



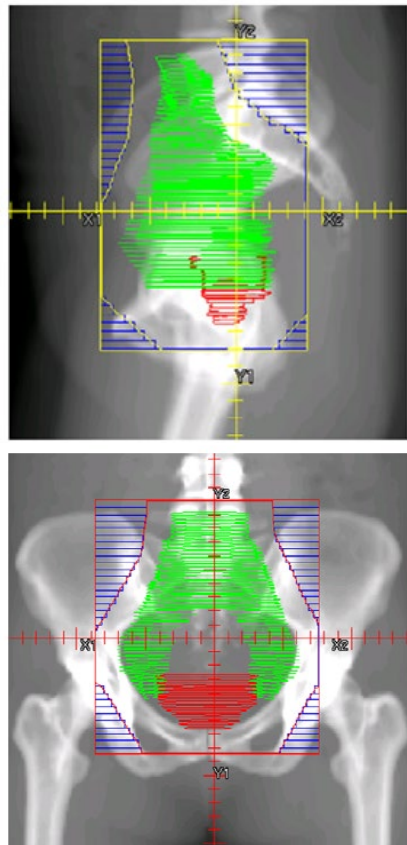
# Cervical Cancer Updates – Radiotherapy

## 2022 Survive & Thrive Gynecologic Cancer Program

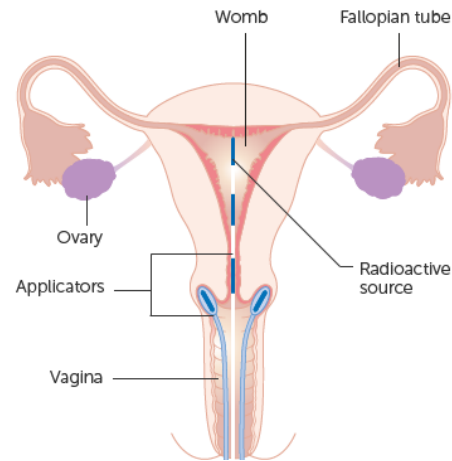
Jonathan B. Strauss, MD  
Associate Professor of Radiation Oncology  
October 7, 2022

# Chemo-Radiotherapy for Cervical Cancer

## External Beam



## Internal (Brachytherapy)

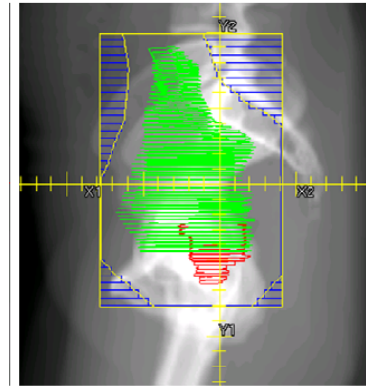
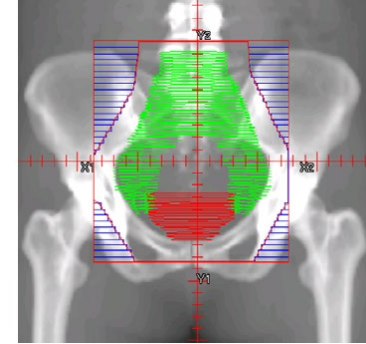
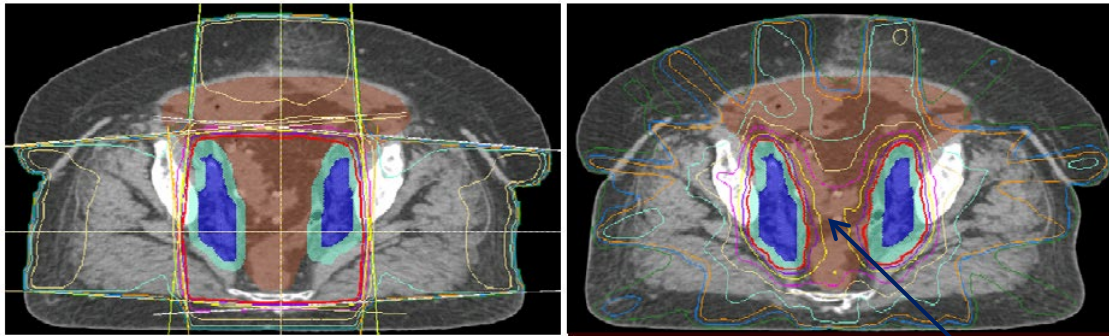


## Extra Treatment??

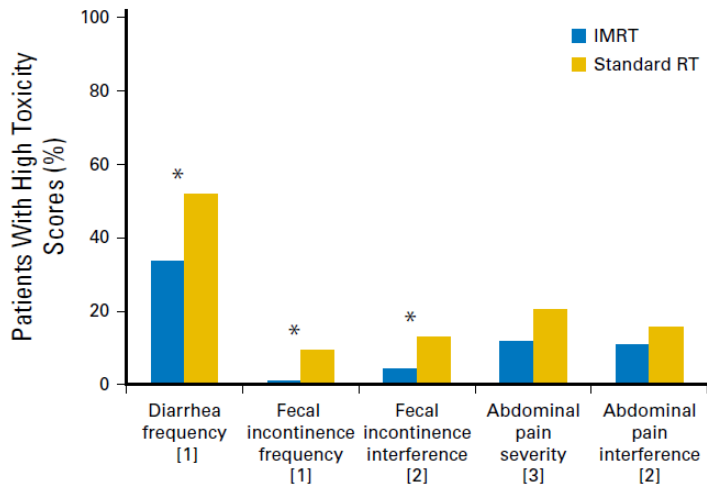


# IMRT: RTOG 1203

- Randomization: IMRT vs. 4-field pelvic RT
- 278 eligible pts enrolled

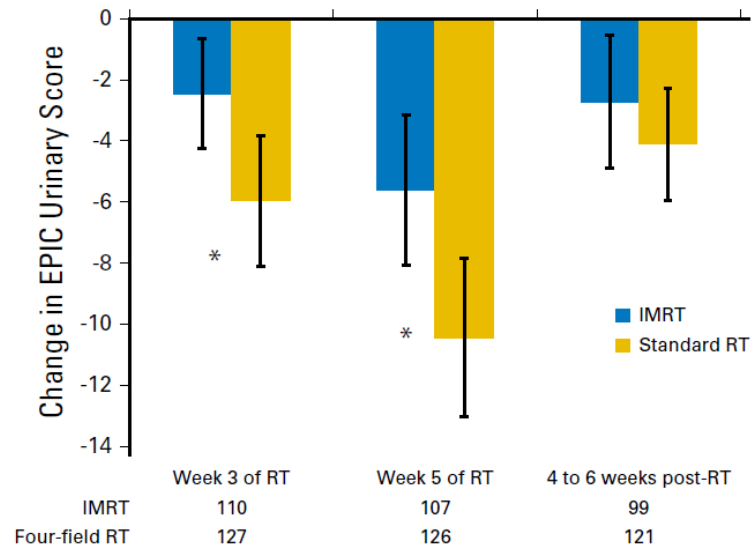
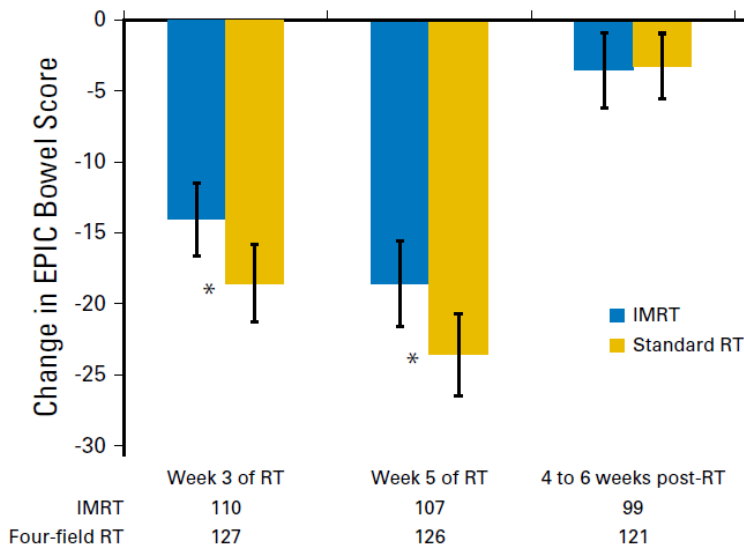


Spares small bowel here



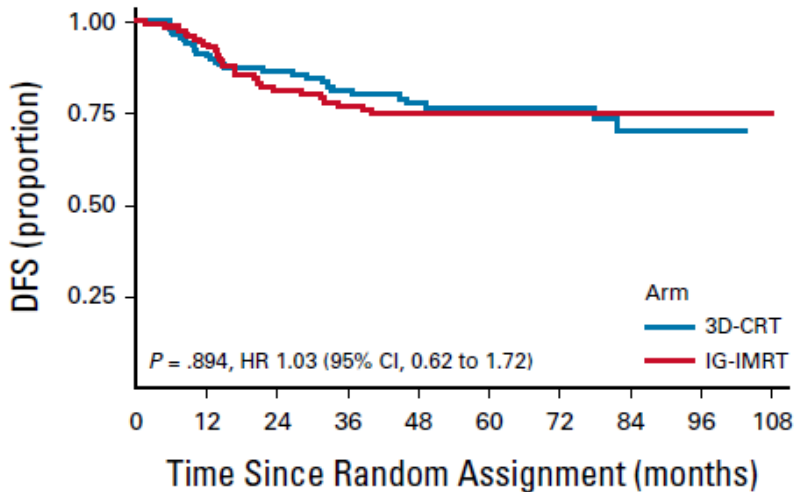
# IMRT: RTOG 1203

- EPIC Bowel score decline 23.6 vs 18.6 (p=0.048)
- EPIC Urinary score decline 10.5 vs 5.6 (p=0.03)
- Frequent diarrhea 51.9% vs 33.7% (p=0.01)
- Anti-diarrheals 4+ times/day 20.4 vs 7.8% (p=0.04)

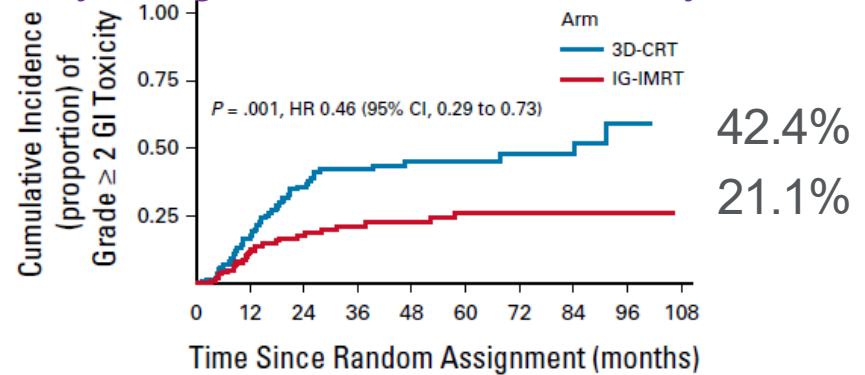


# IMRT: PARCER Trial

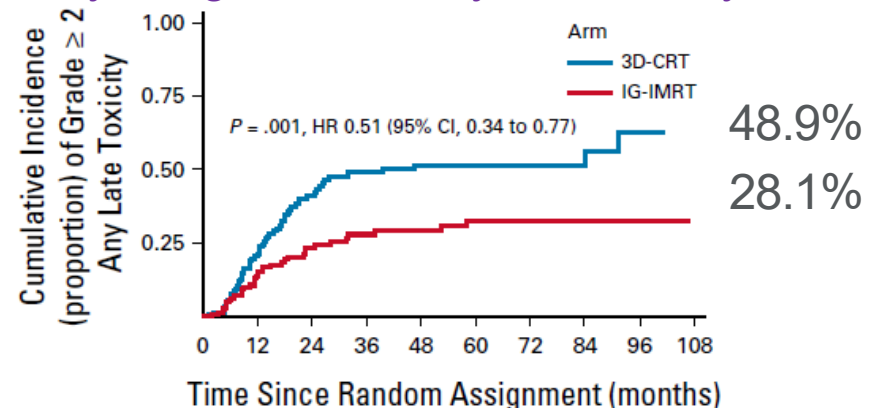
- 300 pts post-operative RT for cervical cancer



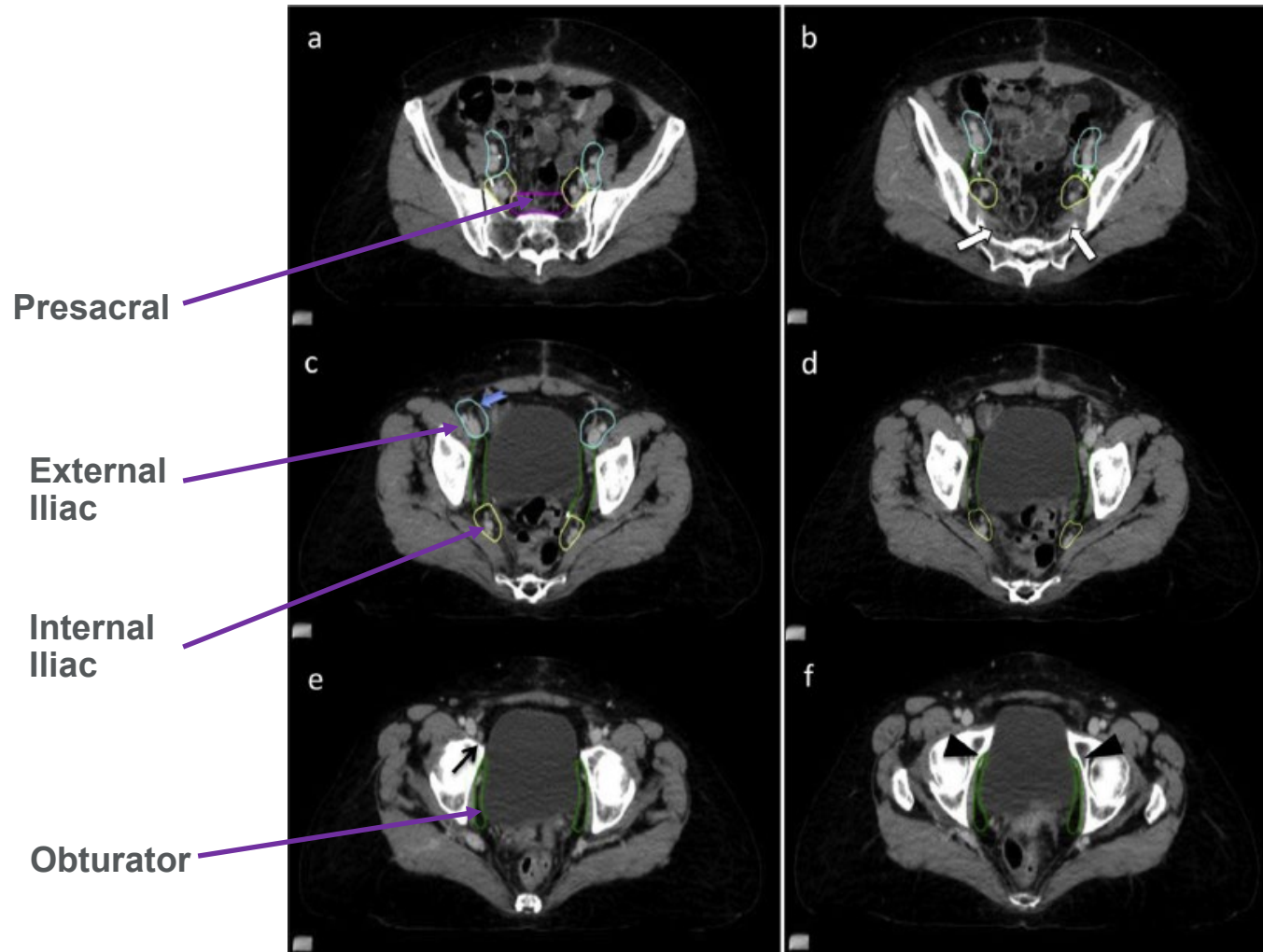
## 3-yr CI grade $\geq 2$ late GI toxicity



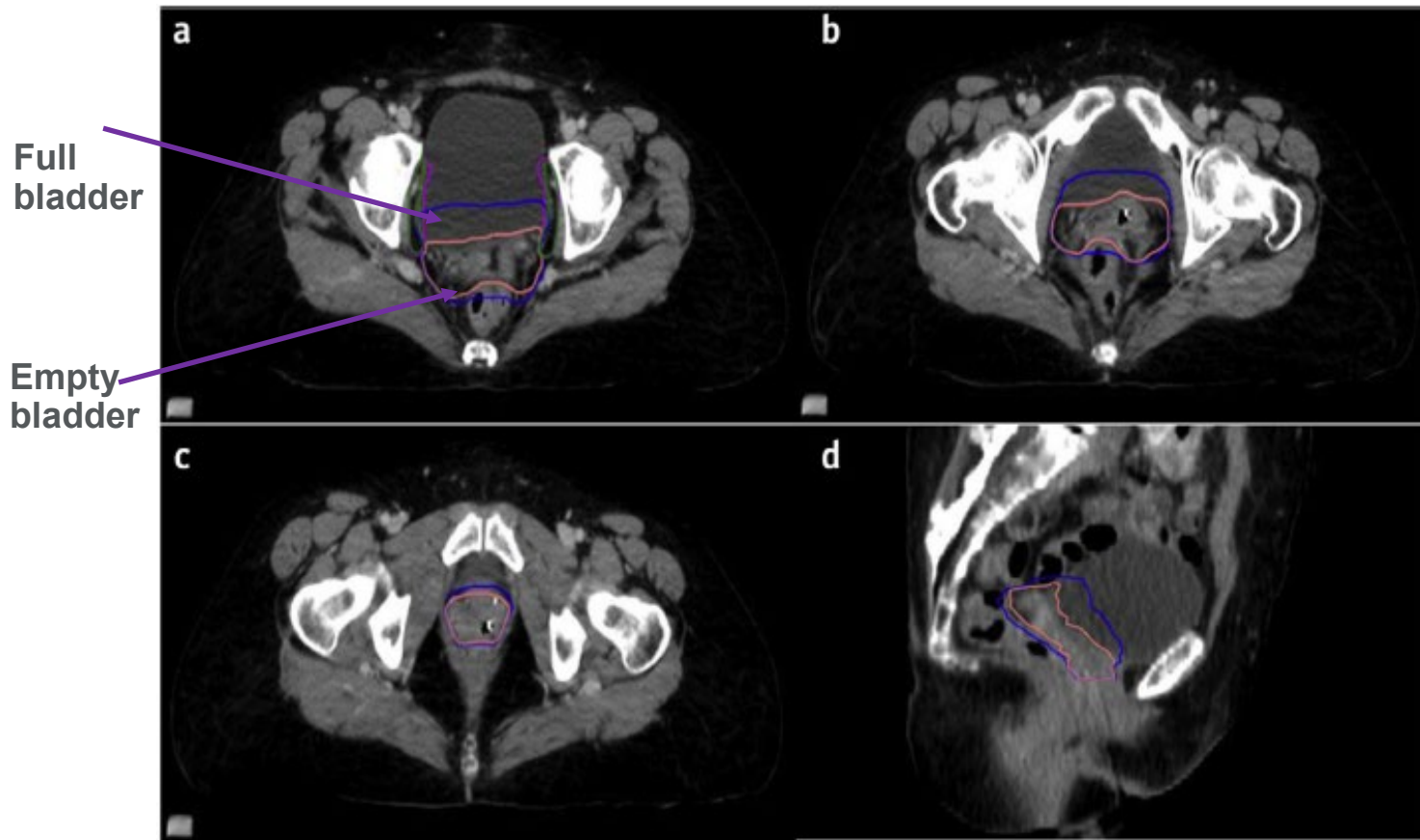
## 3-yr CI grade $\geq 2$ any late toxicity



# NRG/RTOG Contouring Guidelines

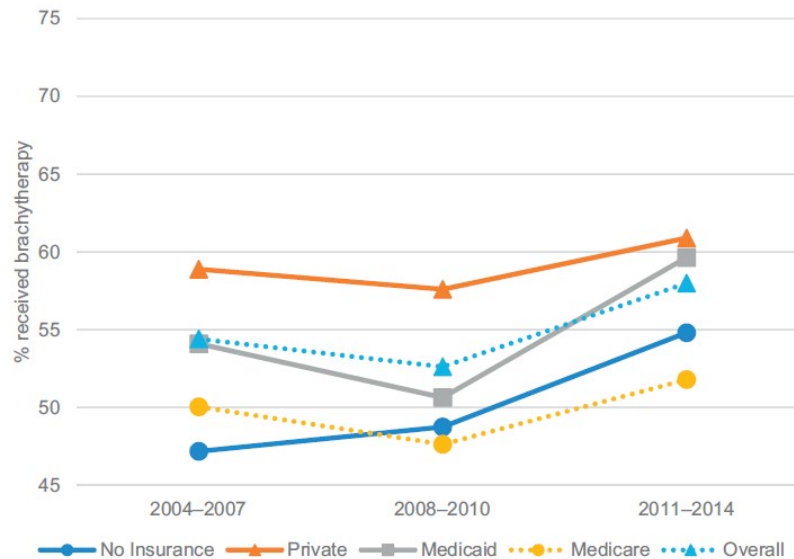


# NRG/RTOG Contouring Guidelines



# Utilization of Brachytherapy in Cervical Cancer

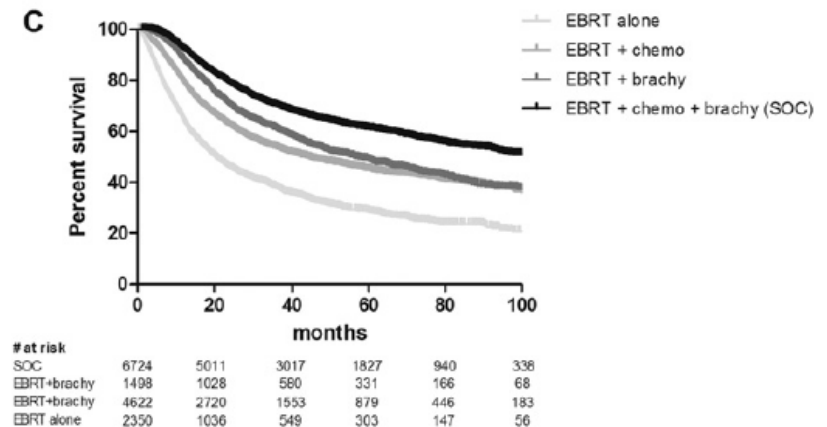
- National Cancer Database (NCDB) – FIGO Stage IIB – IVA



- Dramatic underutilization of brachytherapy**

# Benefit of Brachytherapy in Cervical Cancer

- National Cancer Database (NCDB)
- Outcomes of MVA – Favorable
  - Stage (lower)
  - Histology (squamous)
  - Chemotherapy
  - Brachytherapy
- **Brachytherapy associated with markedly improved survival**



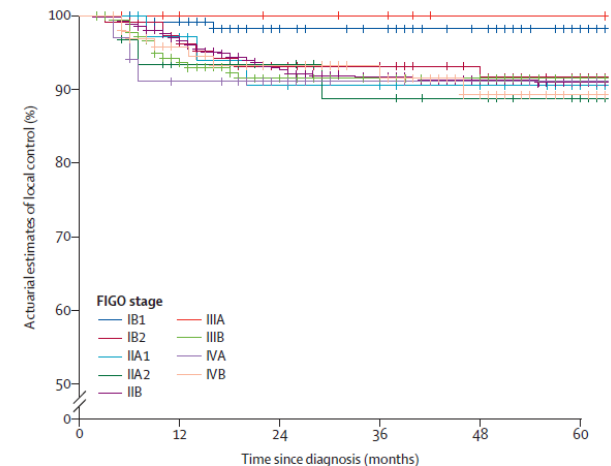
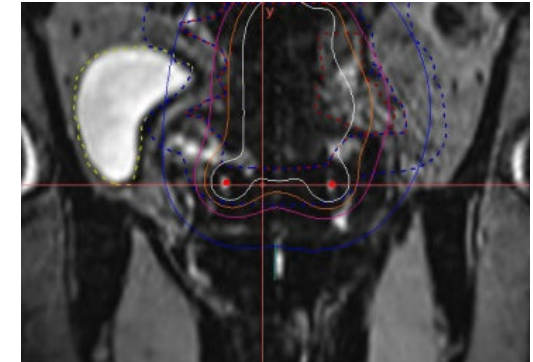
# EMBRACE-I: MRI Guided Brachytherapy



- Prospective, observational, international cohort study
- 1,416 pts with FIGO stage IB-IVA (IVB if PA nodes) cervical cancer (squamous or adenocarcinoma)
- 45-50 Gy EBRT + cisplatin followed by MRI-guided brachytherapy
- **5-year local control: 92%**
- 5-year nodal control: 87%
  - N0: 93%
  - **N1 :81%**
- 5-year grade 3-5 morbidity
  - GU: 6.8%
  - GI: 8.5%
  - Vaginal: 5.7%
  - Fistulae: 3.2%

Excellent

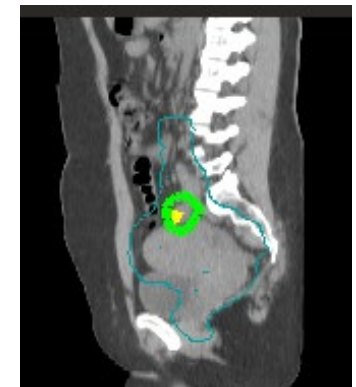
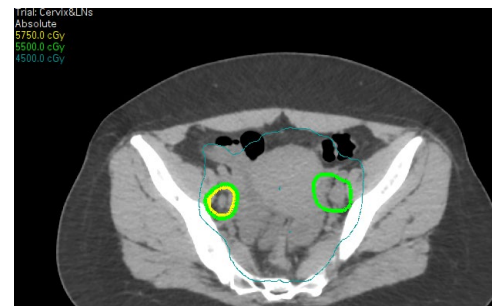
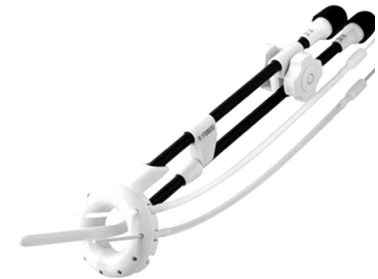
Room for improvement



# EMBRACE-II



- Increase the use of IC/IS brachytherapy
  - increase target dose in patients with a large tumors
  - decrease dose to organs-at-risk, esp in patients with small tumors
- Reduction of vaginal dose
  
- Use of IMRT/VMAT and daily IGRT for EBRT delivery
- Use of simultaneous integrated boost for pathological lymph nodes
- Reduction of overall treatment time



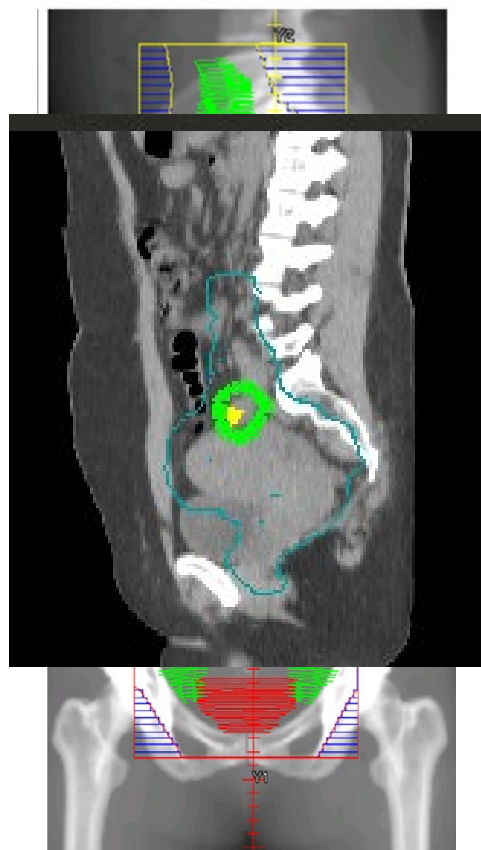
# OUTBACK TRIAL



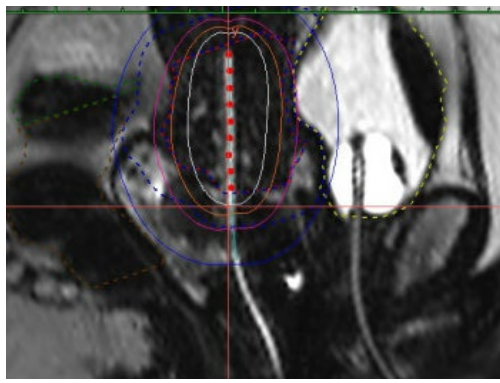
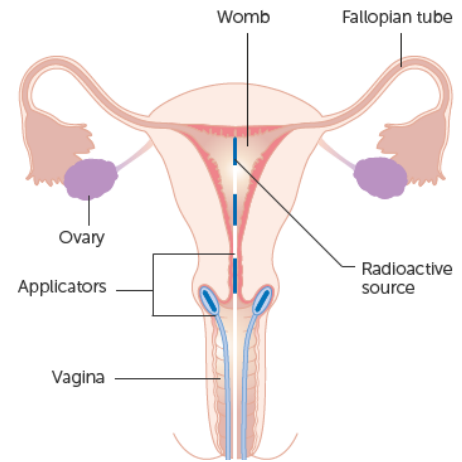
- Eligibility: locally advanced cervical cancer (FIGO IB2 and above)
- 919 women eligible
  - RT/cisplatin (456)
  - RT/cisplatin → carboplatin/taxol x 4 (463)
- Chemo was started in 361 randomized to receive it (78%)
- 5-year OS: 72% vs. 71% (p=0.91)
- 5-year PFS 63% vs. 61% (p=0.61)
- AE grade 3-5: control 62% vs. CT 81%
- Await data from the INTERLACE trial

# Chemo-Radiotherapy for Cervical Cancer – Updates!!

## External Beam



## Internal (Brachytherapy)



## Extra Treatment??

Not yet – more trials pending...