



# Radiation Therapy for Soft Tissue Sarcomas

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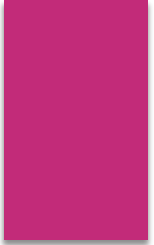
# Radiation Therapy for Soft Tissue Sarcomas

## What We Do in the Decorated Dungeon



www.alamy.com - EADH5N

Hello!!! Anybody down there



# Radiation Is Energy!



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# Radiation Therapy for Sarcomas

- ▶ Neoadjuvant radiation therapy
- ▶ Adjuvant radiation therapy
- ▶ Radiation therapy for unresectable disease
- ▶ Radiation therapy for metastatic disease
  - ▶ Ablative therapy for salvage
  - ▶ Palliative treatments

# Radiation Therapy for Sarcomas

- ▶ Teletherapy (External Beam)

- ▶ Photon Beams
- ▶ Particle Beams
  - ▶ Electron beams
  - ▶ Proton beams

- ▶ Brachytherapy

- ▶ Temporary
- ▶ Permanent

- ▶ External Beam Radiation Therapy

- ▶ Two dimensional treatment
- ▶ Three dimensional treatment
  - ▶ 3D conformal RT
  - ▶ Intensity Modulated RT (IMRT)

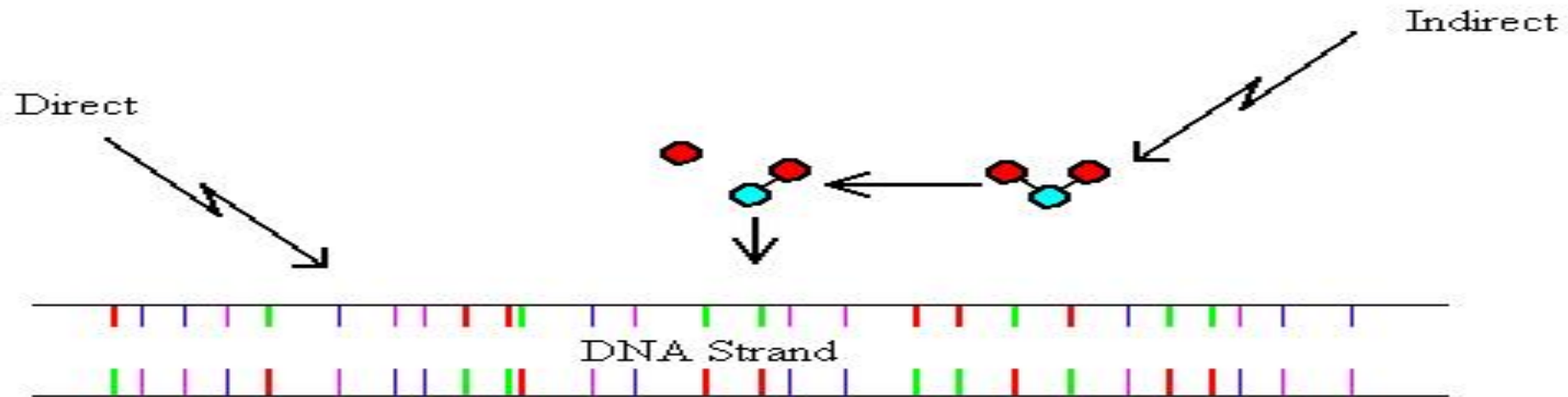
- ▶ Image Guided Radiation Therapy (IGRT)

- ▶ Stereotactic Radiation Therapy (SBRT)

AN ACRONYM SOUP

# How does radiation therapy work?

## Mechanism of Cellular Injury



*First – Think on an anatomic and cellular level*

# How does radiation therapy work?

Radiation

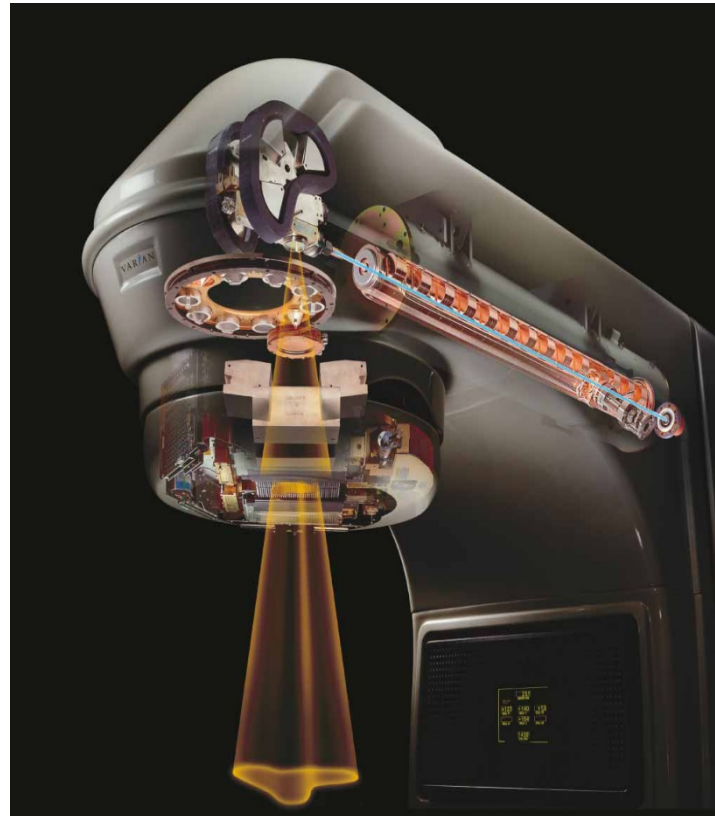
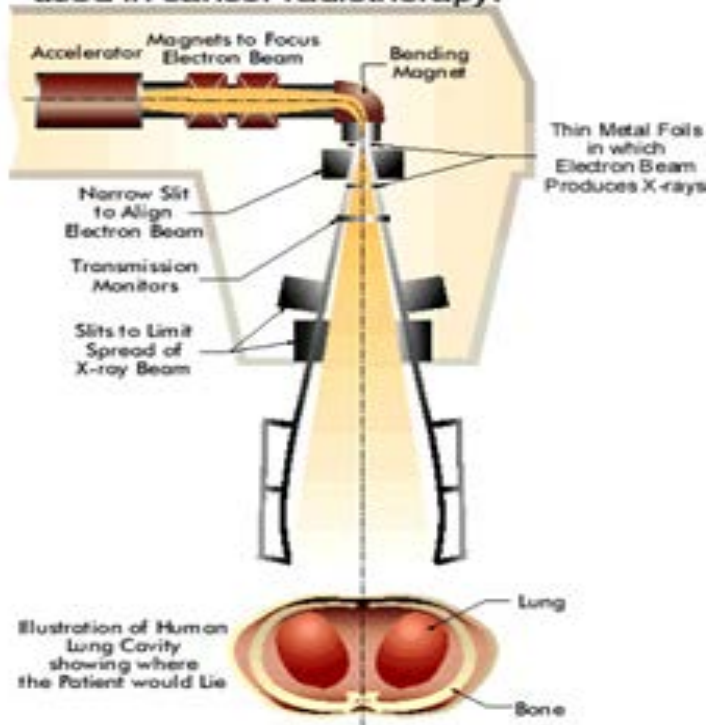
Growth

Death

Our most common goal

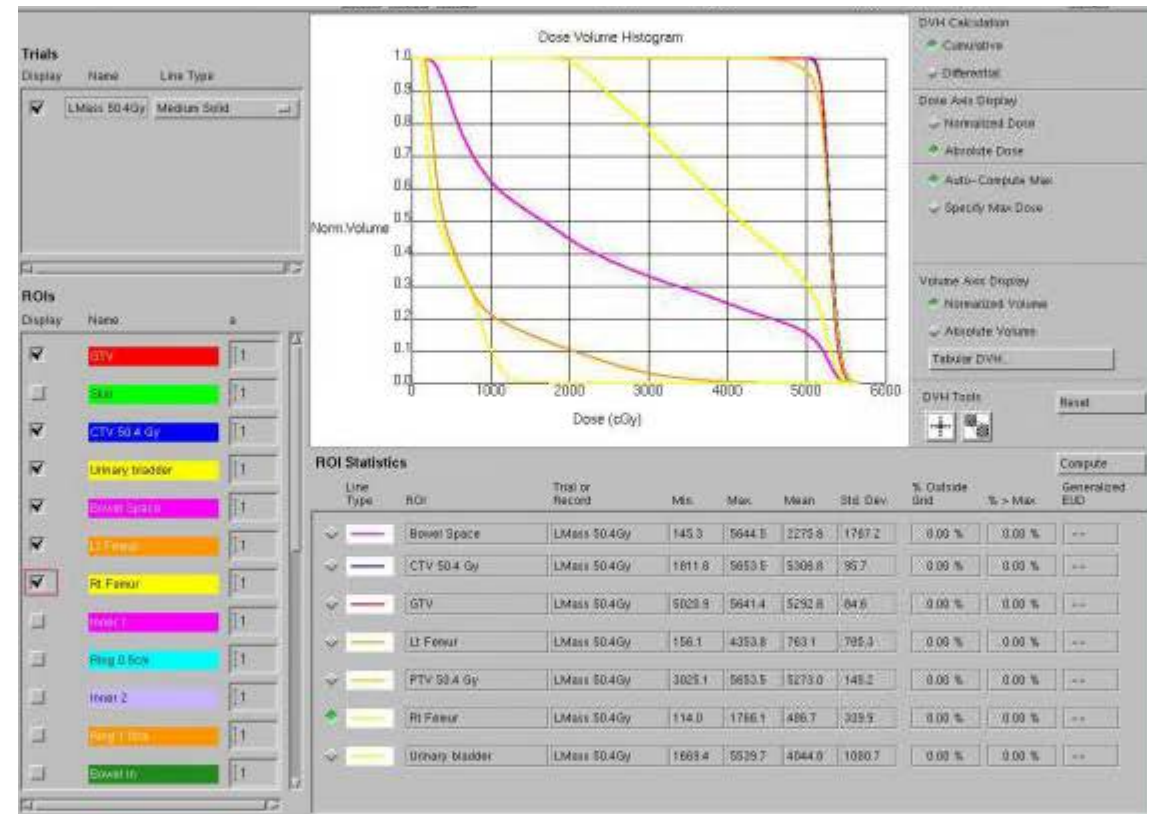
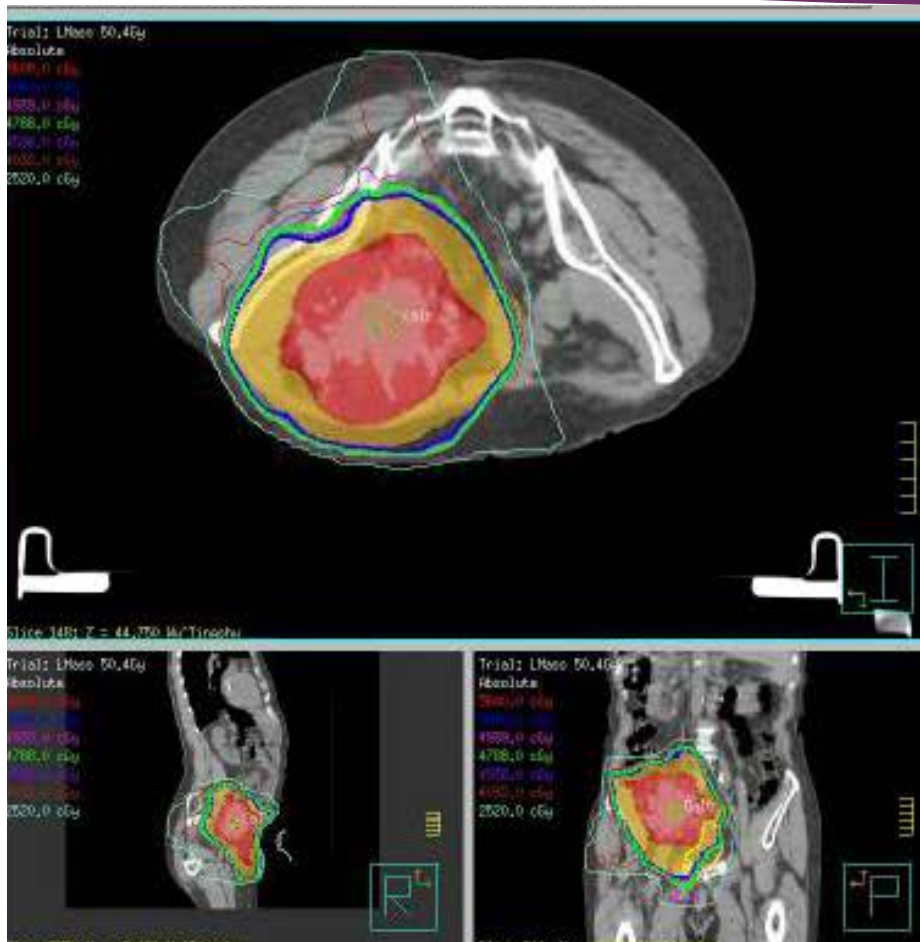
# Radiation Therapy

Schematic diagram of a typical medical accelerator used in cancer radiotherapy.

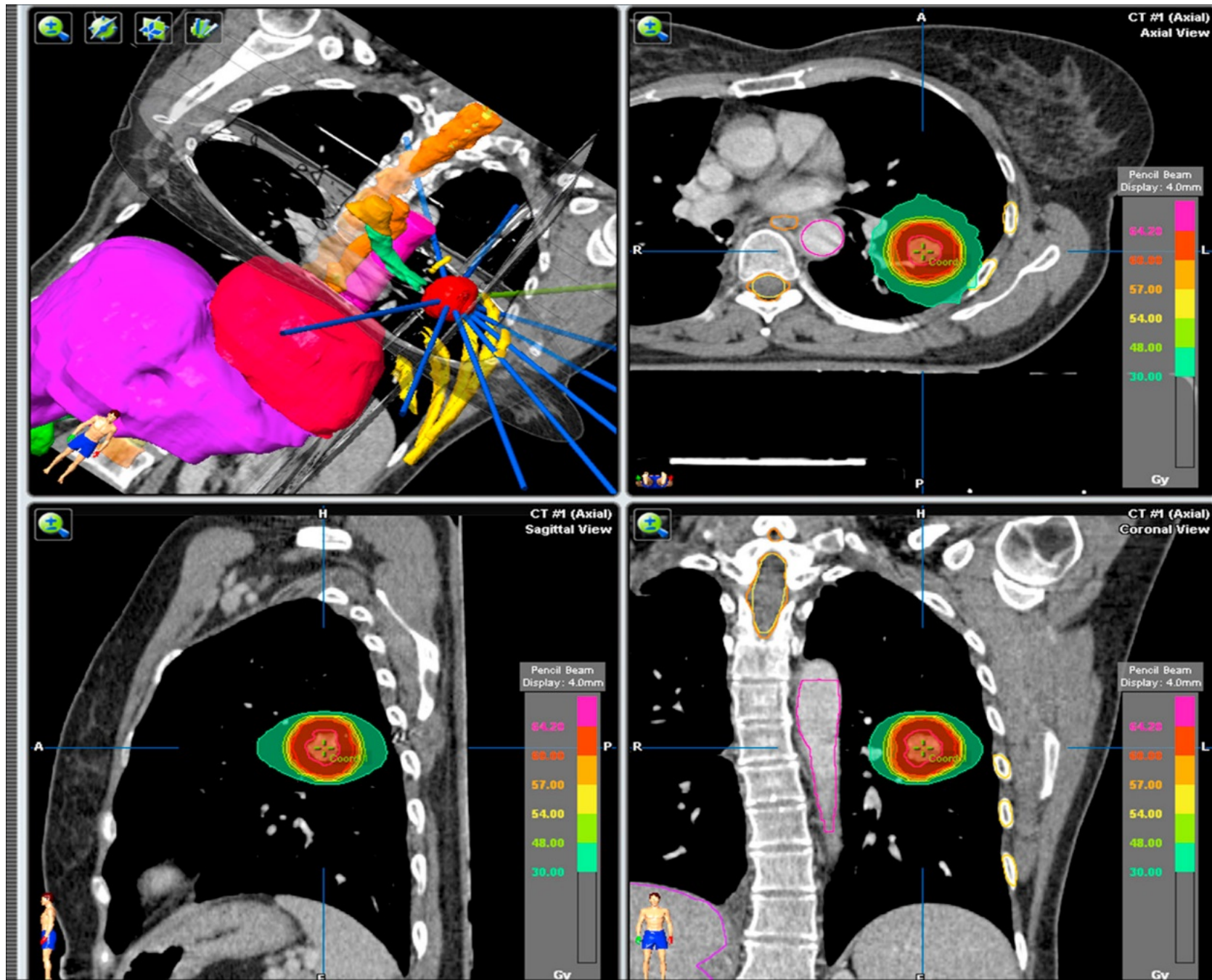




# Radiation Therapy Planning

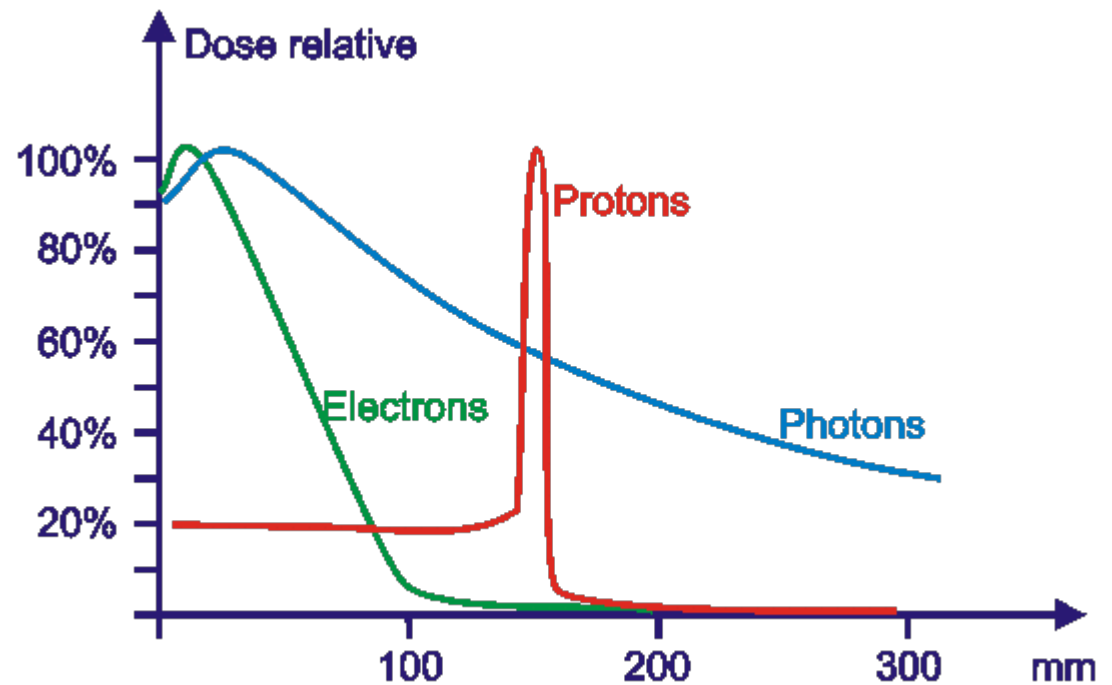


# SBRT Lung



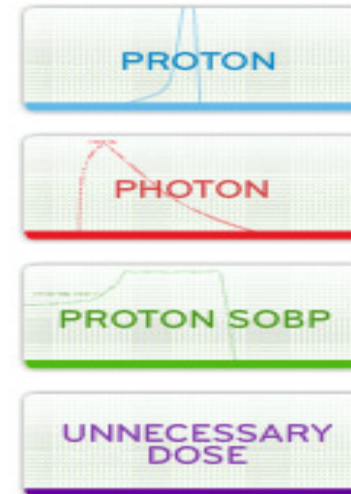
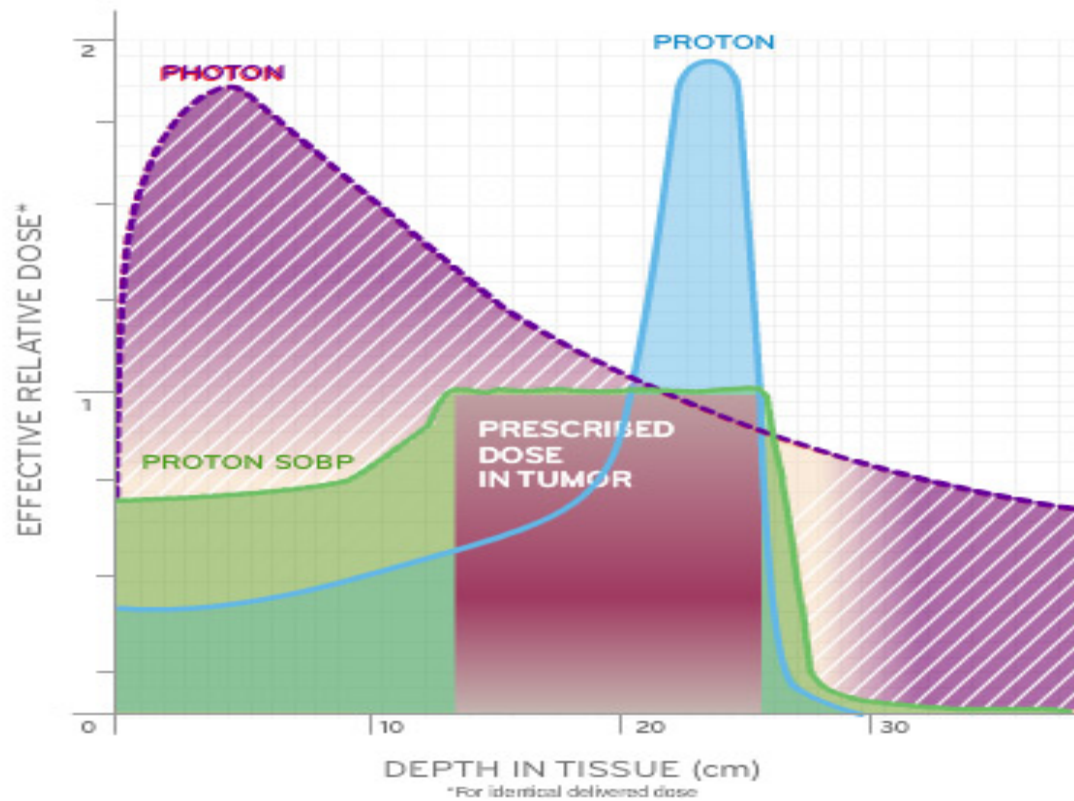
# Proton Vs. Photon Physics

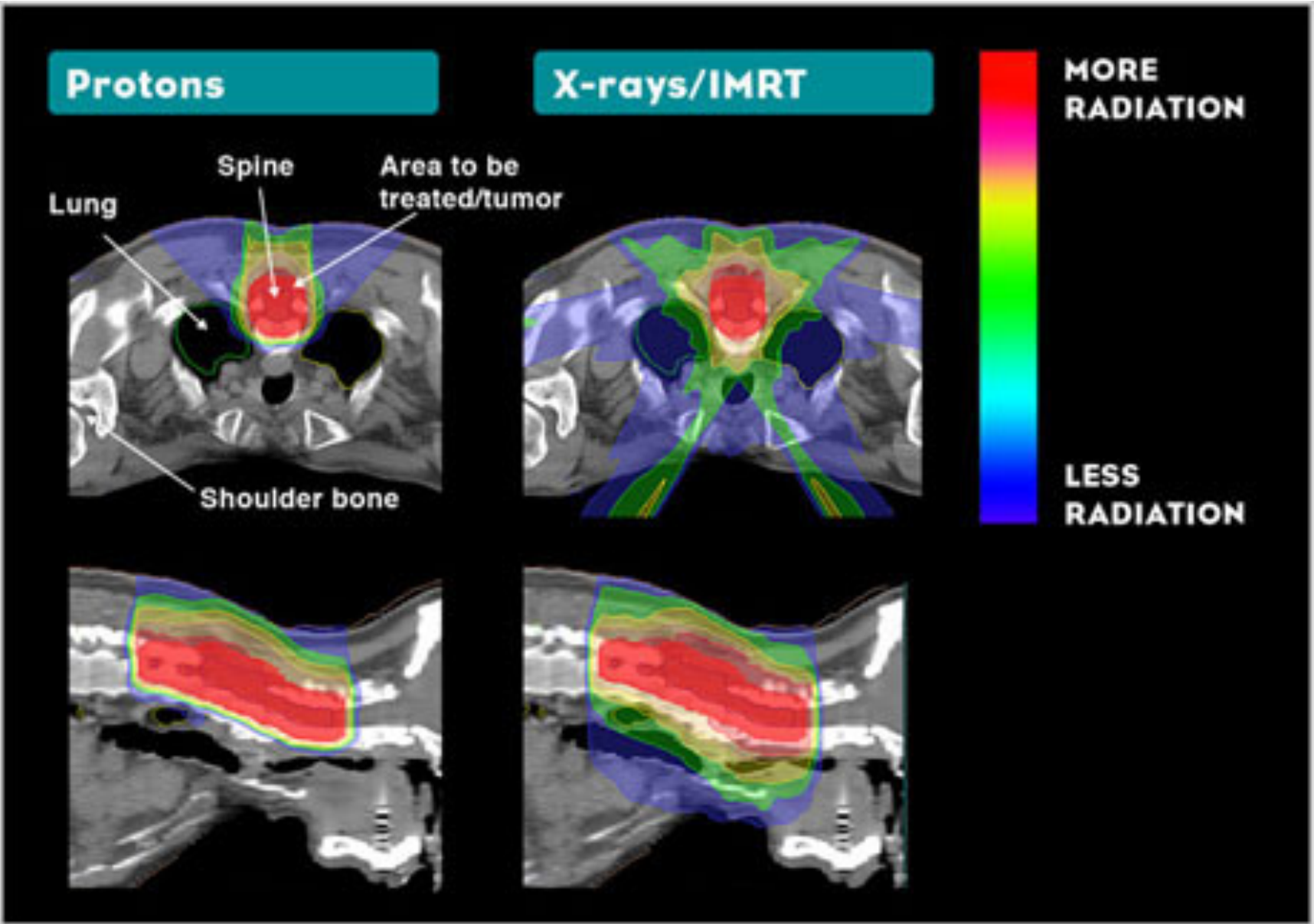
The energy that is imparted by a beam of radiation is dependent on its energy and mass.

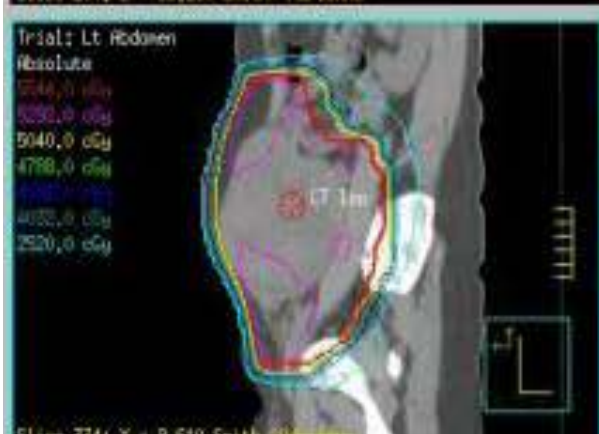
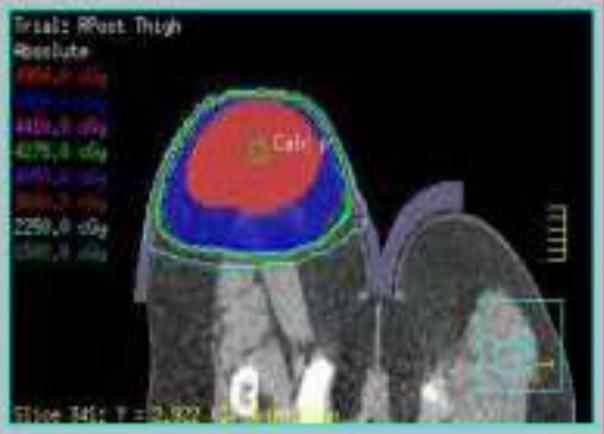
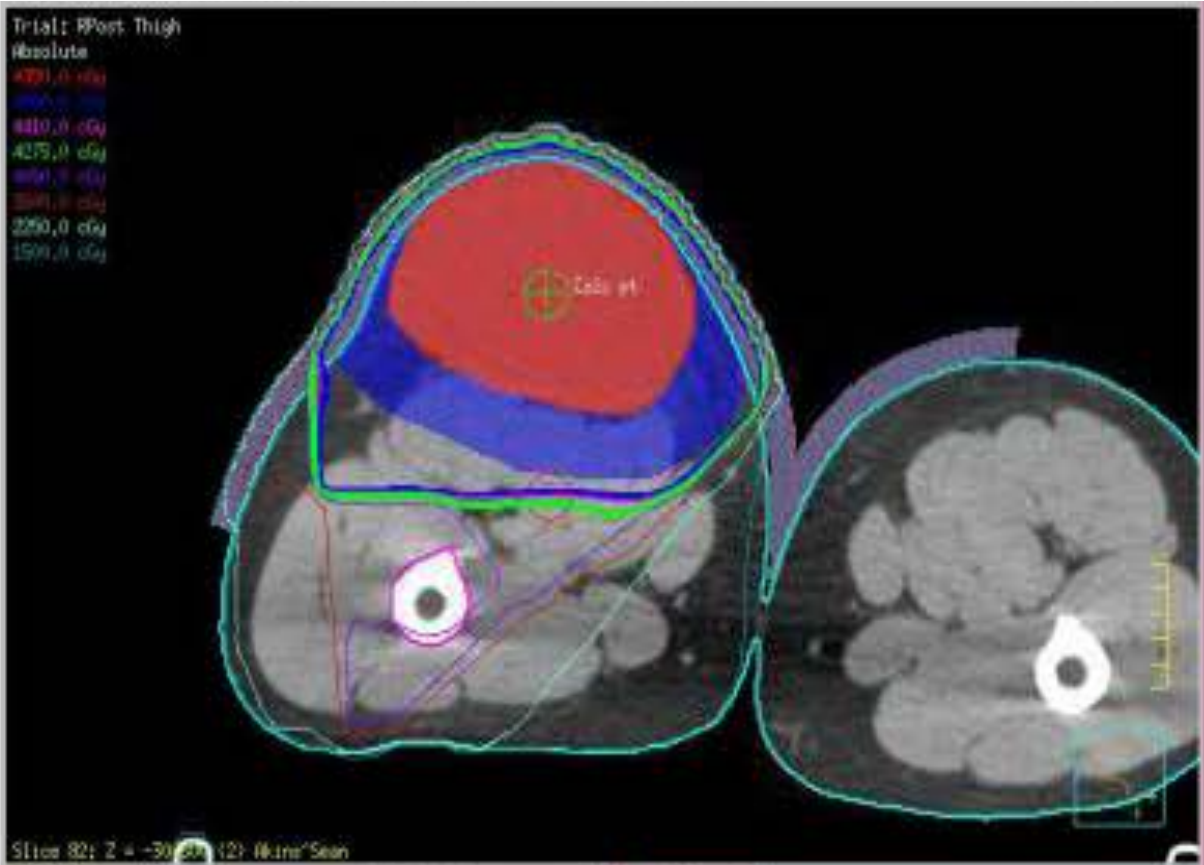


# Proton Vs. Photon Therapy - Physics

## THE BRAGG PEAK







# The “Best” Radiation Therapy

- ▶ Fits the clinical situation - One size does not fit all!
- ▶ Factors in other considerations:
  - ▶ medical issues
  - ▶ age
- ▶ Works cooperatively with other forms of therapy  
(i.e. understands the roles of surgery and systemic agents)
- ▶ Follows “*Hayes’ Rules*”
  - ▶ *Hit what you need to hit*
  - ▶ *Miss what you need to miss*
- ▶ Understands the limits of technology

SELECTION IS THE SILENT PARTNER OF SUCCESS!

