

Cancer of the Anal Canal

A Multidisciplinary Perspective

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Fall Update in Surgical Oncology
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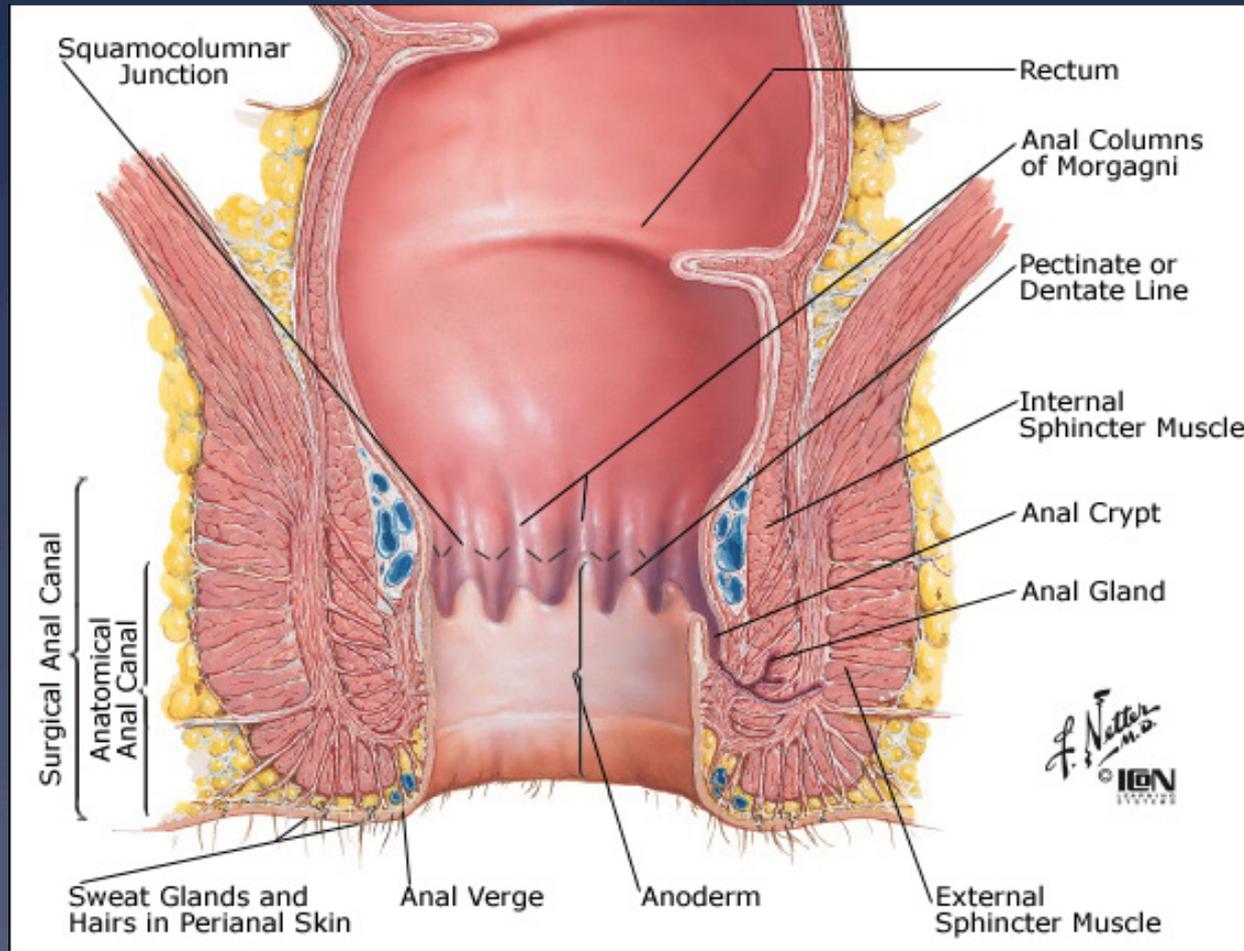
All Talks need clear Objectives



Overview and Objectives

- * Overarching: Try to focus on (a) what is relevant for surgeons and (b) what is new
 1. Underlying anatomy/histology (not new)
 2. Staging Work-up (a little new)
 3. Treatment
 - Early: T1-T2 : A little bit of everything?
 - Advanced: T4 or N2/3 : Radiation evolving
 4. Follow-up guidelines

Background Anatomy/Histology



Histology

1. Mucosa lined Anal Canal

- * Begins at junction of puborectalis portion of levator ani and the external anal sphincter
- * Ends at Anal verge
- * Divided by the dentate line (transition from glandular or columnar, to squamous mucosa)

2. Epidermis lined anal margin

- * This begins at introitus of the anal orifice
- * Transition from squamous mucosa to epidermis lined peri-anal skin

Terminology

- * Adenocarcinomas – glandular elements in the anal tract/low rectum. Treated like rectal cancer (although LN drainage may be different)
- * Anal cancers – tumors that develop from the mucosa (SCC, Basaloid, Nonkeratinized above dentate, keratinizing below dentate)
- * Perianal (SKIN) cancers – tumors that are distal to squamous mucocutaneous junction (e.g. hair)

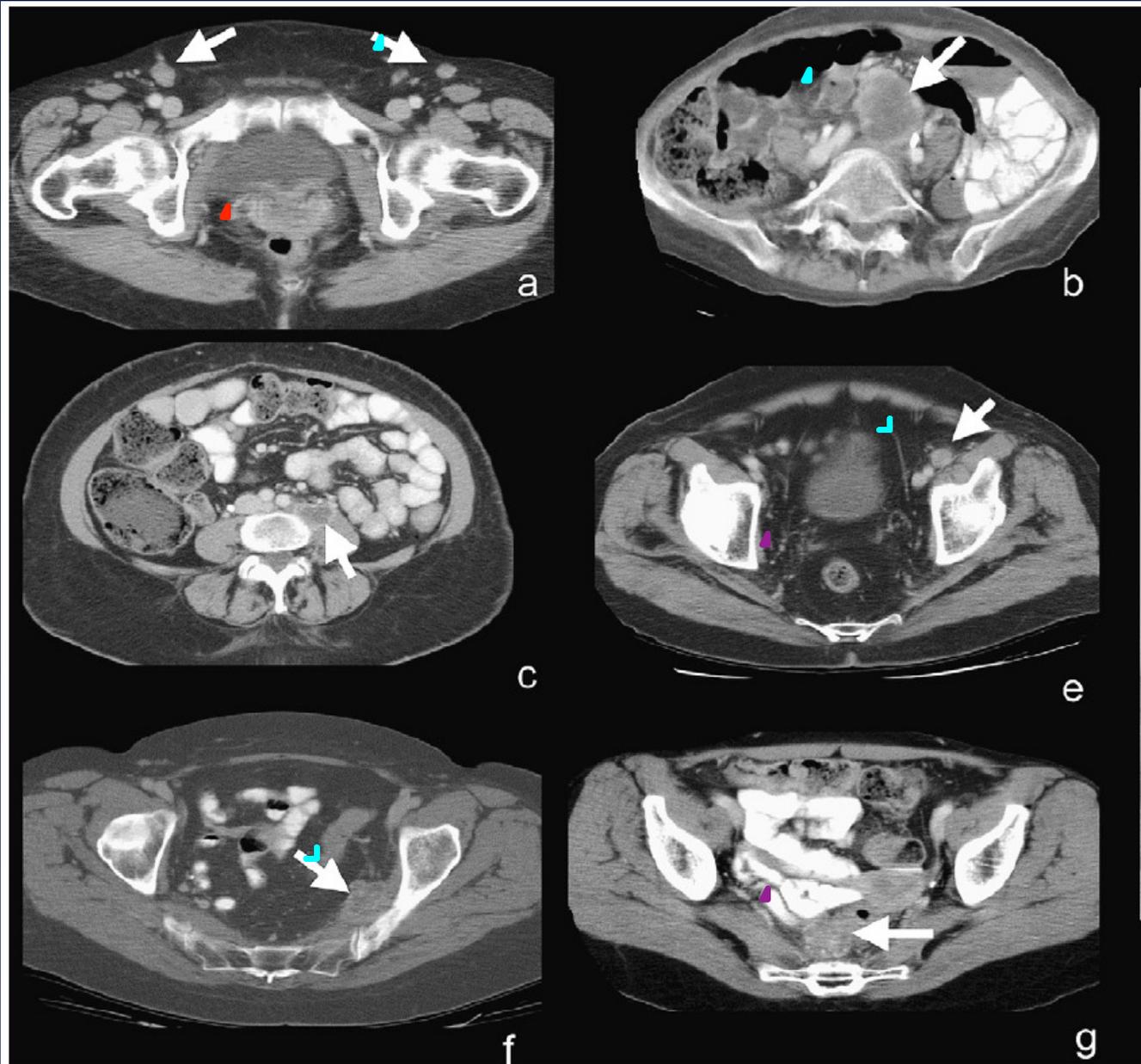
Staging
Where are the risks?

Anal Cancer Staging: T stage

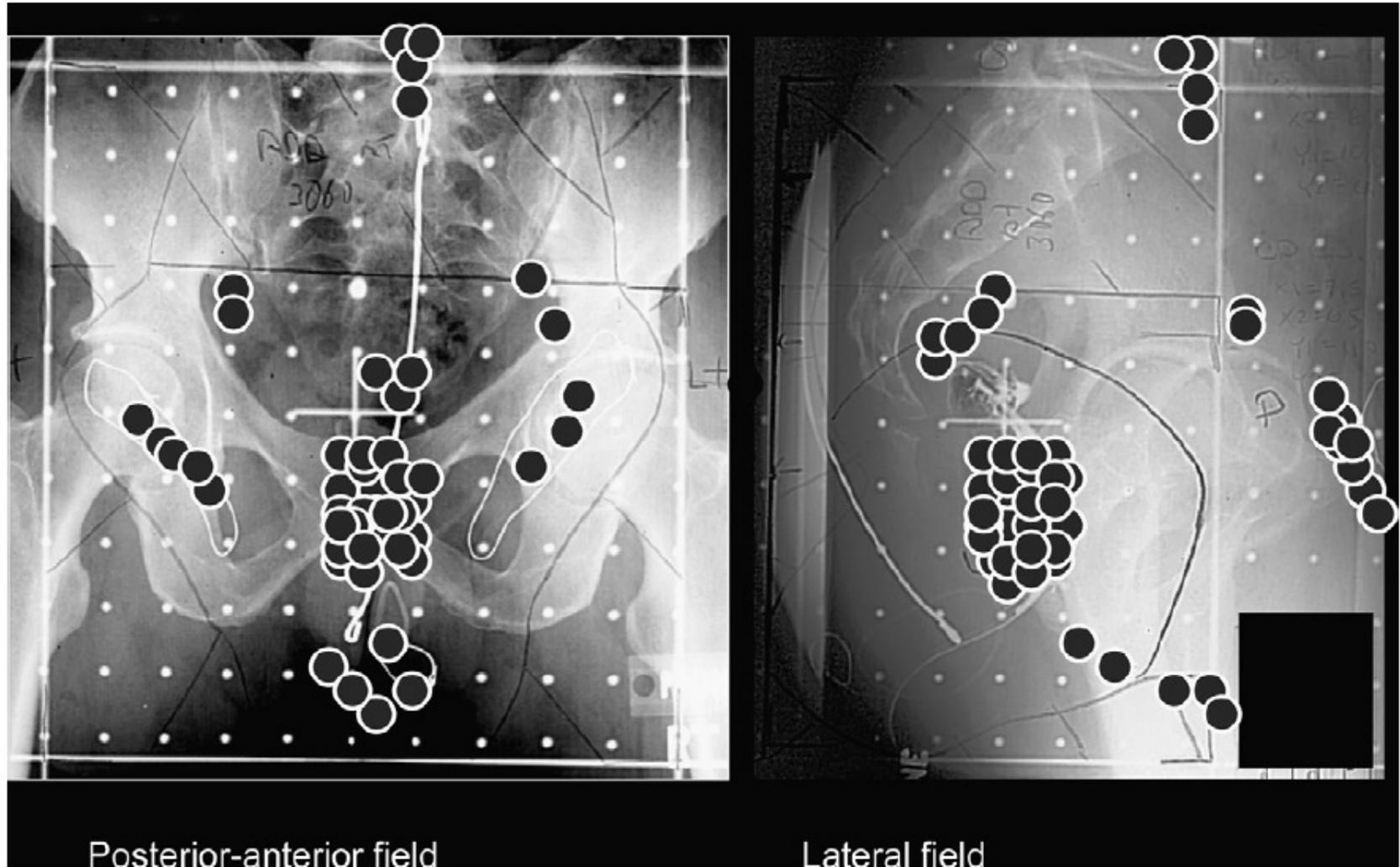
- T1 <2 cm
- T2 2-5 cm
- T3 >5 cm
- T4 Invades adjacent organ

Anal Cancer Nodal staging

- N0 No nodal mets
- N1 Perirectal Lymphnodes
- N2 Unilateral internal iliac or inguinal lymphnodes
- N3 Perirectal and iliac/inguinal OR Bilateral iliac/inguinal



Patterns of Recurrence



Prognostic groups - Staging

- I T1N0
 - II T2-T3N0
 - IIIA T1-3N1 or T4N0
 - IIIB T4N1 or N2 or N3 disease
 - IV M1
-
- 5 yr overall survival going from:
 - I 85+% II 70-85%
 - IIIA 50-60+% IIIB 40-50%

Work Up

1. Hx – Px
2. CT A/P (+/- MRI)
3. Chest imaging
4. PET scan (changes RT 13% of time*)

Other:

- * Nodal biopsy
- * Trans-rectal U/S (N1 staging)

*Int J Radiat Oncol Biol Phys. 2012 Sep;84(1):66-72. Epub 2012 May 15.

Anal Cancer Treatment



One slide about an Anal Cancer Trial

- UK consortium
 - (Lancet 1996; 348: 1049–54)
- Eligibility T1-T4 (any N) – no mets
- Randomly assigned 585 patients
- RT alone 45 Gy + 15 Gy boost
- Same RT with infusional 5FU and Mitomycin C
- Chemo reduced LOCAL FAILURE and Cause specific mortality

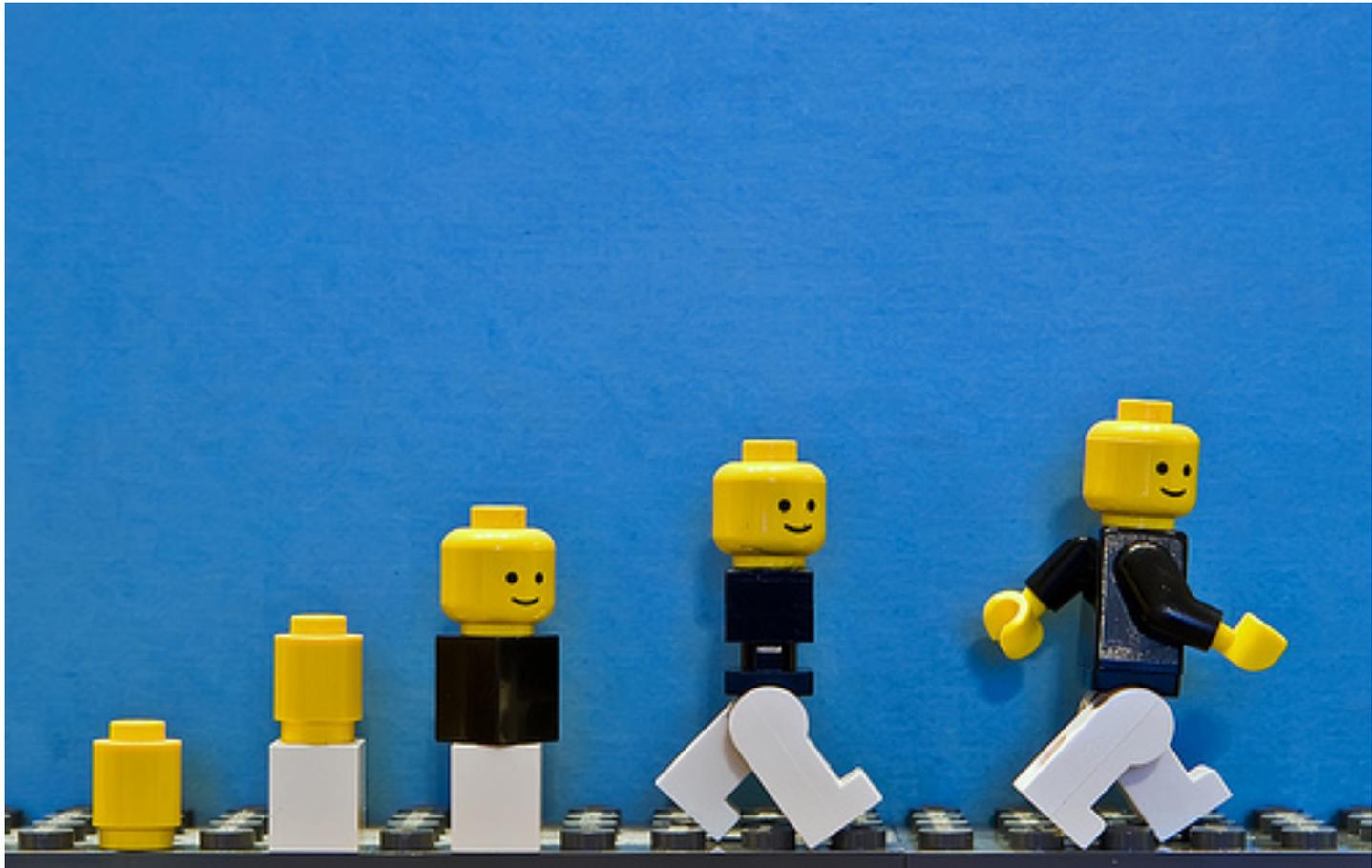
Trials are good for those in the
middle



Middle of the road tumors: T3 or N1 tumors

- These guys are the bulk of patients we see
- They were the bulk of the trial
- They get treated based on that (and other) Randomized trial evidence
- Nothing new here
 - Chemotherapy is 5FU and Mitomycin C
 - Radiation is anywhere from 50-60 Gy

Early Anal Cancers Treatment in Evolution



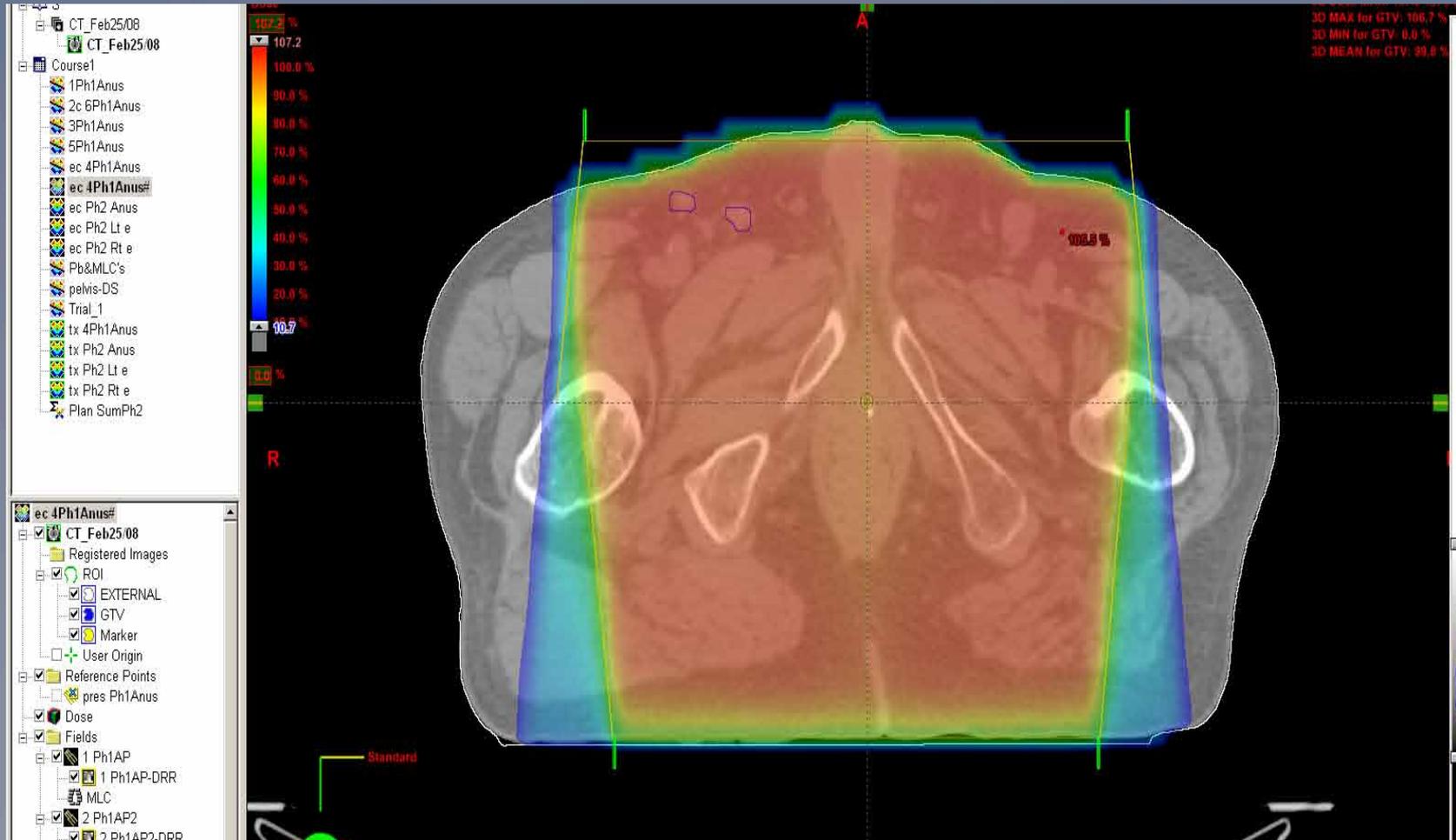
Early Anal Cancers

- These patients seem to present in a variety of ways
 - “Regular” Bleeding anal lesions
 - Hemorrhoids
 - Skin tags
 - Warts
 - SCC of Anal canal may or may not have been the top of the differential

T1-T2 after local resection

- Bulk of tumor should be removed (R1 or at most 1-2 cm of tumor remaining)
- Low radiation dose (30 Gy) and only 1 cycle of chemo
 - * (Half the radiation and half the chemo)
- Institutions have been giving varying volumes of radiation
- I would radiate the inguinal and low rectal nodes as well as the primary (little side-effects vs. risk of recurrence)

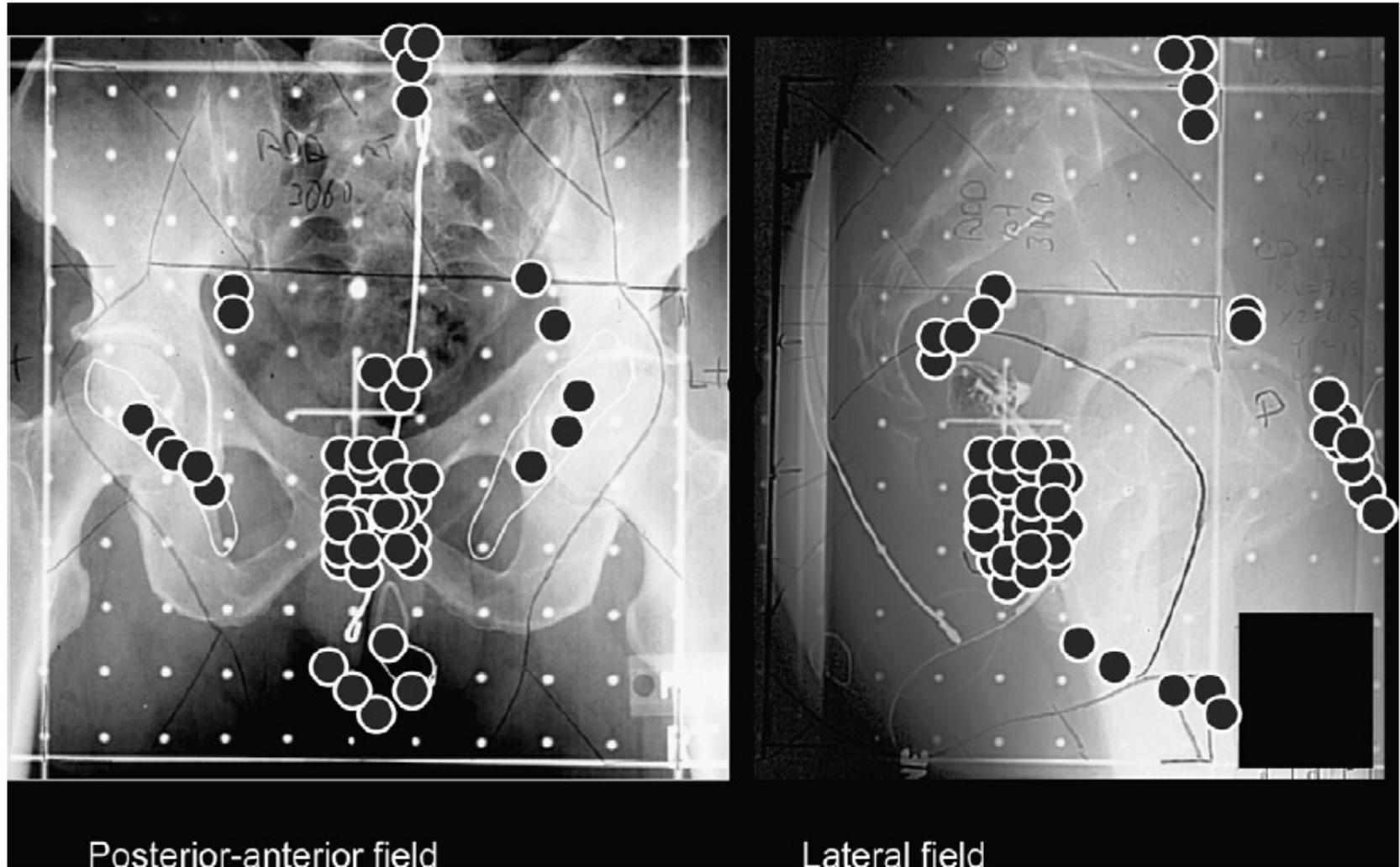
Radiation Volumes – Low dose

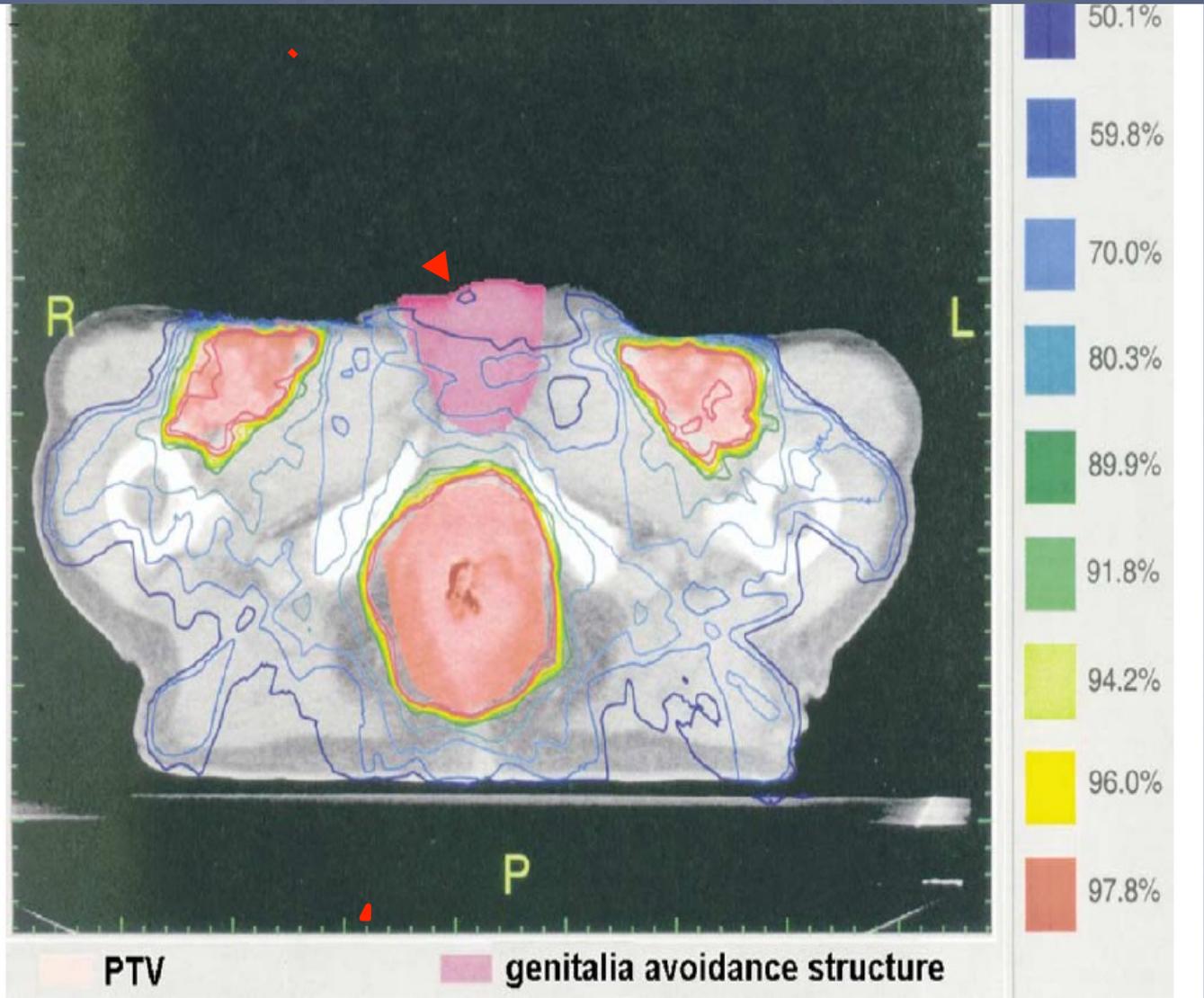


What to do with T4/N2-3 Tumors?

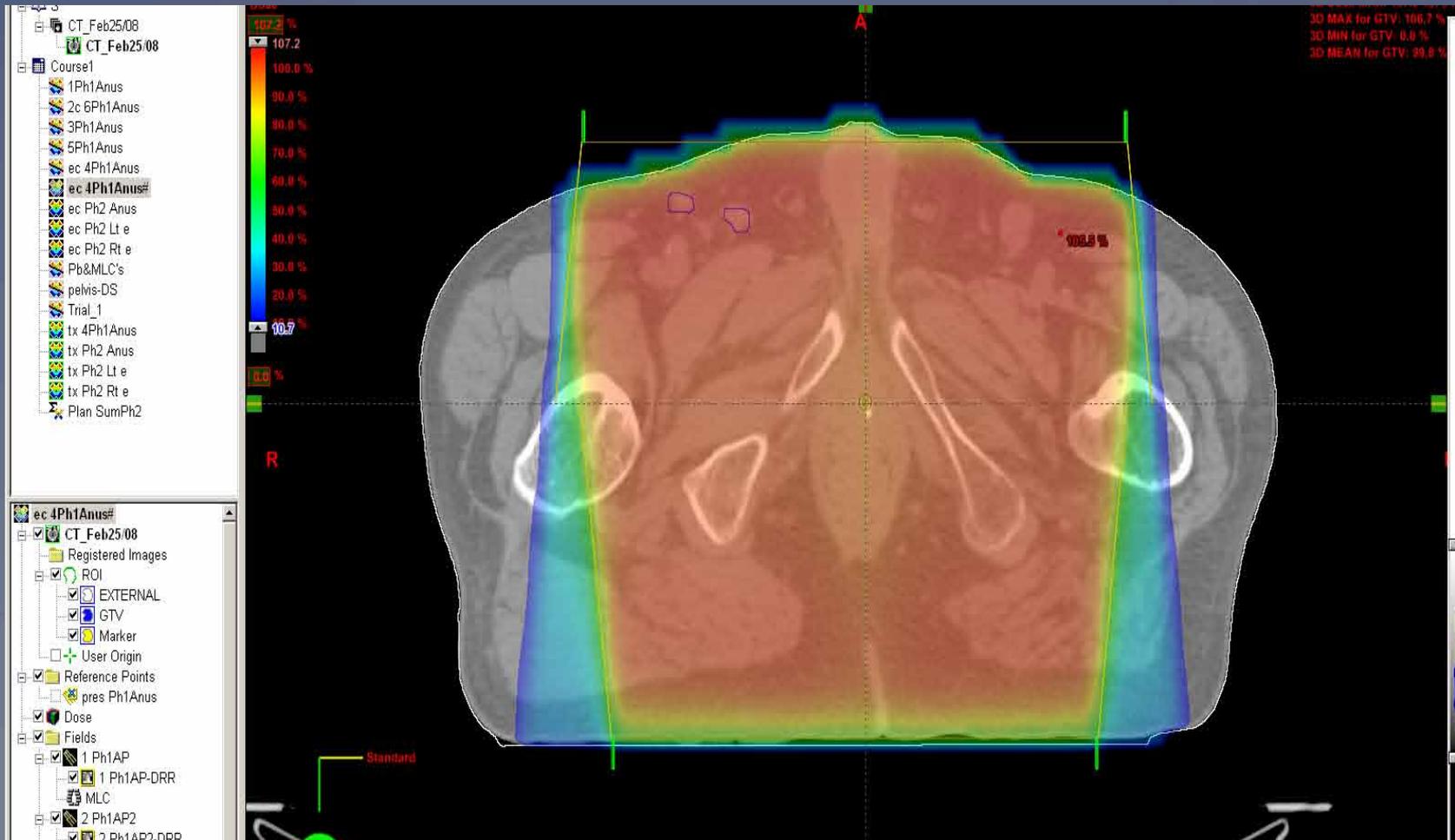
- * Various places do various things
 - Induction chemo has NOT worked (RCT)
 - More radiation?
 - Higher doses
 - Boost the primary site
 - Brachytherapy
- * No good (randomized) evidence to do anything different than standard
- * But, only at most 50% with local recurrence are salvagable

Patterns of Recurrence

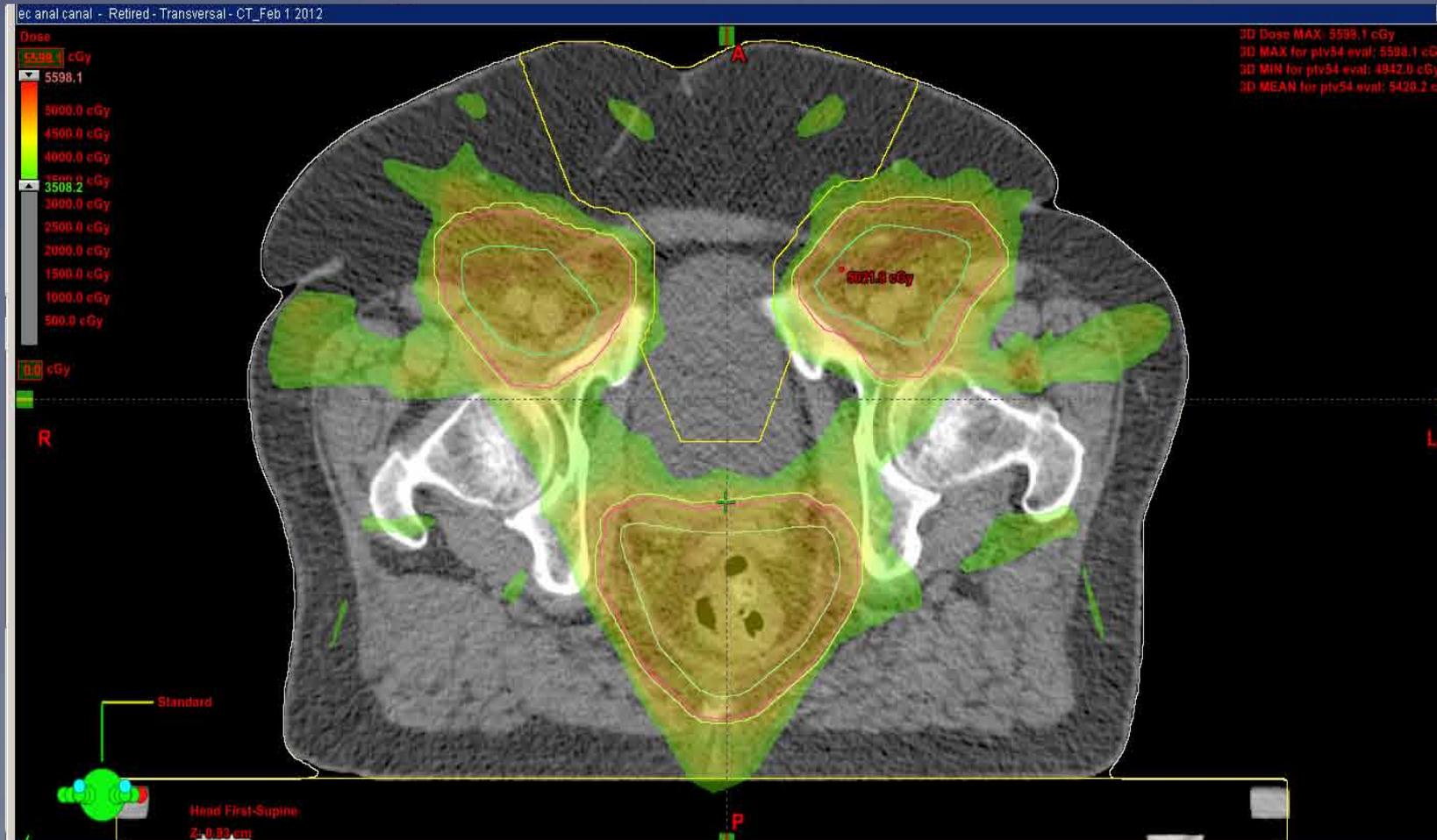




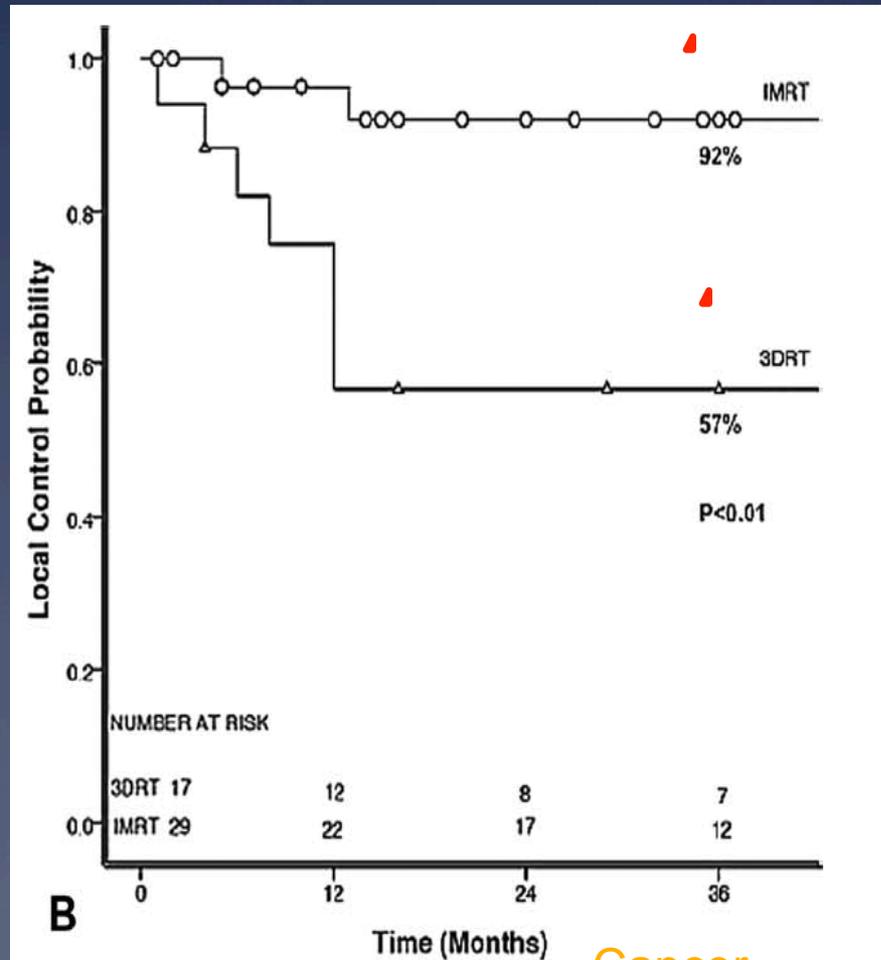
This volume is not tolerated to a high dose



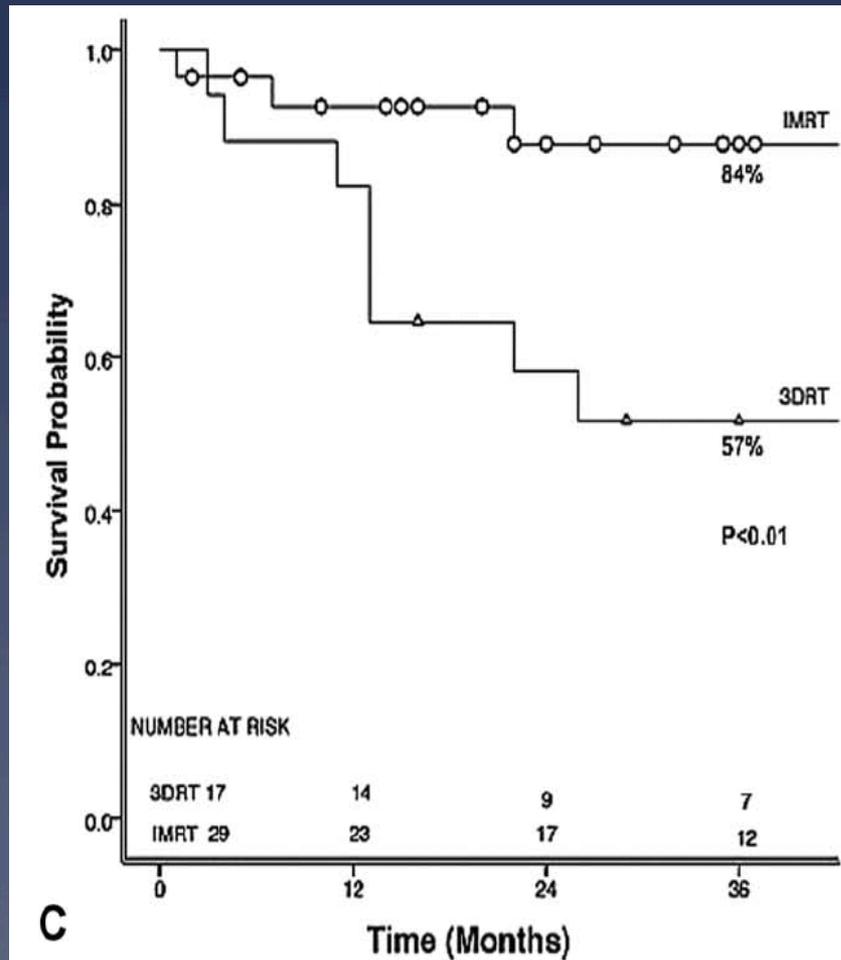
IMRT – Intensity Modulated Radiation Therapy



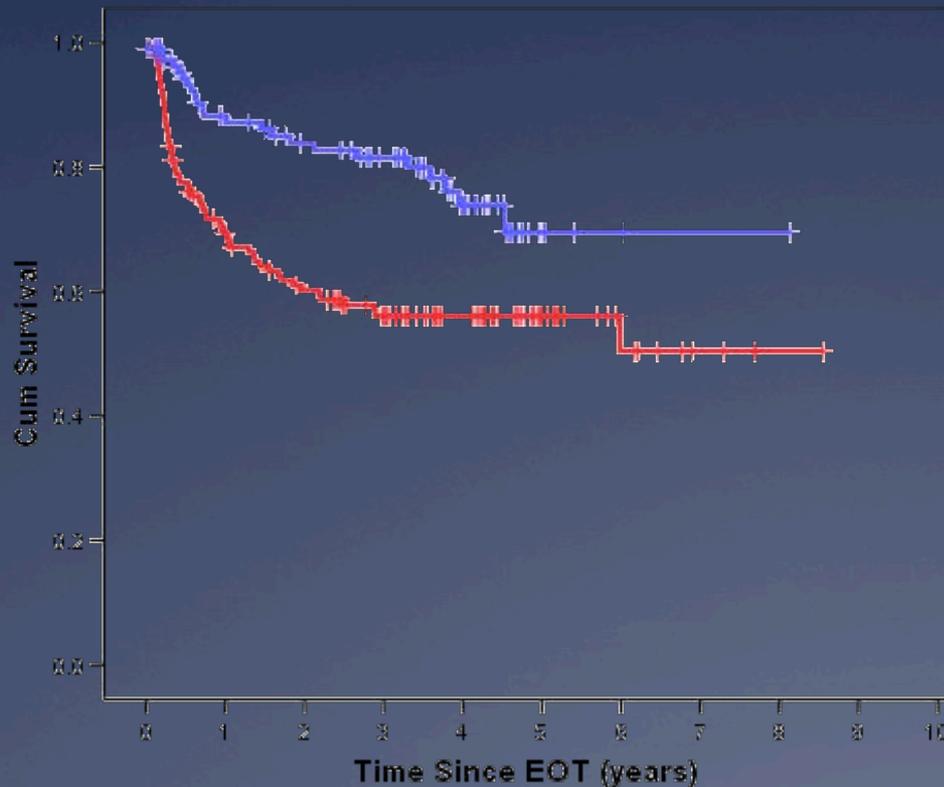
Local Control is better with more conformal radiation



Survival may also be better



BC Data: "Freedom from any Recurrence"



5 yr Outcomes worse with treatment breaks:

- Continuous course **69.5%**
- Split course **56.1%**
- P=0.001

Data from Dr. John Hay

Post Treatment Recommendations (NCCN)

- Hx and Px
- DRE
- Inguinal exam
- Anoscopy
- Yearly CT chest/abdo/pelvis for those with locally advanced disease (look for mets)

- * We can salvage local recurrence with APR
- * ? Benefit of finding a distal recurrence?

Summary

1. Work Up: PET scanning should be added to the work-up algorithm
2. T1-T2 Tumors: Evolving role for local resection and low dose chemo and XRT. Especially important for those that may not tolerate higher doses
3. T3 and N+: Radiation treatments are evolving aiming to spare normal structures and increase dose to tumors
4. Need to follow to detect early local recurrence.
 - * ?Utility of detection of early metastatic disease?

The End

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"I only got up for a drink of water,
and a queue's formed next to my bed."