

# UPDATE IN HEAD & NECK MALIGNANCIES AND THYROID MALIGNANCY



**Association of Surgeons of India**

Dindigul City Branch

&

**Department Of General Surgery**

GMCH, Dindigul



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- **NABH ASSESSOR**



## CME PROGRAMME

*on the occasion of Superannuation of*  
**Prof. Dr. K.K. Vijayakumar** MS.,  
Dean, GMCH, Dindigul.





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&  
DEPARTMENT OF GENERAL SURGERY  
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05-06-2022



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Designate Professor  
Department of Paediatrics  
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Associate Professor  
Department of Obstetrics and Gynaecology  
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Department of General Surgery  
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**GOVT RAJAJI HOSPITAL - MADURAI**




# GOVT ROYAPETTAH HOSPITAL - CHENNAI

# CANCER TREATMENT



Fact  
should know **FIRST?**



- 
- A cartoon illustration of a hand with a black outline, pointing towards the text box.
- **I am a HEAD & NECK surgeon**
  - **I have completed my cancer surgery with R0 resection-satisfied loco regional clearance**
  - **Pt will get cure by my surgery?**





**Patient needs adjuvant treatment as per protocol**



IS OPERATING SURGEON REALLY A **PROGNOSTIC FACTOR?**

**YES**

# IS OPERATING SURGEON REALLY A **PROGNOSTIC FACTOR**?

**Surgeon as a prognostic factor in the management of Head & Neck Cancer.**

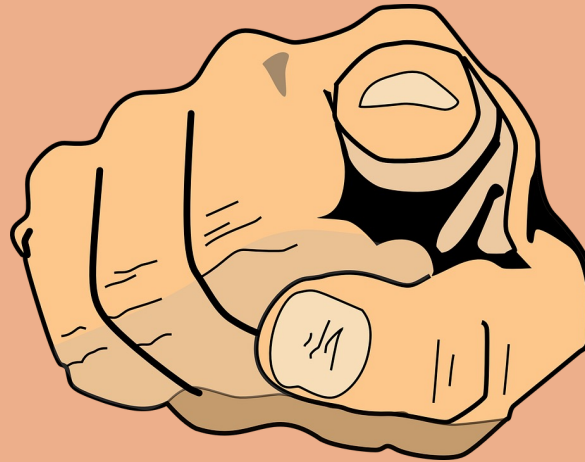
**Surgeon's skill and expertise matters not hospital volume**



there is a difference....

**ONCOLOGICAL OUTCOME**

# YOUR RESPONSIBILITY



**ACHIEVING BEST OUTCOME**

# HOW CAN REACH THE **BEST OUTCOME?**

---



# AIM- ONCOLOGY

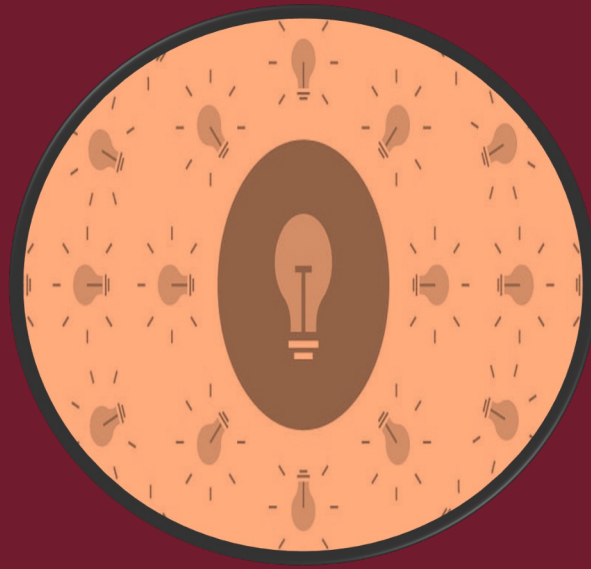
**Cure the cancer**

**Minimize the treatment related complications**



# SAFETY MARGIN IN IS NARROW





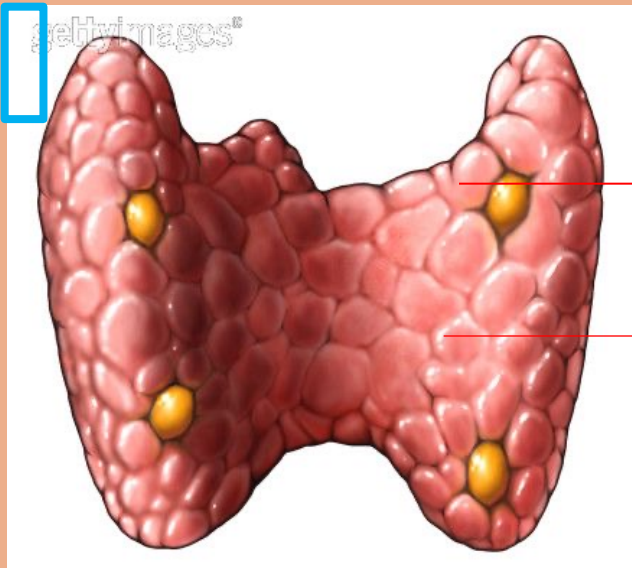
**CONCEPT**



# WHAT IS HEAD&NECK CANCER

- Head and neck cancers are derived from the mucosal epithelium in the oral cavity, pharynx and larynx and para nasal sinus
- Are known as head and neck squamous cell carcinoma (HNSCC)

# WHAT IS THYROID CANCER



**Follicular cells**

**Differentiated**

**Papillary**

**Follicular**

**Hurtle Cell**

**Anaplastic**

**Parafollicular cells**

**Medullary**

# ORAL CANCER



# BENIGN THYROID LESION

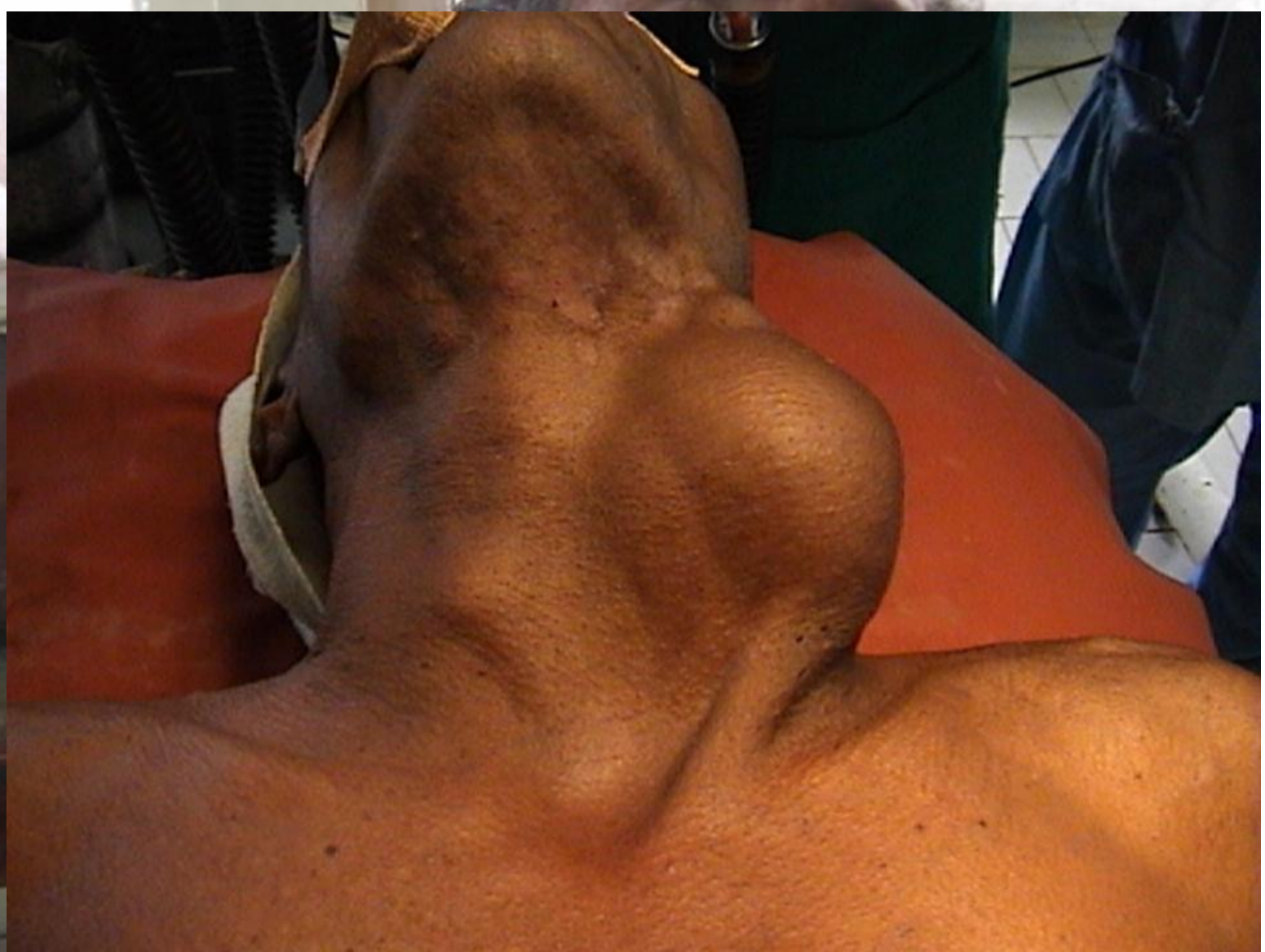




# THYROID CANCER



# CERVICAL NODE



# CONCEPT IN ONCOLOGY ?



- **DIAGNOSE THE CANCER**

- **EVALUATING THE TUMOR BIOLOGY**

- **STAGING THE DISEASE**

- **ASSESS THE GENERAL CONDITION OF THE PATIENT**

- **FORMULATE THE TREATMENT**





## ROAD MAP..

- **Multidisciplinary Tumor Board**  
**Finalize tumor staging**  
**Formulates treatment plan**

# WHY MULTIMODAL ATTACK ?

- High success rate
- Toxicity of individual treatment is less
- Treatment efficacy will be high



The  
Guardian





**APPROACH**

# PREOPERATIVE ASSESSMENT



## ORDER OF EVALUATION

**History and physical examination,**

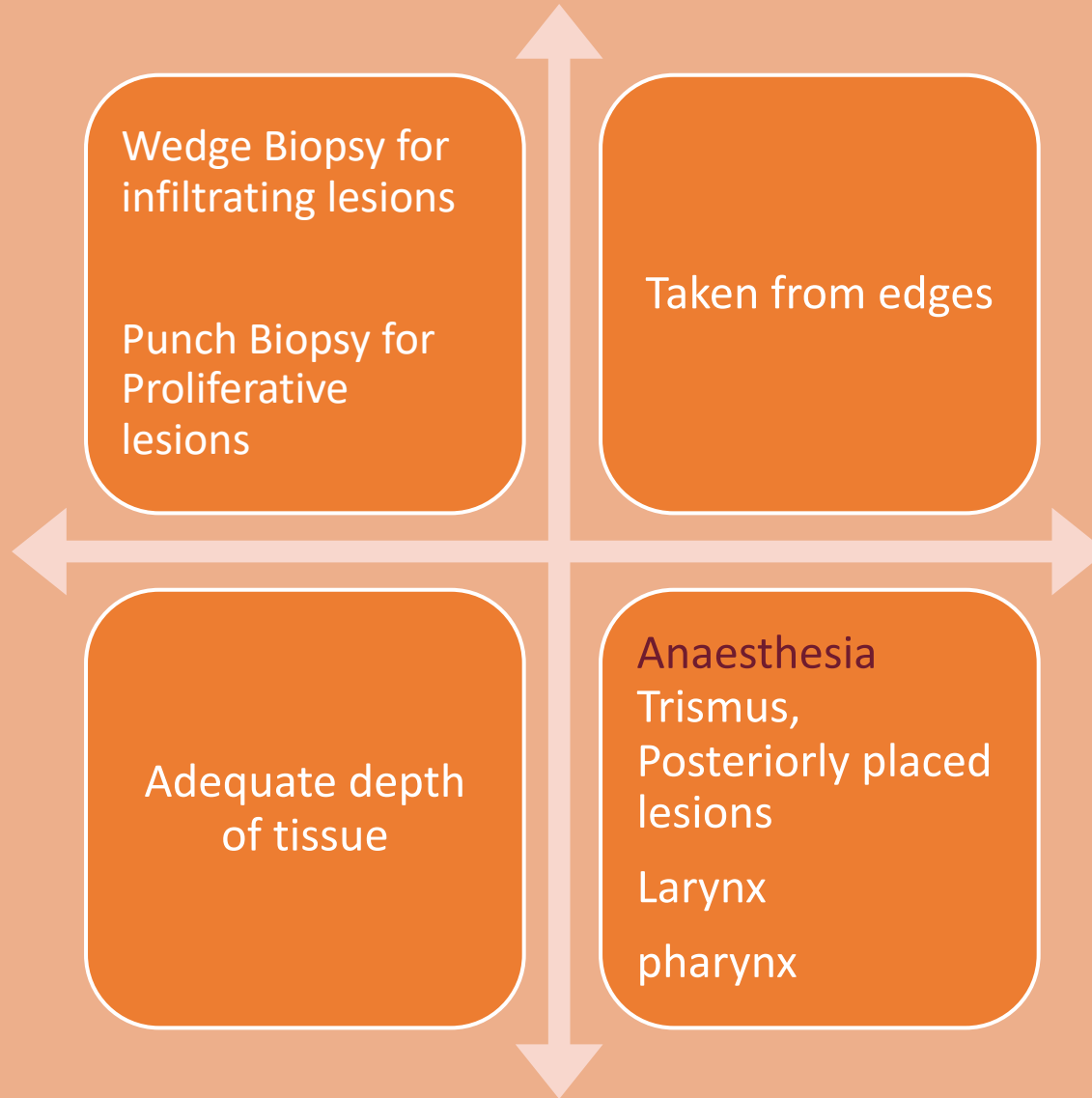
**Biopsy for confirmation**

**Images for assessing the extent**

**Stage formulation**

**Treatment planning in tumour board**

# CONFIRMATION OF DIAGNOSIS

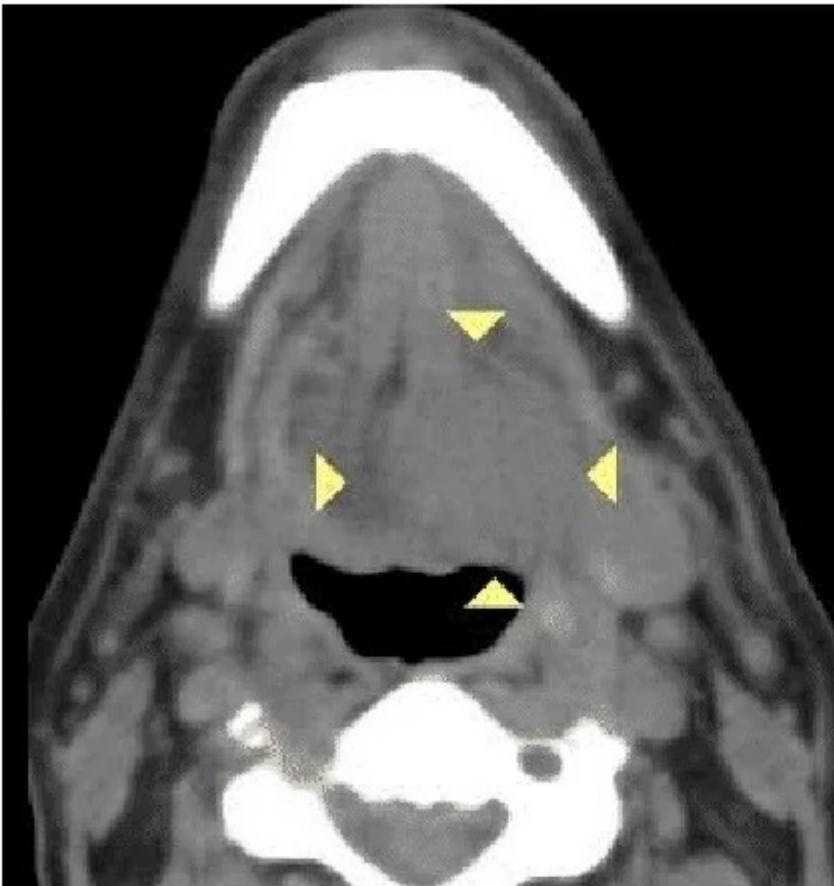


# LOCAL ASSESSMENT

- CLINICAL
- CT SCAN
- MRI SCAN



# PET CT - RECURRENCE



CT Scan



PET Scan



# METASTATIC WORKUP

Based on the natural history of the disease, images of the common site of metastasis are to be done.

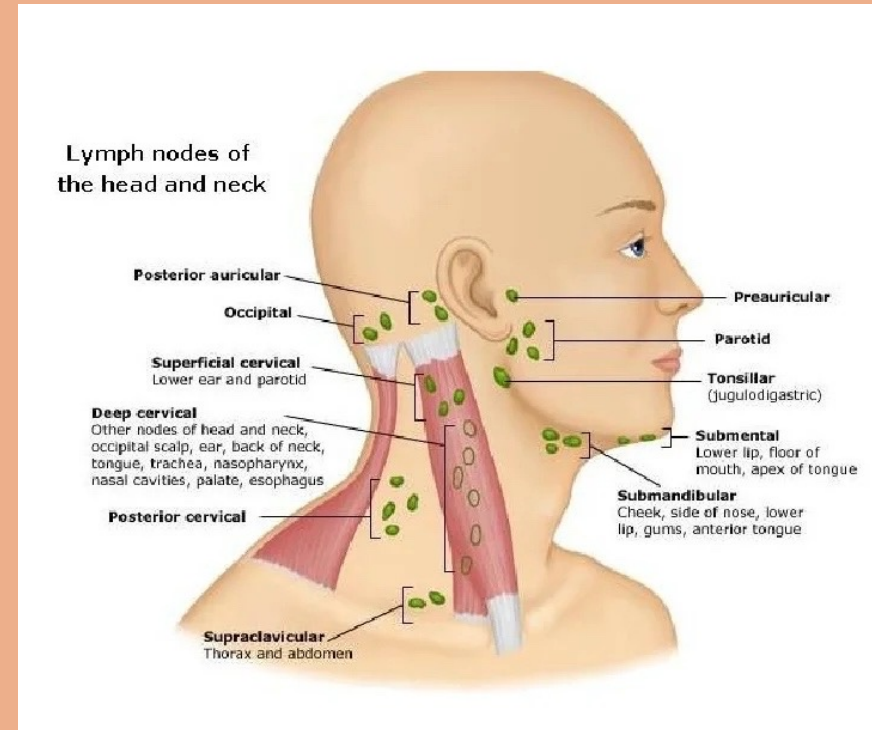
- **CT lung**

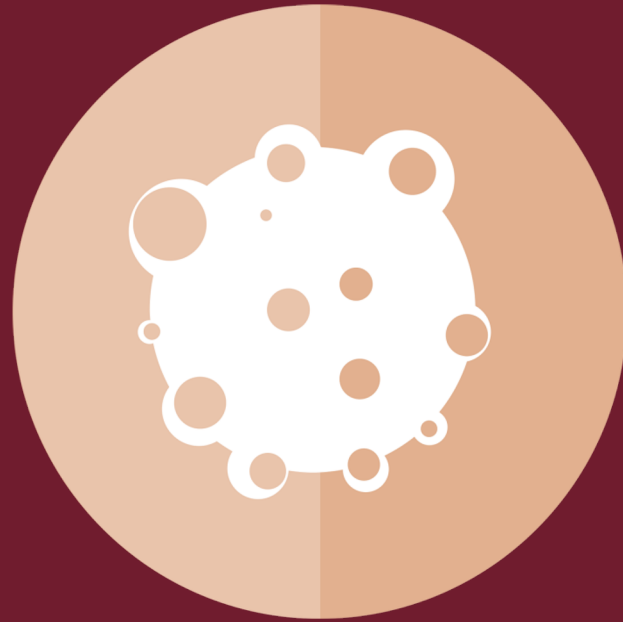
# THYROID CANCER

- CONFIRMATION OF DIAGNOSIS
  - FNAC
- TO ASSESS INVASION , NODAL STATES
  - CT scan M R I
- METASTATIC WORKUP
  - X-ray chest

# NODAL METASTASIS

- In HEAD & NECK cancer lymph nodal involvement is a regional disease and having prognostic significance
- In Thyroid cancer lymph nodal involvement is not a prognostic factor





# BIOLOGY OF CANCER

# TUMOR BIOLOGY

- **WHAT IS?**
- **BEHAVIOUR OF THE TUMOUR**  
(aggressive vs indolent)
- **Dictated by the molecular genetics**



## HOW TO EVALUATE?

- BY STUDYING THE TUMOR MARKER
- MOLECULAR GENETICS

## HOW IT WILL BE HELPFUL?

- ASSESS THE PROGNOSIS
- PLAN FOR TARGETED THERAPY

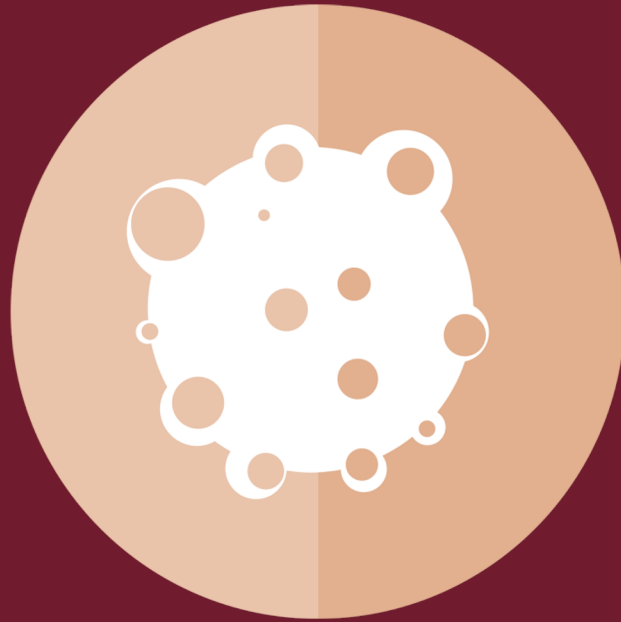
**ANY BIOLOGICAL FACTOR  
INFLUENCE THE OUTCOME,**

**IT IS INCORPORATED IN THE STAGING**

# THYROID CANCER

AGE

is incorporated in stage grouping



# ONCOLOGY PRINCIPLE



# TREATMENT OPTIONS

## STAGE 1 & 2

Less than 4 cm and node negative  
no bone , skin , nerve invasion

surgery or R.T

## STAGE 3 & 4

surgery and R.T

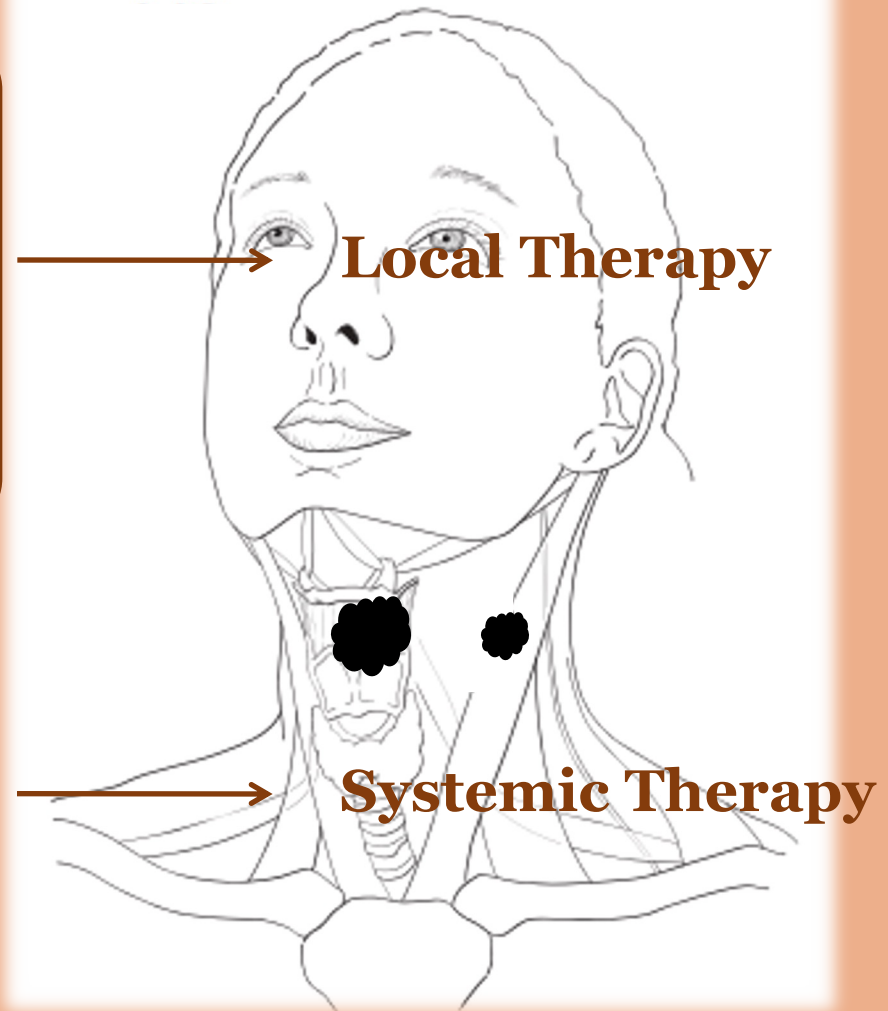
Primary Tumor (Local Disease)



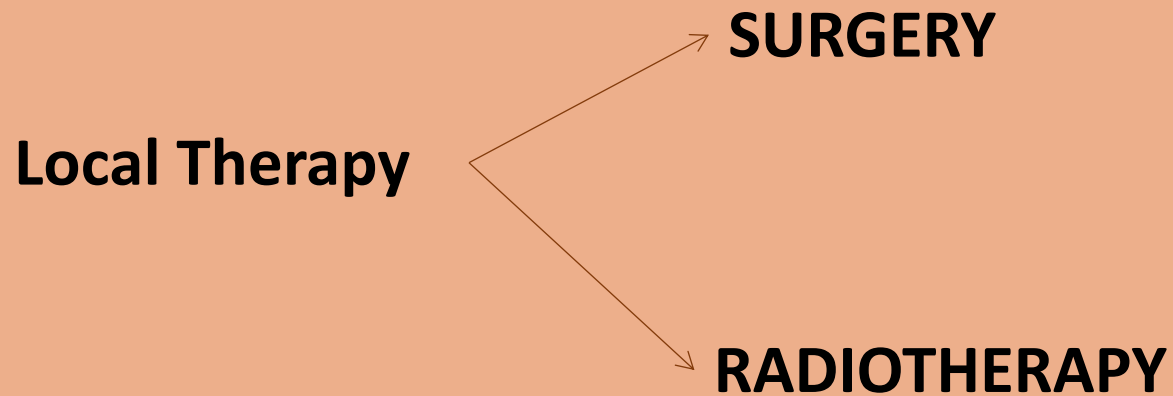
Lymph Node (Regional Disease)



Lung Mets (Systemic Disease)



# LOCOREGIONAL CONTROL



# ADVANTAGES OF SURGERY OVER RT



- 1 Accurate staging is possible.
- 2 Treatment duration- short
- 3 Patient satisfaction by removing the tumour.

# TREATMENT OPTIONS -SURGERY

Sx





# TREATMENT OPTIONS -RT

RT



T 1 2 3

N 1 2

T4

operable

N 3

M

inoperable

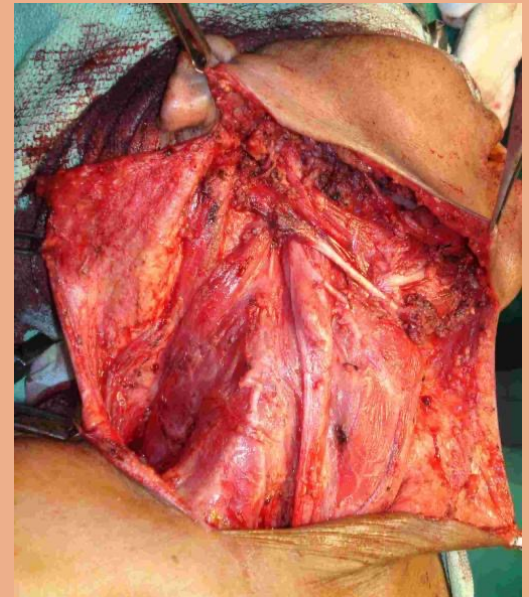
# NECK NODES BASED ON ANATOMY

- Levels of neck nodes
  - Level I A submental & submandibular
  - Level II upper deep cervical
  - Level III middle cervical
  - Level IV lower deep
  - Level V posterior triangle
  - Level VI central neck
  - Level VII superior mediastinal



# NECK DISSECTION BASED ON ANATOMY

- Comprehensive neck dissection
  - Radical neck dissection
  - Extended radical neck dissection
  - Modified radical neck dissection
- Selective neck dissection



# Recent American Thyroid Association Guidelines

## Arguments for Total Thyroidectomy in Well-Differentiated Thyroid Carcinoma





# TOTAL THYROIDECTOMY. WHY

- Lowest recurrence rate in all patients
- Prevention of recurrence in the contralateral lobe
- Reduces the risk of developing pulmonary metastasis
- Can be performed with the same morbidity and mortality as lobectomy



# SURGICAL PRINCIPLE

## Achieving R<sub>0</sub> Resection –

Excision of tumor with wide clearance & lymphadenectomy  
With appropriate reconstruction

A large, bold, dark red letter 'R' is positioned on the left side of the slide. It is the first letter of the word 'RESECT'.

ESECT

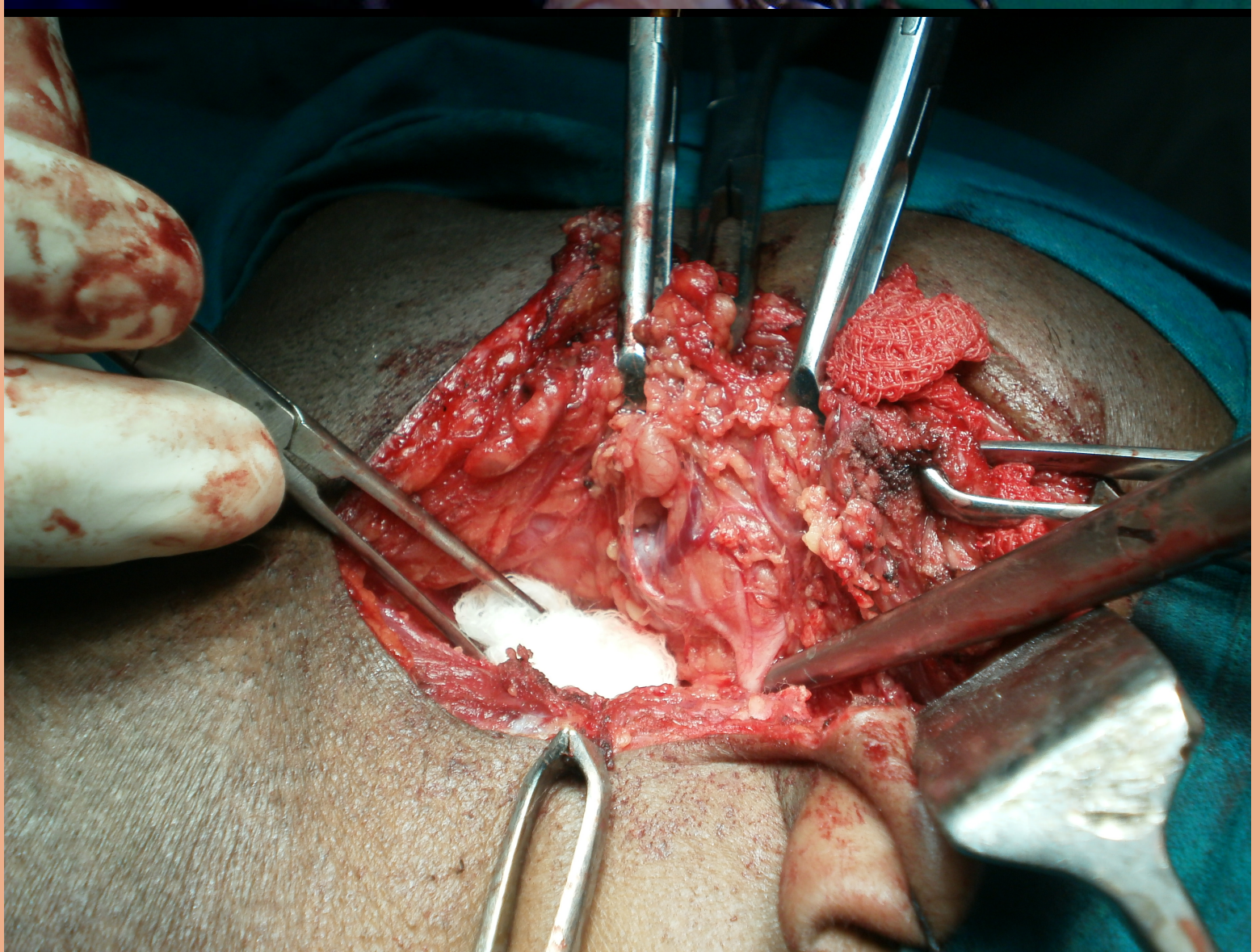
ECONSTRUCT

EHABILITATE

- It does not compromise

**Radicality of resection**

# FACIAL NERVE DISECTION





# CANCER LIP RECONSTRUCTION



# CANCER BUCCAL MUCOSA FORE HEAD FLAP RECONSTRUCTION

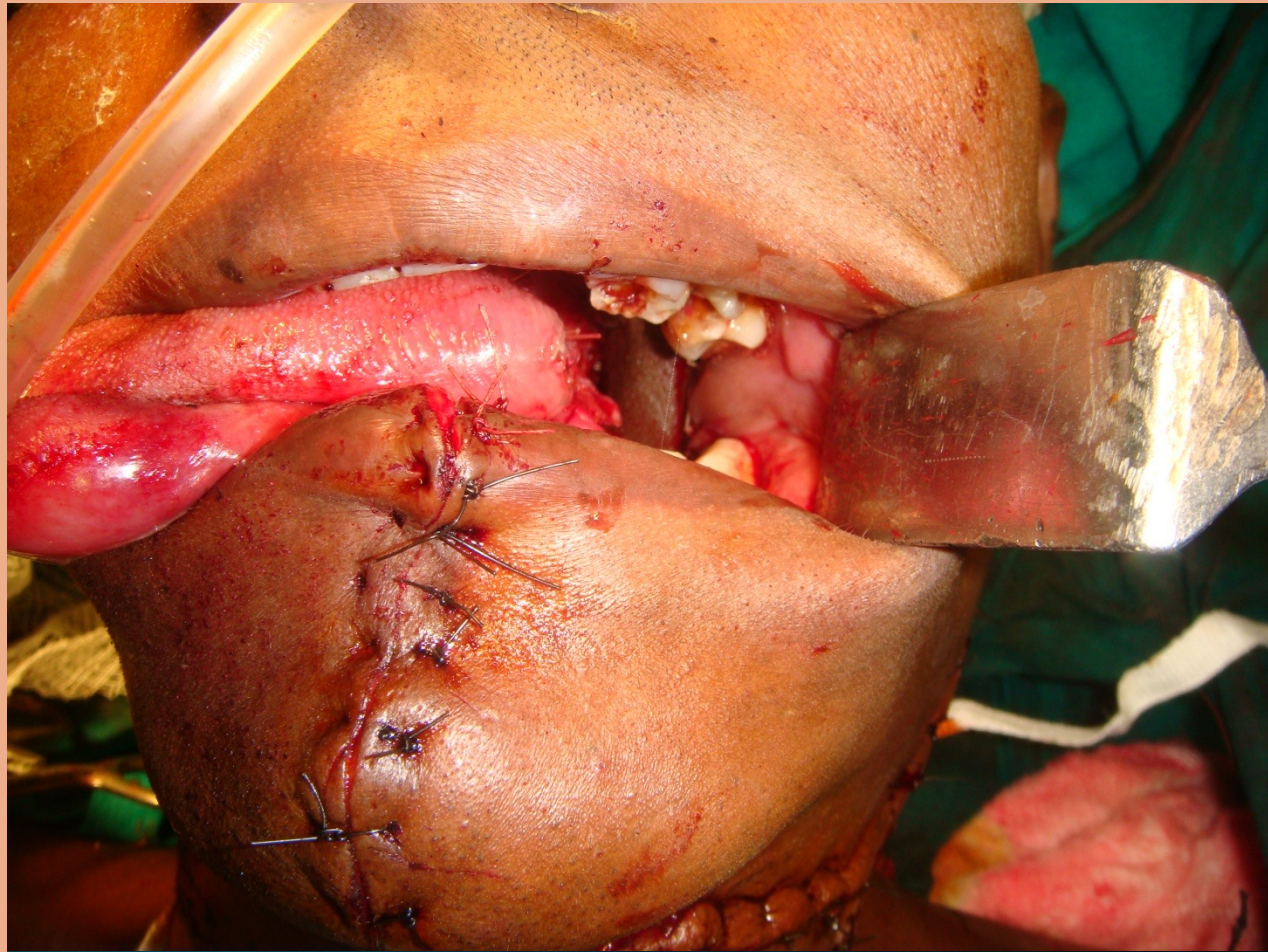




# CANCER LIP RECONSTRUCTION



# CA TANSIL MANDIBLE SPLIT





# SUB MANDIBULAR GLAND TUMOUR



# SUBMANDIBULAR GLAND TUMOUR





# LARYNGECTOMY



**Ipsilateral  
Strap muscles  
and Thyroid lobe**

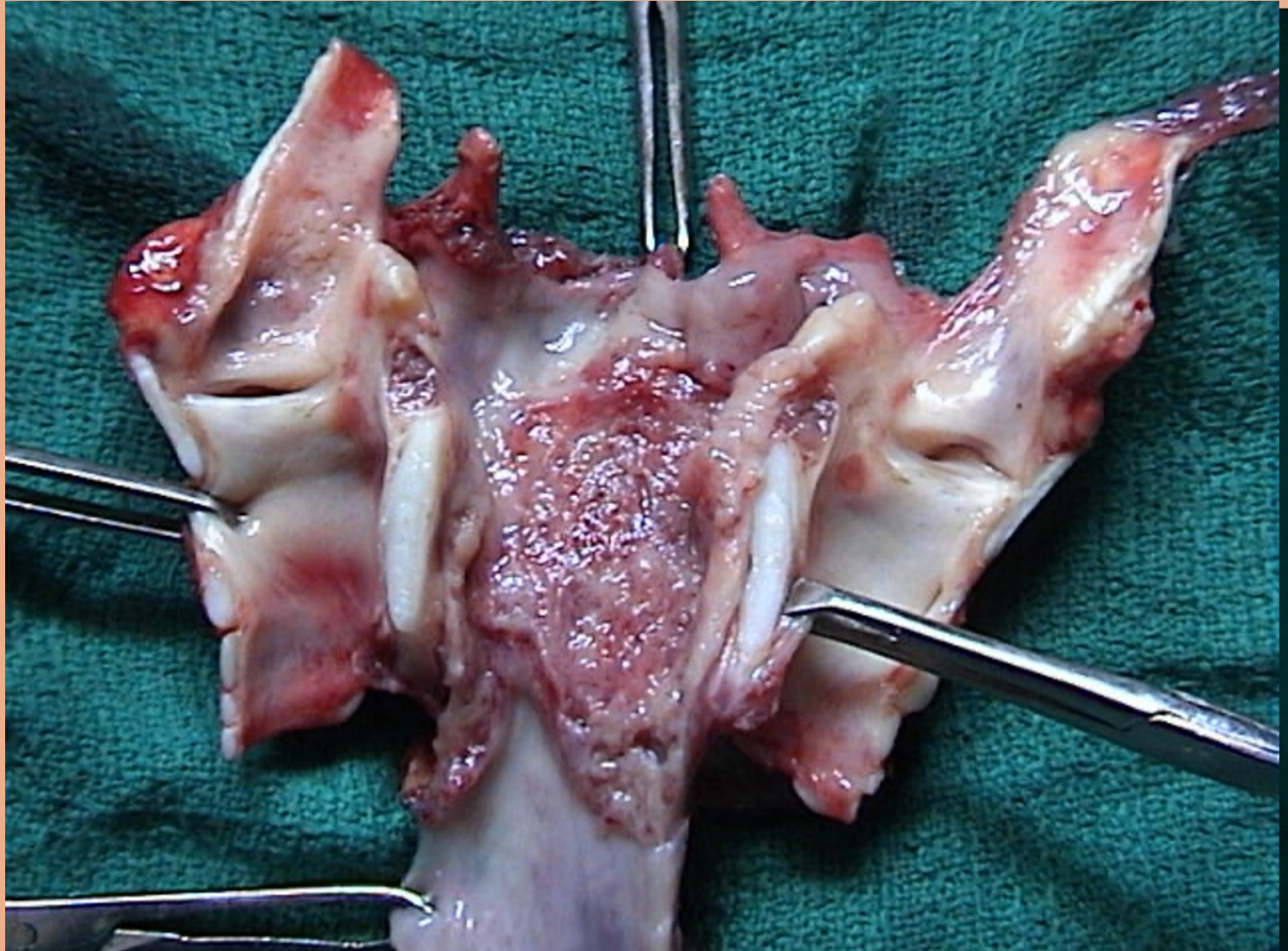


# ONGS PROCEDURE





# ONGS PROCEDURE

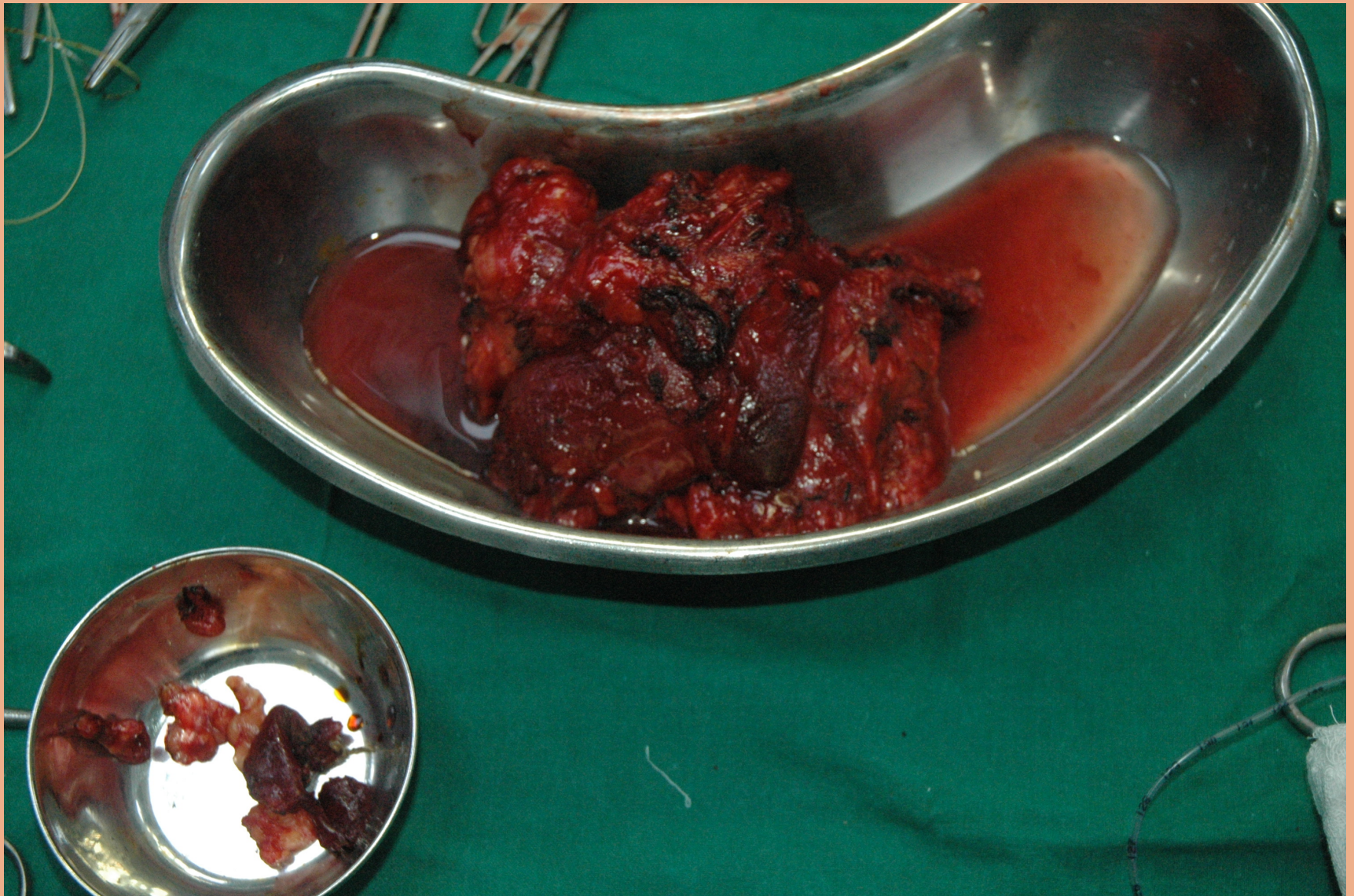


# CA BUCCAL MUCOSA WITH INVASION OF MANDIBLE & MAXILLA





# CA TOUNGE WITH NECK DISECTION





# CA BUCCAL MUCOSA WITH INVASION OF SKIN







# THYROID CANCER

# LINGUAL THYROID



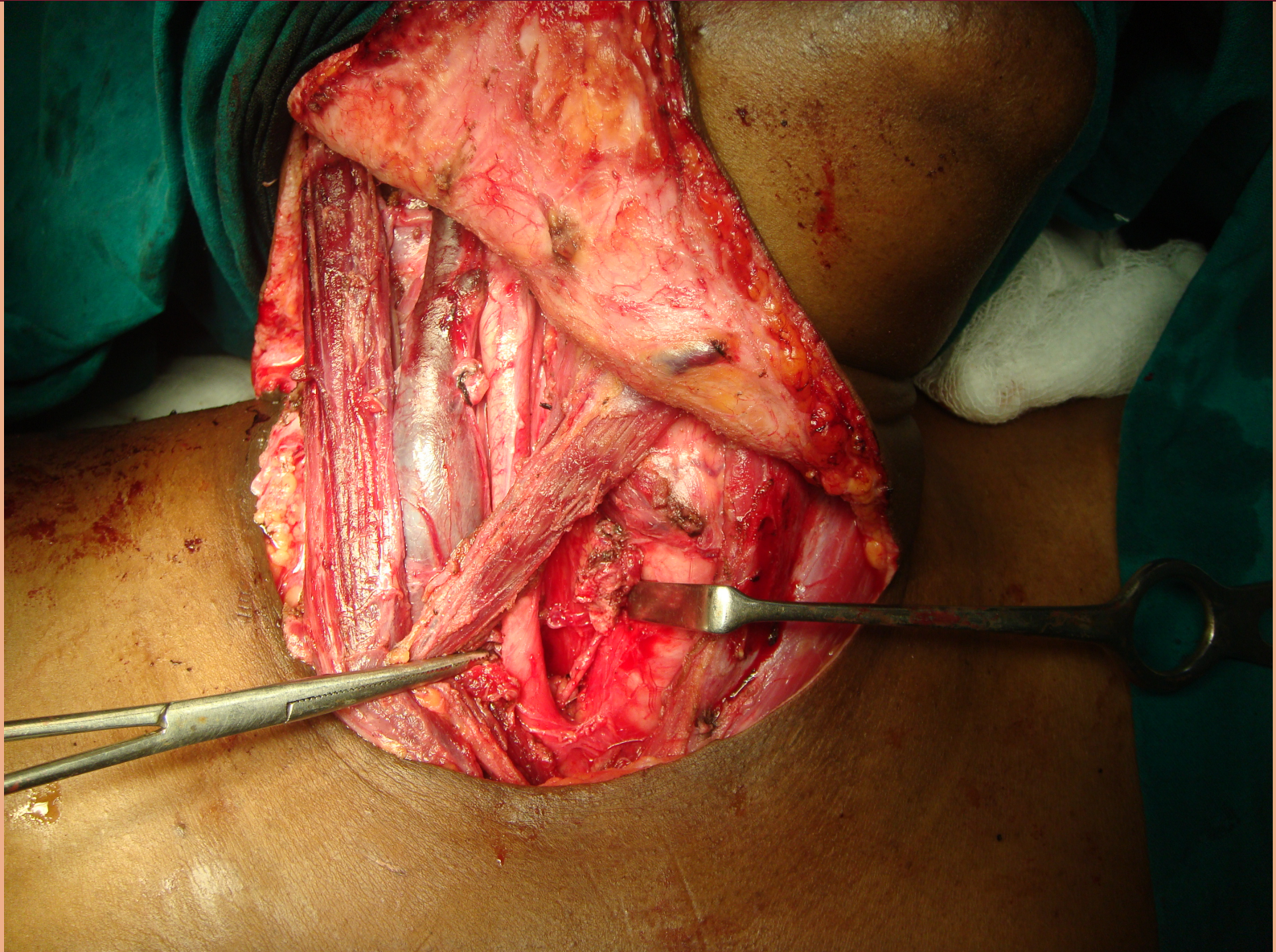
GURU HOSPITAL

# THYROID CANCER MRND & THYROIDECTOMY





# THYROID CANCER FND

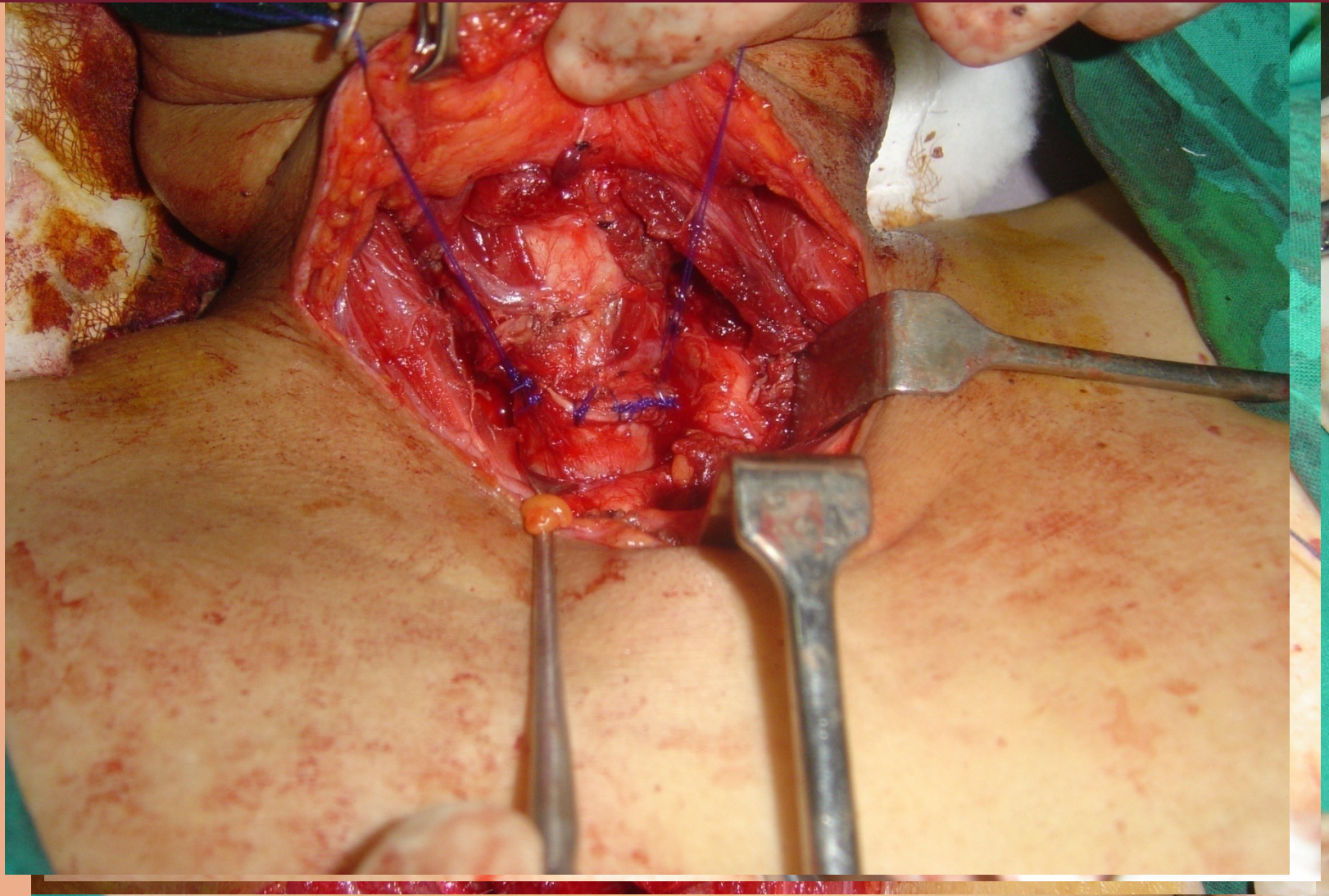


Usually MRND III ( FND) - dissecting out level II to V nodes  
Level I is non regional node for thyroid

*But in cases where lymphatic pathway is altered by previous neck surgeries or when there is extra thyroidal invasion by tumor (T4), level I nodes need to be dissected*

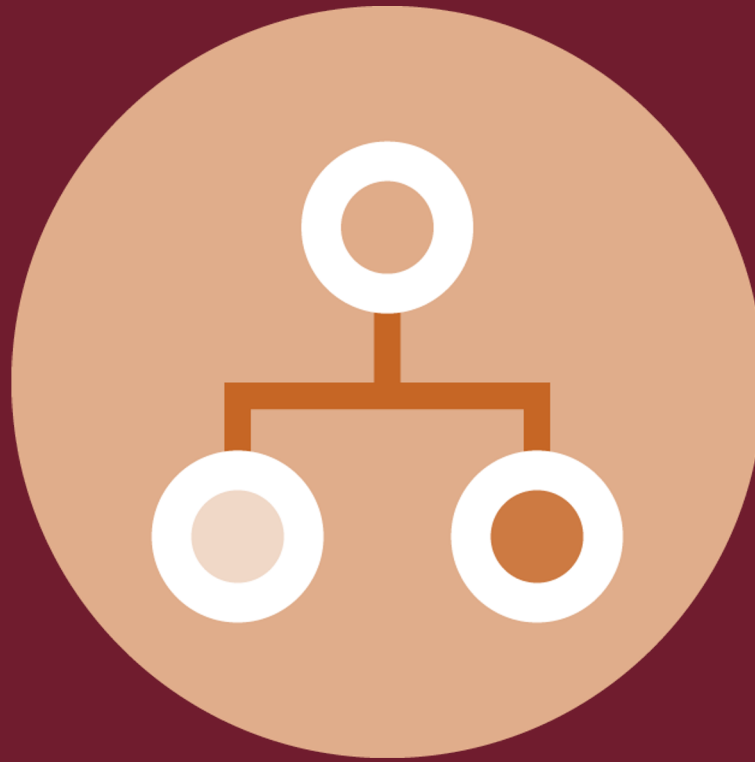


# TREACHEAL RESECTION









**ADJUVANT PRINCIPLE ?**

# TOXICITY

- Chemoradiotherapy is more toxic than radiotherapy alone.
- To reduce toxicity:-
  - Preoperative rather than post op
  - Radiation volume
  - Dose, fractionation and time
  - Radiation techniques IMRT

- In modern era, by high end technology
- Radiotherapy can be given without adjacent organ damage

# CONVENTIONAL VS INTENSITY MODULATED RADIOTHERAPY

Direction

Intensity

Shape

# OUR LINAC



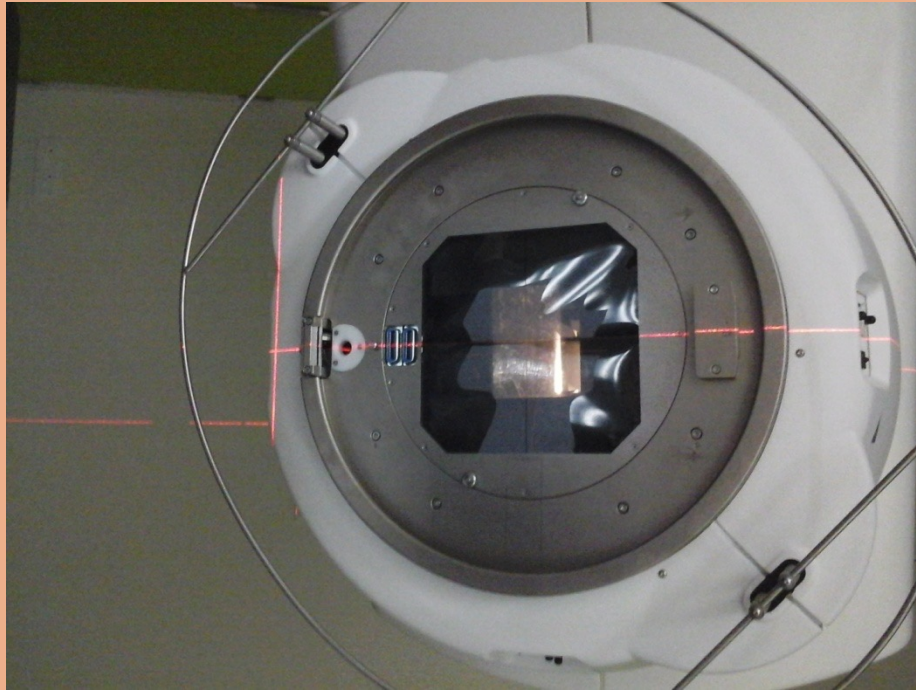
LINAC HEAD

Couch

IMAGER



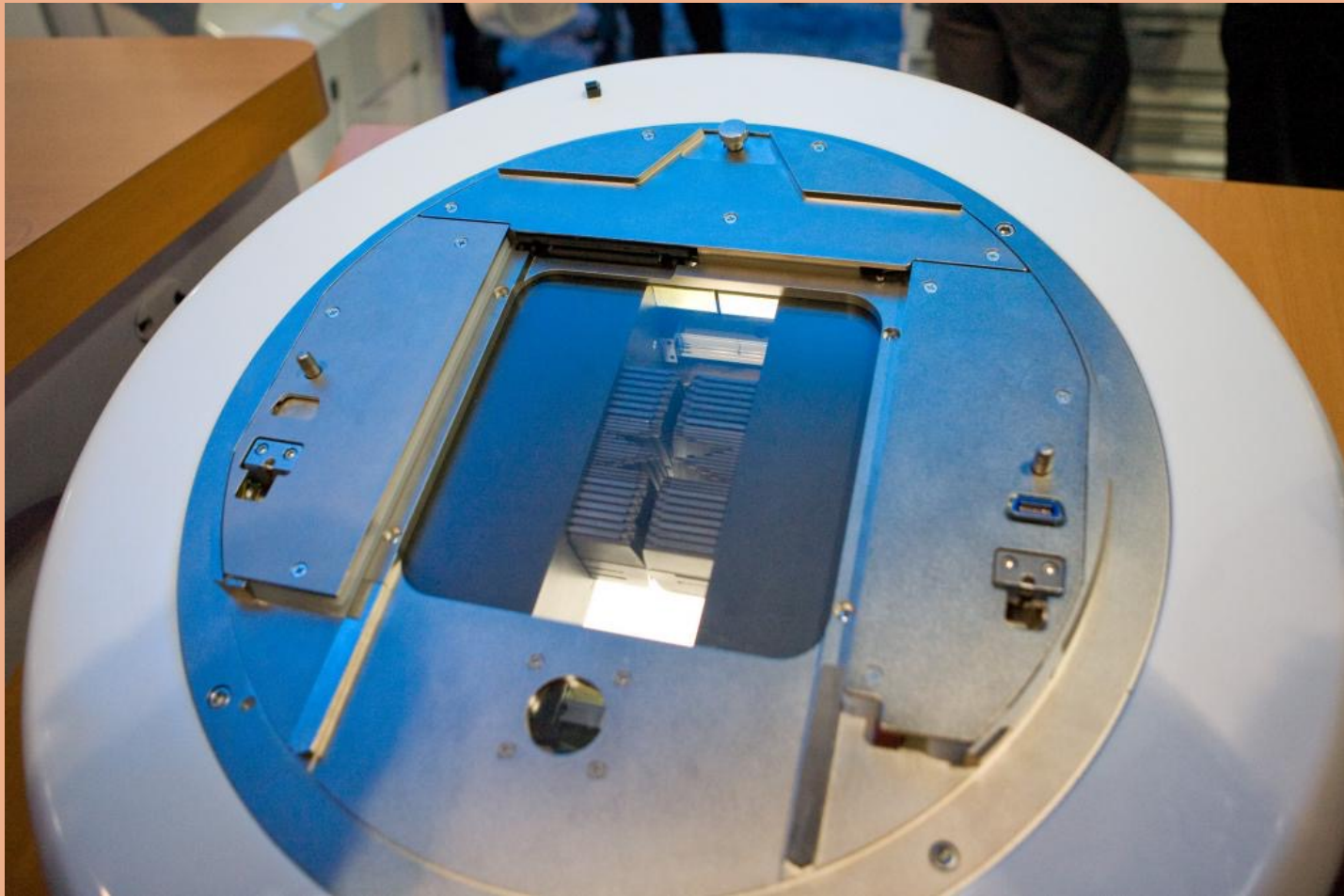
# COLLIMATOR



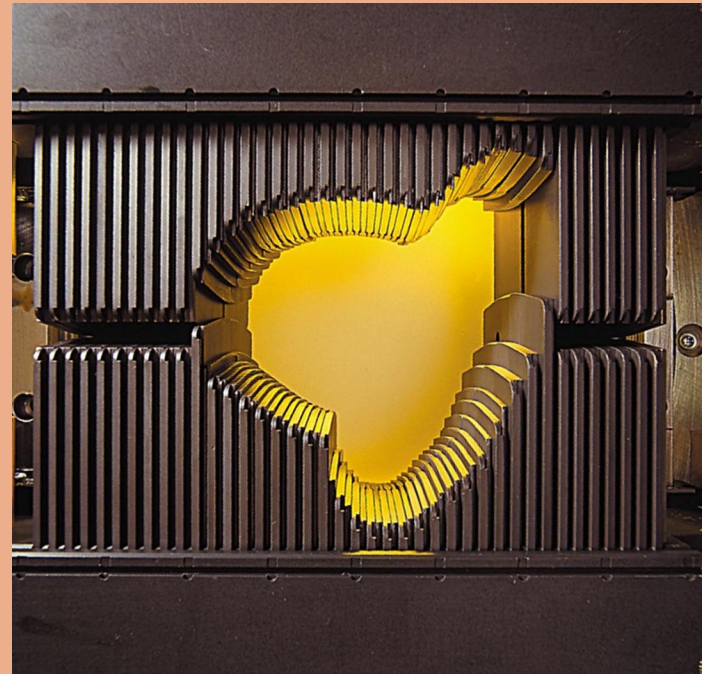
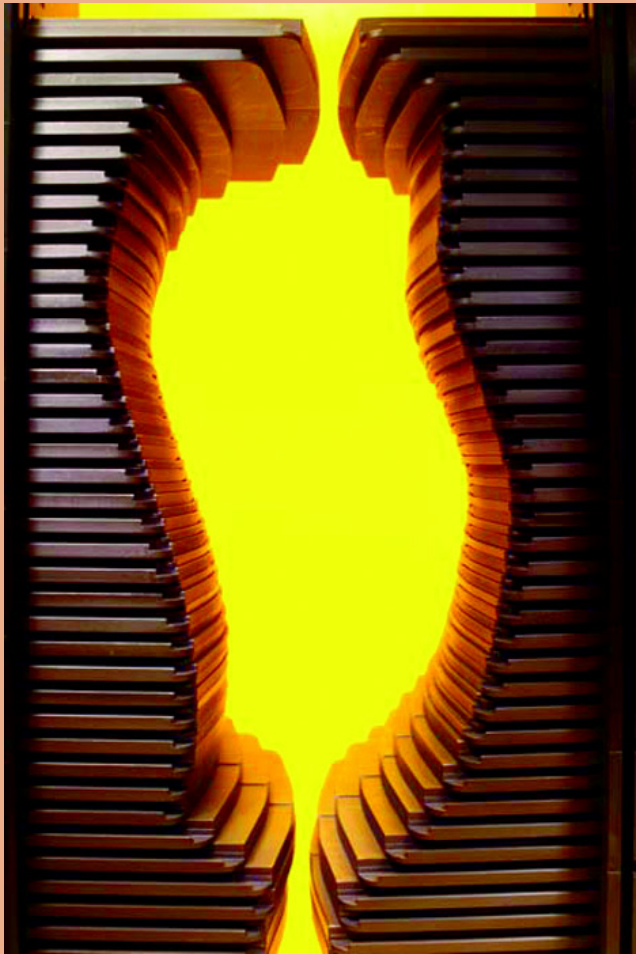
Square /  
rectangular shaped  
field.

Can increase or  
decrease the size  
of field.

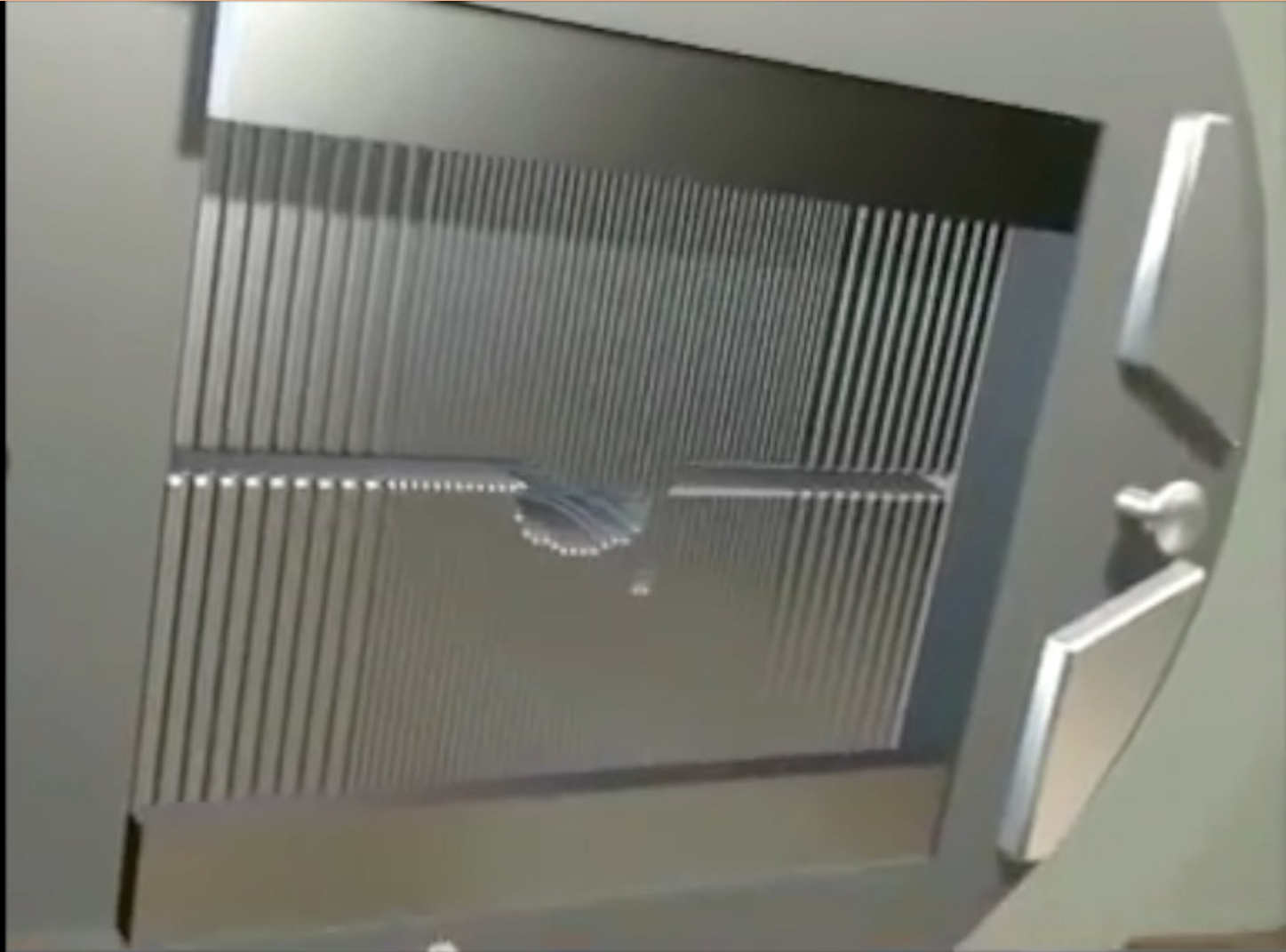
# MULTI LEAF COLLIMATOR



# SHAPE



# SHAPE





# DIRECTION

Plan\_OK - Unapproved - Model View - CT\_1

Isodoses (%)

110.0

105.0

100.0

95.0

90.0

85.0

80.0

3D Dose MAX: 112.4 %

3D MAX for TGT: 112.4 %

3D MIN for TGT: 49.7 %

3D MEAN for TGT: 96.7 %

H

R

112.4 %

L

F

IEC 61217  
Head First-Supine

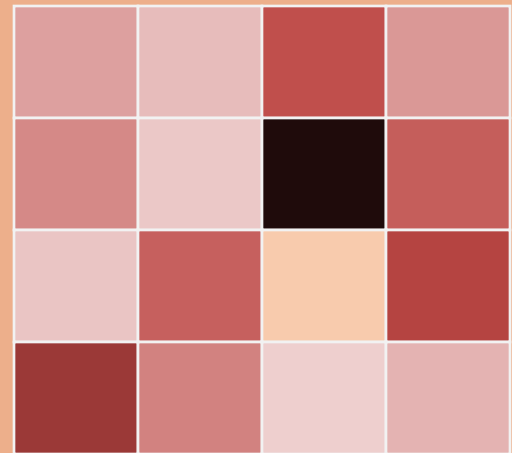


# INTENSITY

CONVENTIONAL



IMRT





**HOW SURGEON SHOULD BE?**



# TECHNOLOGY UPDATE

- Learn new techniques at least once a year
- Take time off to do so
- Otherwise you will be

‘Residue’

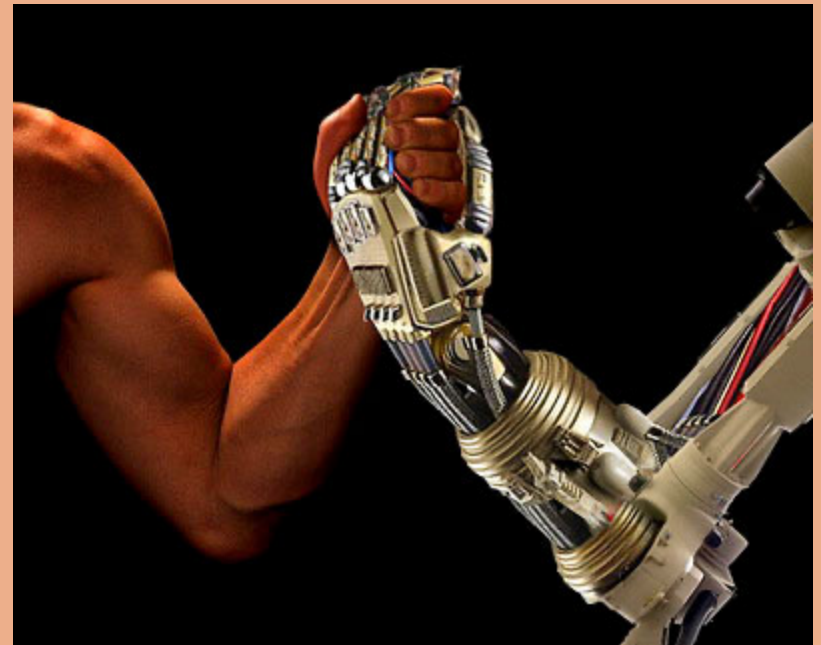
Someone will remove



# MIND VS MACHINE

Surgeon should be master for all machines

Machines are the slaves for surgeon



# JUST RIDE THE TECHNOLOGY



# ‘PERSONALIZING CANCER CARE’

“Oncology is no longer a **one-size-fits-all**

- " Tailor treatments to an individual's or to a tumor's unique biology, which helps us to improve outcomes for patients by matching the
- Right treatment to
- Right patient at
- Right time.“



GET READY FOLKS  
01 10 10

FIGHT AGAINST CANCER  
WITH FULL FORCE

# FIGHT AGAINST CANCER





# GOOD WILL

Do good.  
And good will come to  
you.



**GIVE CONFIDENCE NOT GUARANTEE...**





# TEAM WORK



**DON'T MISS  
TO START EARLY TREATMENT BY YOURSELF**







TheSUPERHIT.Com





# THE CANCER

TO CURE OR NOT TO CURE

IS IN YOUR HANDS

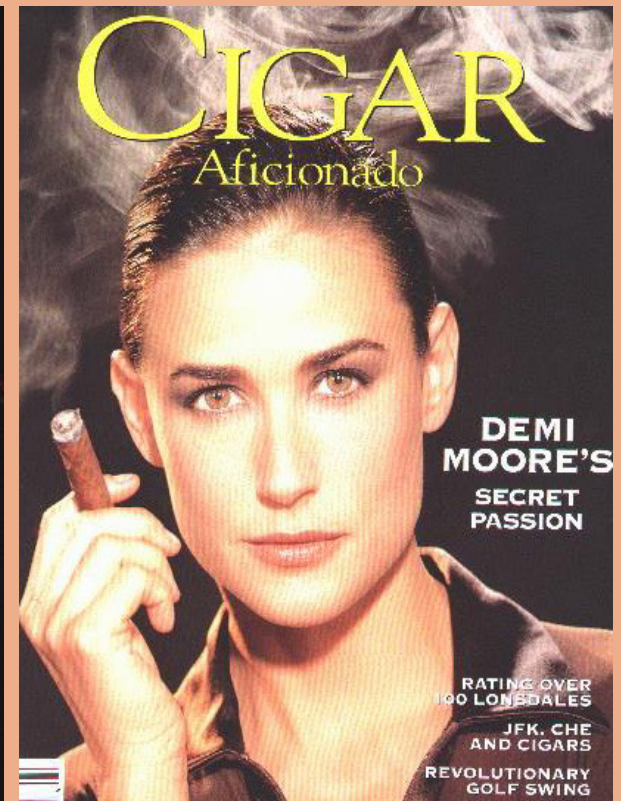
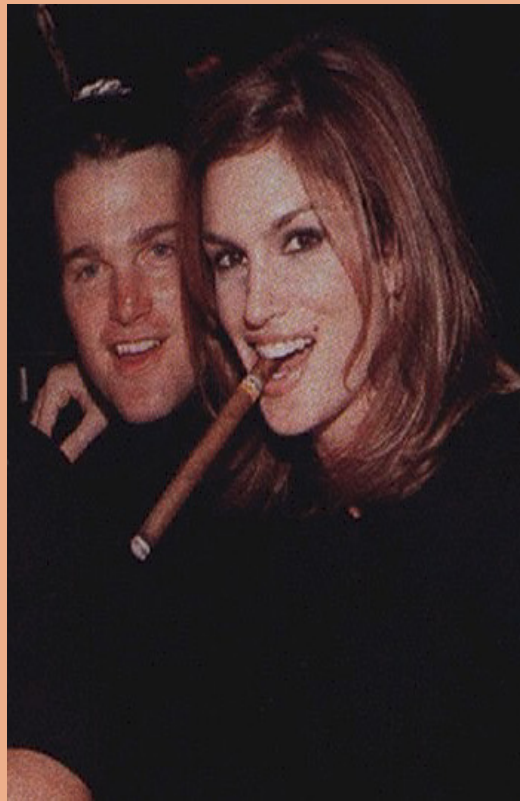


# **SOCIAL RESPONSIBILITIES**



# SMOKING

Using beauty and fame to promote a dirty, devastating habit





*Smoking gives  
Cancer  
and  
Takes back  
life*





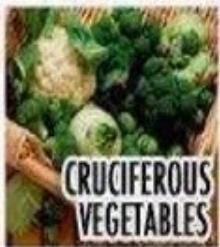
# CANCER FIGHTING FOODS

Nutrition Solution Lifestyle™

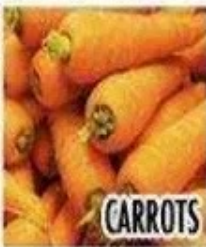
## CANCER FIGHTING FOODS, HERBS & SPICES



AVOCADO



CRUCIFEROUS  
VEGETABLES



CARROTS



CHILI PEPPERS

JALAPEÑOS



FIGS



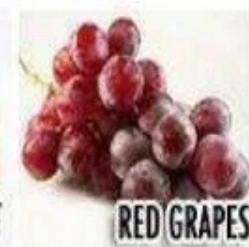
FLAX



GARLIC



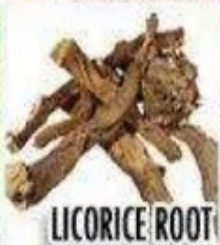
GRAPEFRUIT



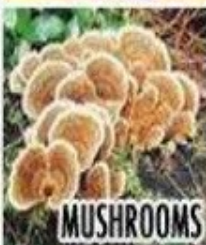
RED GRAPES



KALE



LICORICE ROOT



MUSHROOMS



NUTS



PAPAYA



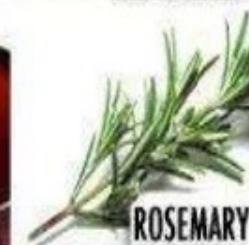
ORANGES &  
LEMONS



BLACK RASPBERRIES



RED WINE



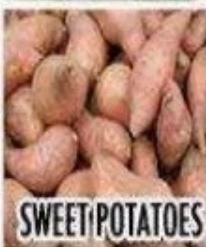
ROSEMARY



SEAWEEDS &  
SEA VEGETABLES



SOY PRODUCTS



SWEET POTATOES



BLACK TEA



GREEN TEA



CASSAVA



TOMATO



TURMERIC



# CANCER RIBBON







THANK YOU..