



BC Cancer Agency

CARE + RESEARCH

An agency of the Provincial Health Services Authority

What you need to know about Radiation Therapy for Colorectal Cancer

Questions and Answers

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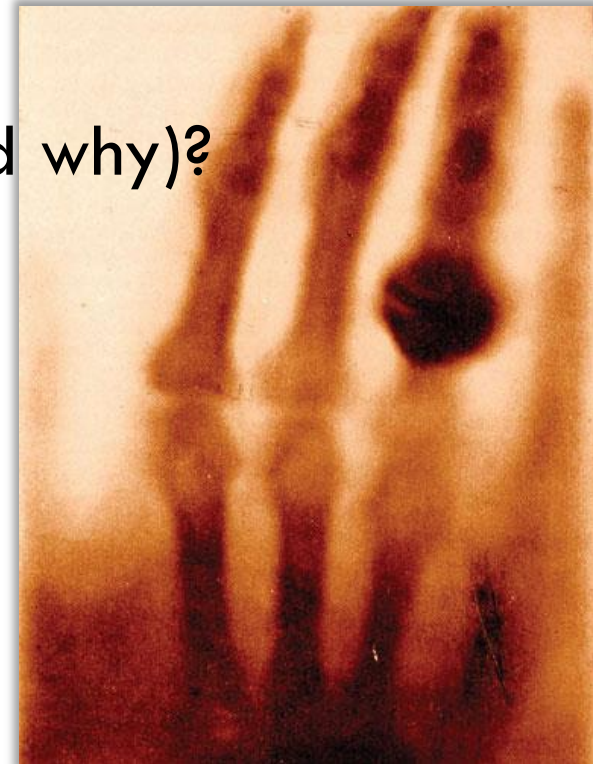
Overview

I. Description of Radiation

- ▣ What is Radiation?
- ▣ Who are the members of the treatment team?
- ▣ How is it delivered?

II. When Radiation is beneficial (and why)?

- ▣ Curative setting
- ▣ Palliative setting



Radiation 101

- Radiation treatment is just X-rays
- They are about 100x more powerful than “average” X-rays
- Radiation works by *damaging DNA* and cancer cells have trouble repairing this damage
- Some collateral damage also occurs to normal tissue in the *local* area (aka “side effects”)
- Unlike chemotherapy this is a local treatment

Indications for radiation

1. Rectal Cancer – Improve rates of control in pelvis
 - ▣ Little room in the pelvis (for the surgeon)
 - ▣ Can't remove areas where microscopic cancer can be
 - ▣ Sometimes needed to shrink cancer to help surgery
2. Colon Cancer
 - ▣ Rarely used for large cancers invading other organs or if the surgeon couldn't remove all of the cancer
3. Palliate Local Symptoms (Colon and Rectum)
 - ▣ Recurrent disease
 - ▣ Metastases to bone or lung or elsewhere

What is the Radiation Process?

1. Pre-Radiation imaging and tests
2. Radiation Planning / Simulation
3. Treatment

Different Staff:

- ▣ Radiation Oncologist (me & MD)
- ▣ Radiation Therapists
- ▣ Medical Physicists
- ▣ Physics Assistants
- ▣ Radiation Nurses

2. Radiation Oncologist

- Assesses patient / stage of disease / best treatment
 - ▣ Other investigations, consultations as needed
- Target what needs to be treated / protected
- Dose
- Evaluate the plan
- Follow you during treatment to manage side effects
- Follow up afterward, if needed

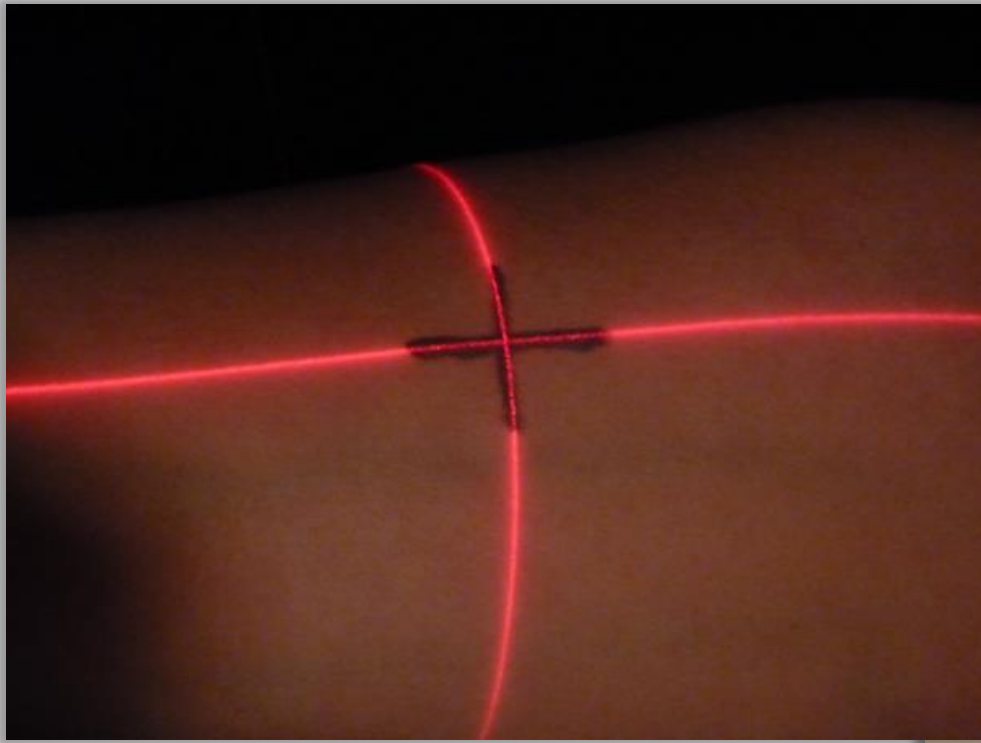
2. Radiation Planning CT Simulator

- Confusing because you've already had a CT scan
- Different CT used to plan your radiation
 - ▣ A reproducible position is of paramount importance
 - Drink water: Bladder full to push small bowel out of the way
 - Sometimes:
 - Drink contrast: sometimes to help see small bowel
 - IV contrast: uncommon, but may help see blood vessels

2. Radiation Planning CT Simulator



2. Radiation Planning Radiation Tattoos



Radiation Therapist – Job Description

1) What the Public thinks I do



2) What my Parents think I do



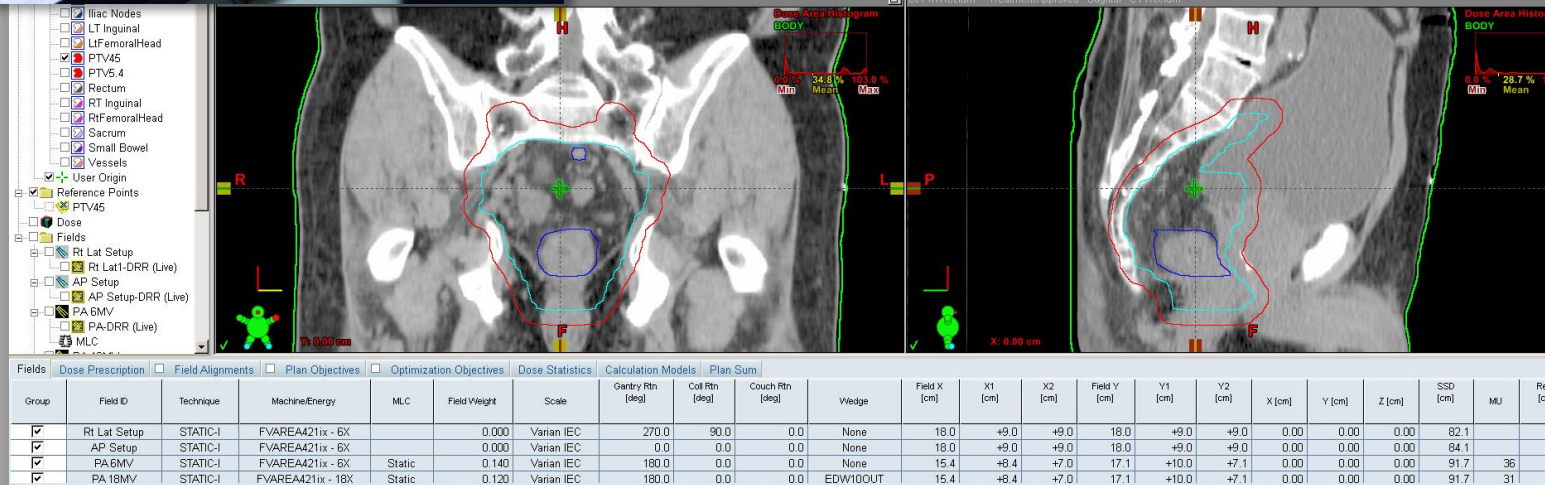
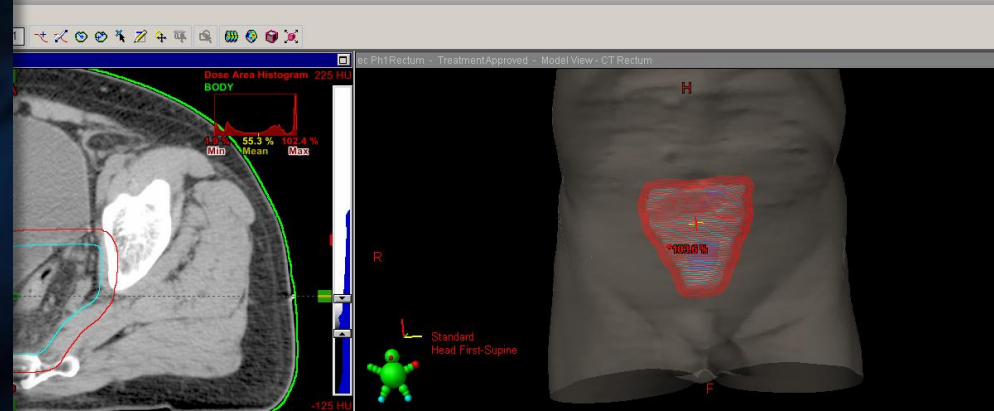
3) What I think I do



4) What I actually do

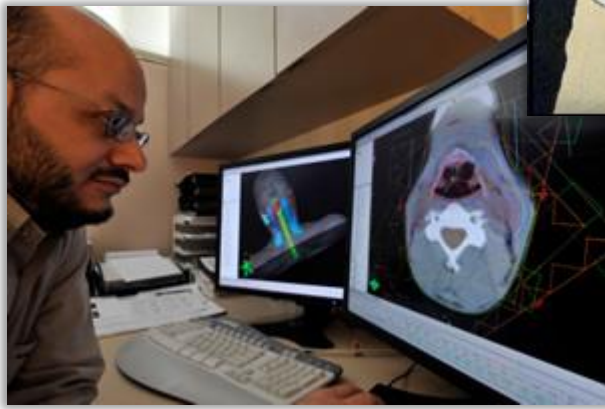


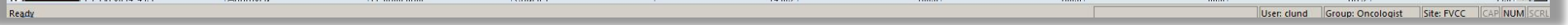
2. Radiation Planning Targeting



2. Planning & Quality Assurance

Medical Physicists & Assistants





3. Radiation Delivery

The Linear Accelerator



3. Radiation Delivery

The daily grind

□ Local Treatment

- Monday through Friday

- Small amount daily

- 5-10 min, at centre for 45-60 min

□ Side Effects

- Result of surgery, chemotherapy & radiation

- You're not radioactive!

- Feel nothing during or after each treatment

- Start near end of 2nd week, come on gradually

- Begin to fade 1-2 weeks after treatment ends

3. Radiation Delivery

The daily grind

□ Side Effects

▣ General

- Tired

▣ Local

■ *During and the few weeks afterward*

- Bowel: often, urgently, diarrhea
- Bladder: often, urgently, burning is uncommon
- Vagina: sore / discharge
- Skin: around anus / tail bone, more for lower tumours

3. Radiation Delivery

The daily grind

□ Side Effects con't

▣ Local

■ *Ongoing*

- Bowel: more often, more urgently
- Bladder: generally returns to normal
- Skin: returns to normal
- Vagina: may be shorter, more narrow
- Penis: erectile / ejaculation problems
- Hips: thinning of bones

▣ *No hair loss on head or nausea*

4a. Curative Rectal Radiation

- Short course (5 higher dose treatments)
 - ▣ Only used before surgery
 - ▣ No chemotherapy with radiation
 - ▣ When you don't need to shrink cancer
 - ▣ Surgery shortly after Radiation (7-10d)
- Long course (25+ lower dose treatments)
 - ▣ Can be used before or after surgery
 - ▣ Usually chemotherapy with the radiation
 - ▣ Need to shrink the tumour or low tumour
 - ▣ Surgery 6-8 weeks after Radiation

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Palliative Radiation

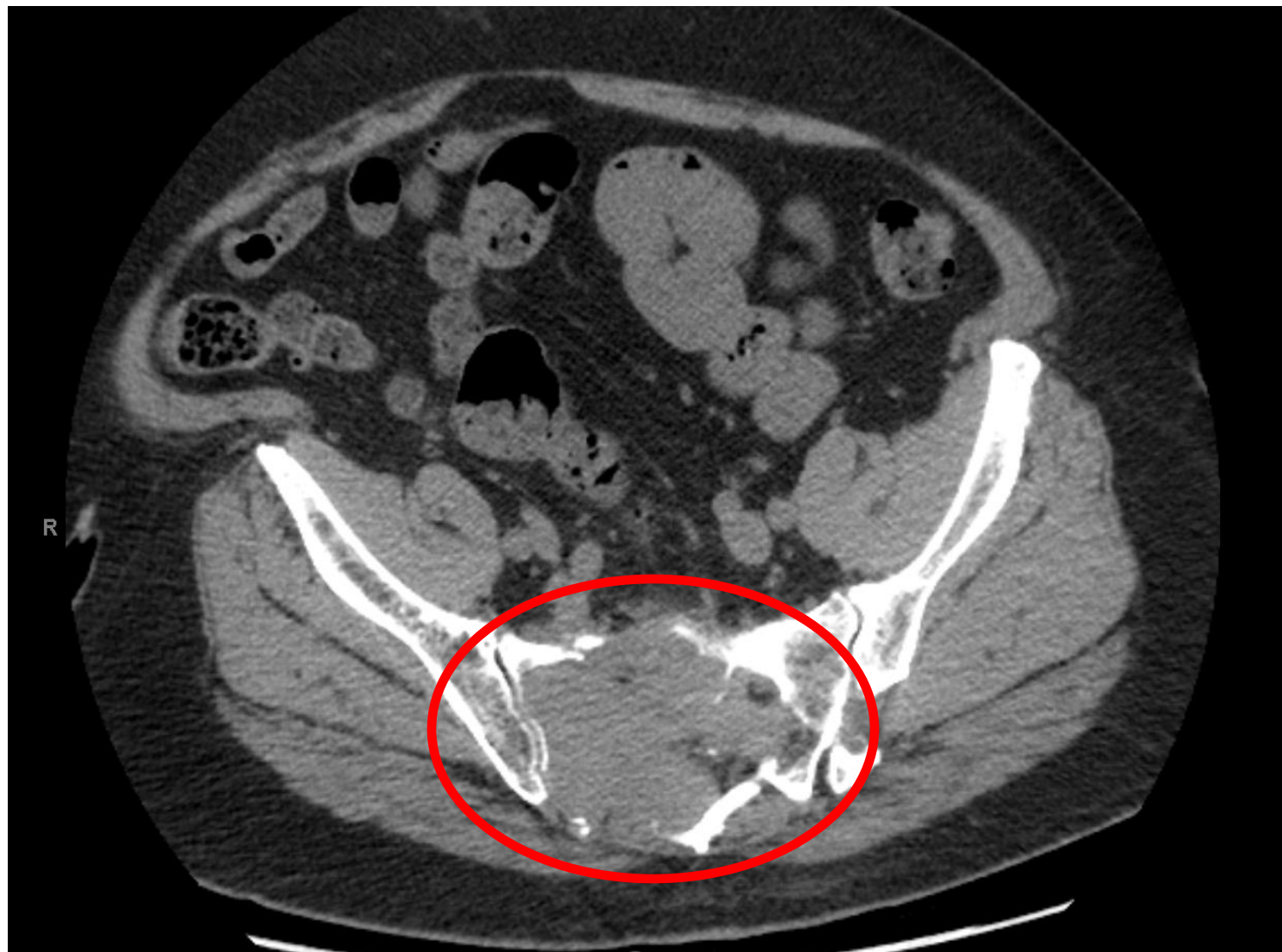
Same Process

Different Aims

4b. Palliative Radiation

- Palliation: symptom control / quality of life
- Radiation is often useful even if the disease has spread to other sites beyond colon or rectum
 - ▣ Painful areas (e.g. bones)
 - ▣ Symptomatic areas
 - Lymph nodes in pelvis
 - Lung metastases

4b. Radiation - Palliation



Summary



- Radiation is just high dose X-rays
- Targeting & multiple treatments reduce side effects
- It is delivered by an entire team
- It is used predominantly in Rectal cancer and has roles in the curative and palliative setting

Radiation... The End

