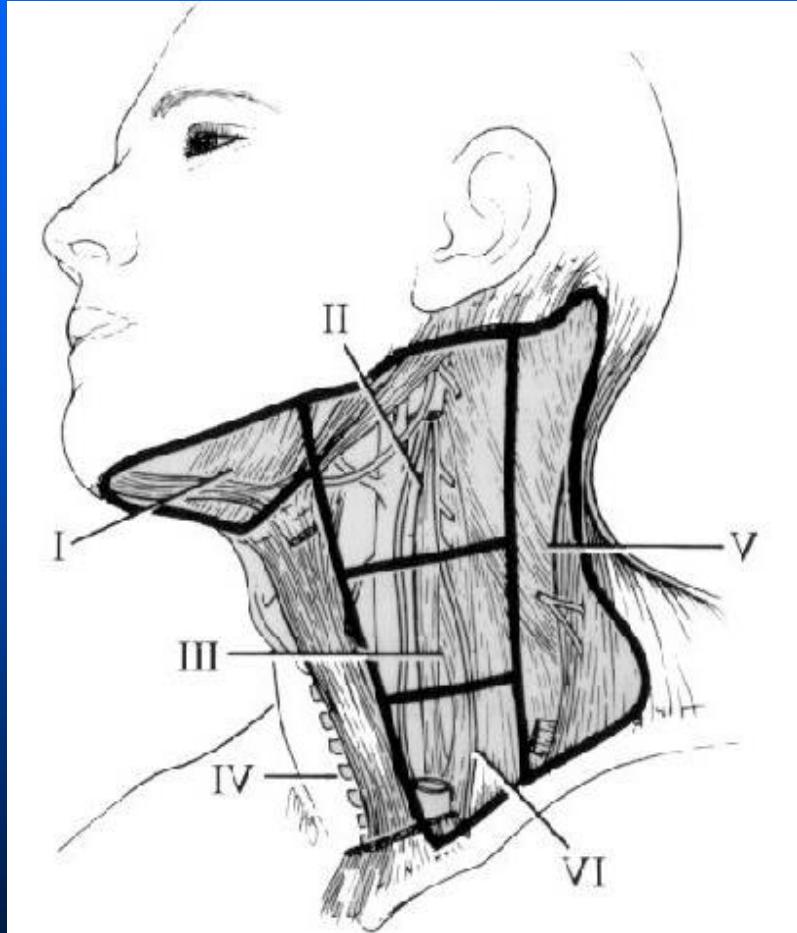


# Neck Lymph nodes



- **I**--*Submental and submandibular nodes*
  - 1A medial to the **anterior belly of the digastric**
  - 1B Lateral to the **anterior belly of the digastric**
- **II**--*Upper jugulodigastric group* *Hyoid separates 2 and 3*
  - 2B posterior to **Jugular** with fat plane between the node and IJV, everything else is 2A
- **III**--*Middle jugular nodes* *draining the naso- and oropharynx, oral cavity, hypopharynx, larynx. Cricoid cartilage separates 3 and 4*
- **IV**--*Inferior jugular nodes* *draining the hypopharynx, subglottic larynx, thyroid, and esophagus.*
- **V**-- *Posterior triangle group, posterior to the SCM muscle*
- **VI**--*Anterior compartment group*
- **VII**--*Mediastinal compartment group*

# Stations

## Lymph Node Classification

- **Level I**
  - Submental (IA)
  - Submandibular (IB) Anterior and lat to submadibular
- **Level II - IJV chain above hyoid**
  - IIA - anteromedial to IJV
  - IIB - posterior to IJV with fat plane
- **Level III - IJ chain b/w hyoid & cricoid**

1:19

# Stations

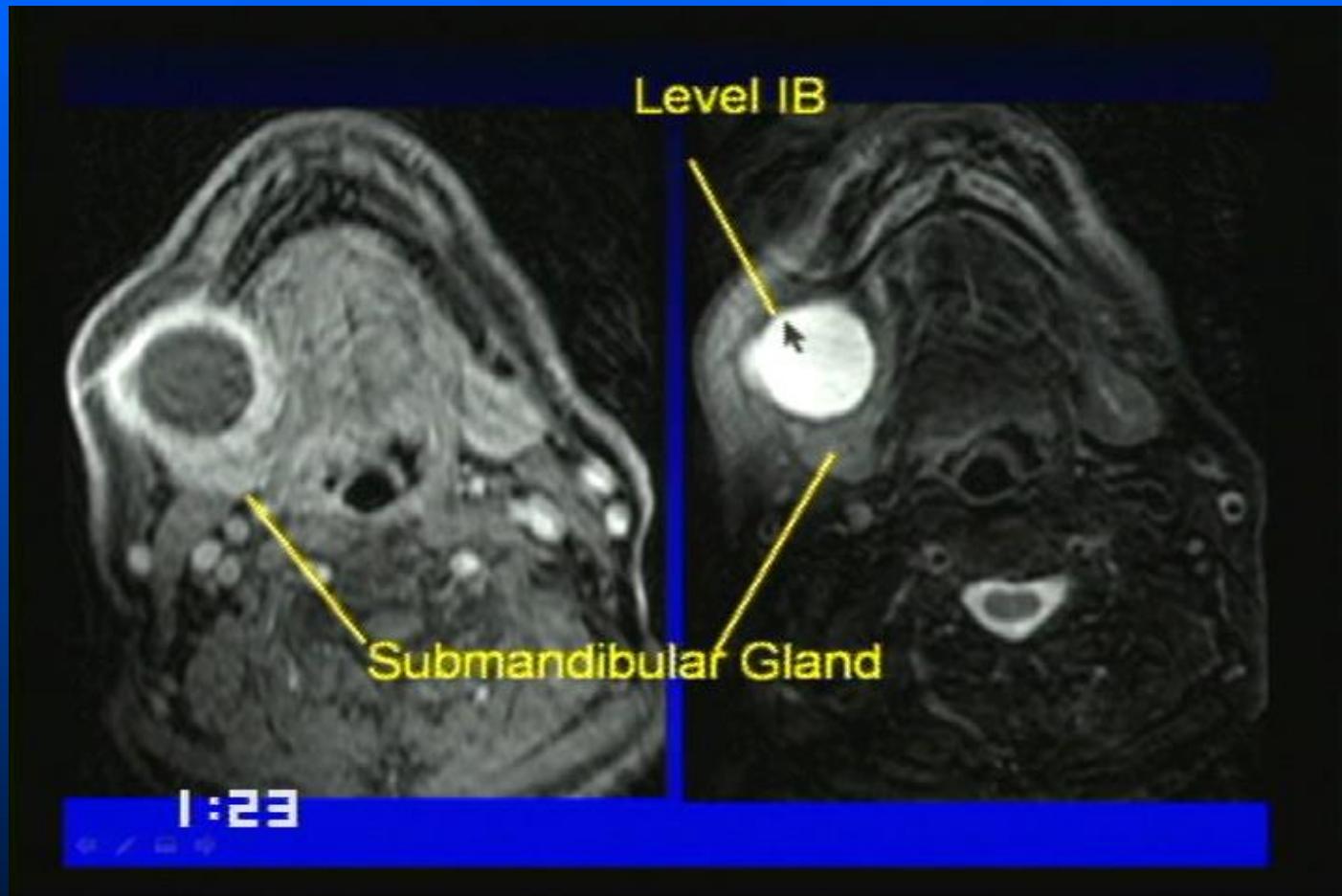
## Lymph Node Classification

- **Level IV** – lower jugular nodes below cricoid arch to clavicle
- **Level V** - Spinal accessory chain: nodes behind SCM from skull base to cricoid
- **Level VI** – Upper visceral nodes between carotid arteries b/w hyoid & manubrium      Important for recurrent laryngeal and thyroid ca

# Nodes

- Ct best
- Need contrast to see necrosis in small nodes
- Extracapsular spread – minimum of modified radical.
- Size criteria: (arbitrary).
  - 1.5 cm - for level 1 and 2.
  - Retropharyngeal Nodes - if cancer  $> (8- 6)$  mm should be worried.
  - 1 cm for rest

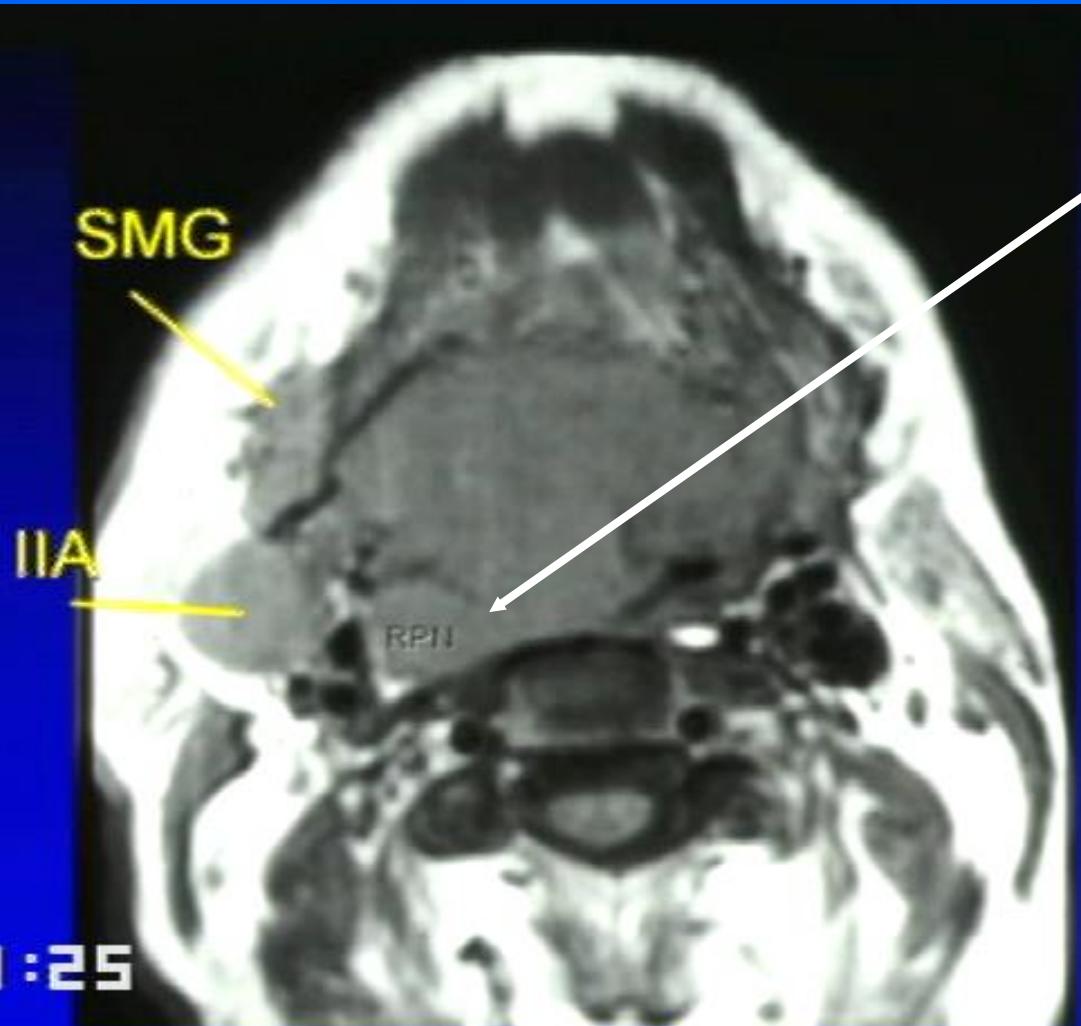
# Necrotic 1B



# Level 2A behind gland



# More Nodes



- Retropharyngeal Nodes
  - Between prevertebral musculature and medial to carotids.

# MRI

## **IMAGING TECHNIQUE** **MAGNETIC RESONANCE**

- Sagittal & axial T1W
- Axial T2W-FSE with Fat saturation
- Post - gadolinium T1W with Fat saturation

I:IB

# Low density Nodes

## **LOW DENSITY NODES**

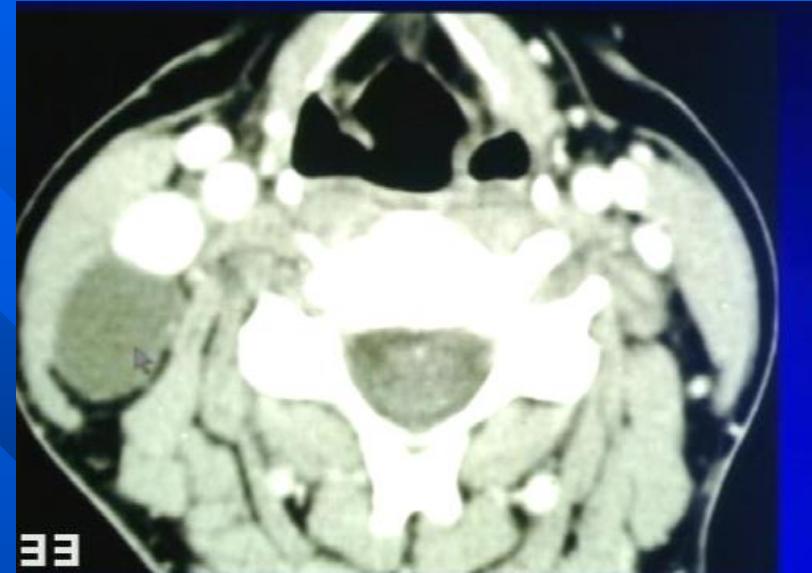
- **Metastases – SCCA**
  - Necrosis
  - Cystic
- **Thyroid CA** Pappillary
- **Inflammatory - TB**
- **Rarely NHL**

# Cystic LN

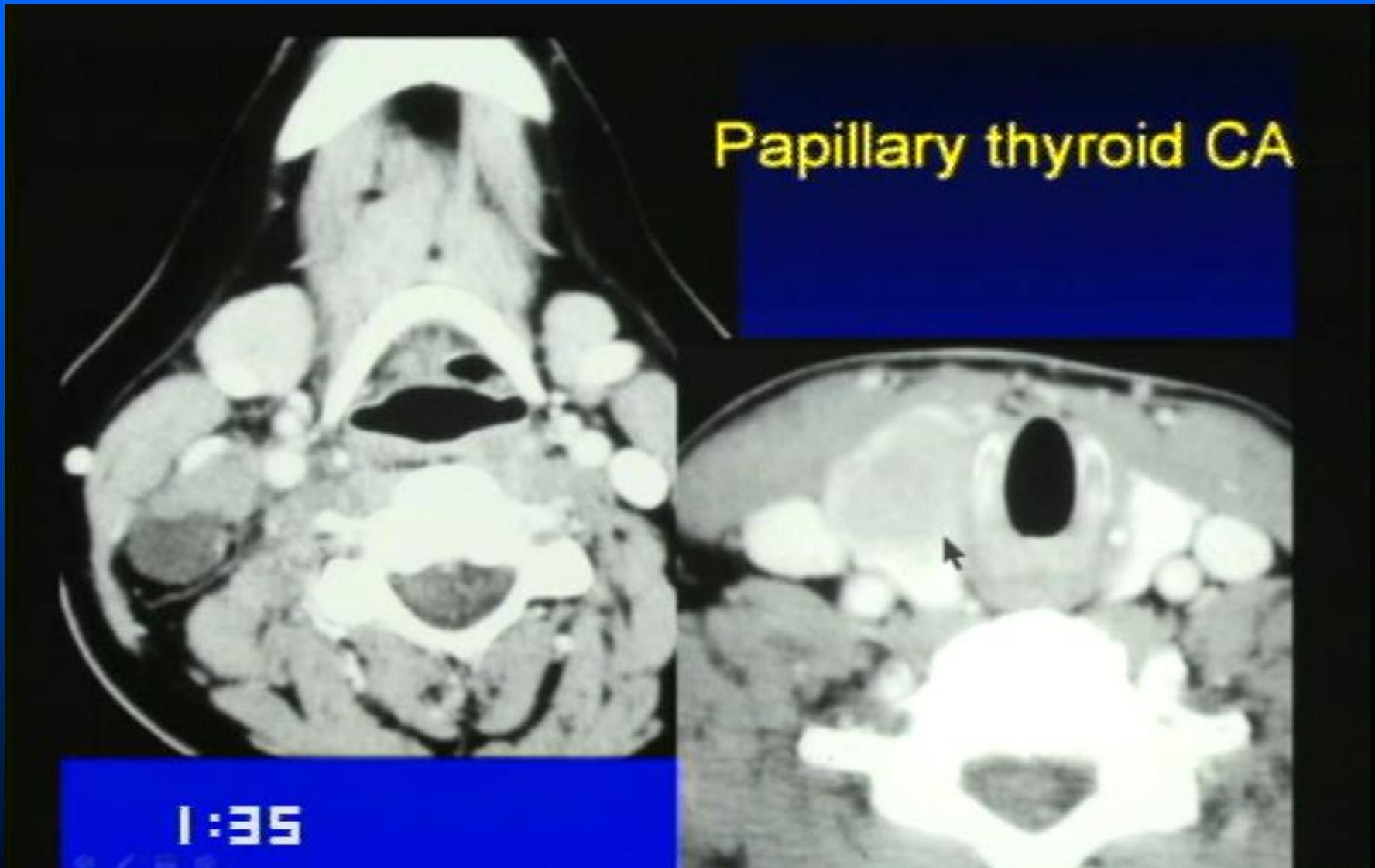
**Cystic Lymph Nodes in  
SCCA**

**Oropharynx Carcinoma**

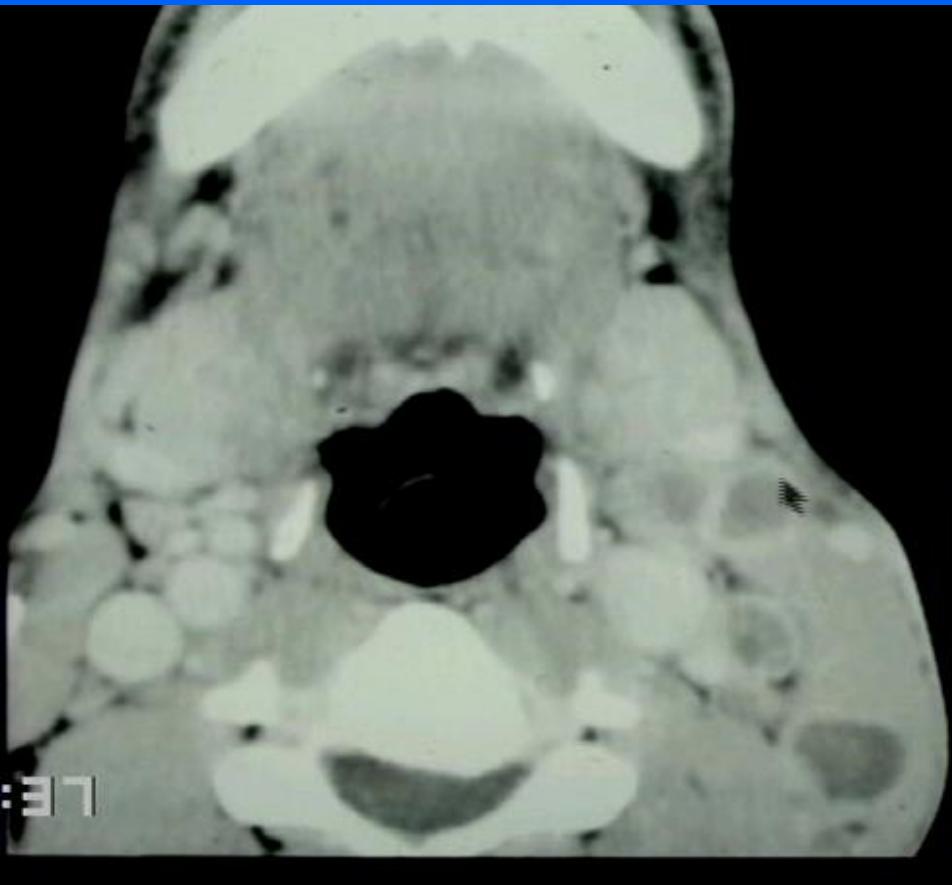
- Tonsillar cancer
- Base of tongue cancer



# Papillary thyroid cancer



# TB



Tend to be well demarcated with preserved fat planes; atypical in immunocompromised can be more infiltrative.

# Retropharyngeal Nodes

## Retropharyngeal Nodes

Pharyngeal Cancer

Nasopharynx and oro

1:40

# Retropharyngeal Nodes



Clinicians cannot see or feel

Between prevertebral musculature and medial to carotids; if cancer  $> (8- 6)$  mm should be worried.  
Need to look down to hyoid where space is rich in LN's.

# Staging

## **TNM STAGING**

- **N0** = Negative
- **N1** = Single, IPSILAT LN - < 3 cm
- **N2a** = Single, IPSILAT LN - >3,  $\leq$  6 cm
- **N2b** = Multiple, IPSILAT LN -  $\leq$  6 cm
- **N2c** = BILAT or CONTRALAT LN -  $\leq$  6 cm
- **N3** = LN mets - > 6 cm

1:47

# Malignant Nodes

## MALIGNANT NODES

- Extracapsular extension
  - Poorly defined nodal margins
  - Infiltration adjacent tissues, fat
  - Size: 25% LN < 1 cm; 50% 2-3 cm; 75% > 3 cm
- Carotid invasion → Microscopic spread
  - < 180; 180-270; > 270 circumference; BOT
- Extension to skull base

1:49

# Carotid Encasement

## PATHOLOGIC NODES

### Circumference:

- < 180 : no invasion
- > 270 : invasion
- 180 to 270 : gray zone

### Carotid balloon occlusion test

0:00

# Skull base

## PATHOLOGIC NODES

- Extension to the skull base
- Prevertebral muscle invasion

0:01

Inoperable

# Prognosis

## **MALIGNANT NODES**

- 50% Decrease in patient prognosis
- 50% Less if bilateral nodal disease
- 50% Less when extracapsular spread
- 50% Less when nodal fixation

0:04