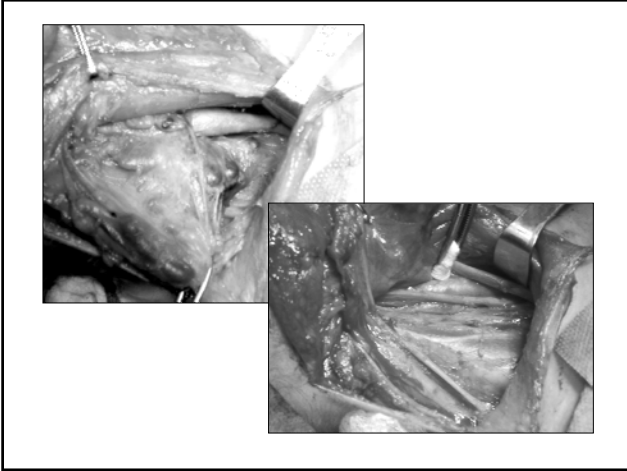
- Careful assesment with thyroidectomy
- Central compartment dissection for positive nodes

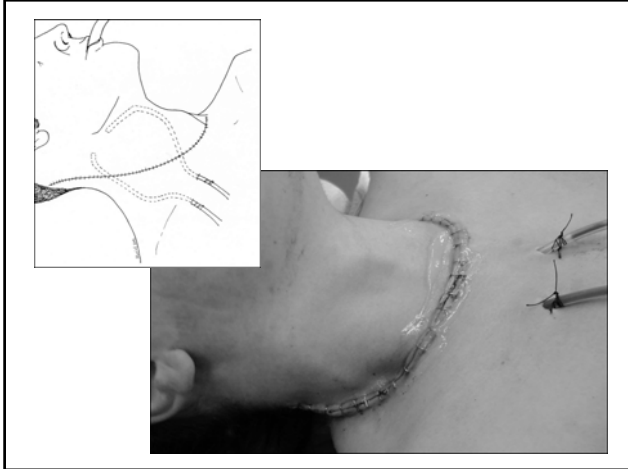


The Lateral Compartment

- Pre-operative imaging
- Selective neck dissection II-V for positive nodes
- Preservation AN, IJV, SCM







Postoperative Management

Adjunctive Treatment

- RAI
- TSH Suppression 0.05-0.1

Follow-up

- Thyroglobulin
- Selective Imaging



Controversies

- Elective dissection of the central compartment
- Efficacy of RAI for No disease
- Routine post-operative surveillance with US
- Surgical threshold for central compartment re-exploration



Recurrent Disease



Recurrent Disease

Central Compartment Re-operation

- Imaging is essential
- Confirm diagnosis with FNAB
- +/- Intraoperative RLN monitoring
- Find RLN inferiorly
- Preserve superior parathyroids

