



How to establish an HDR service

John P Logue

Christie Hospital **NHS**
NHS Trust

Scope Clinical Data

Outcome Data: phase II

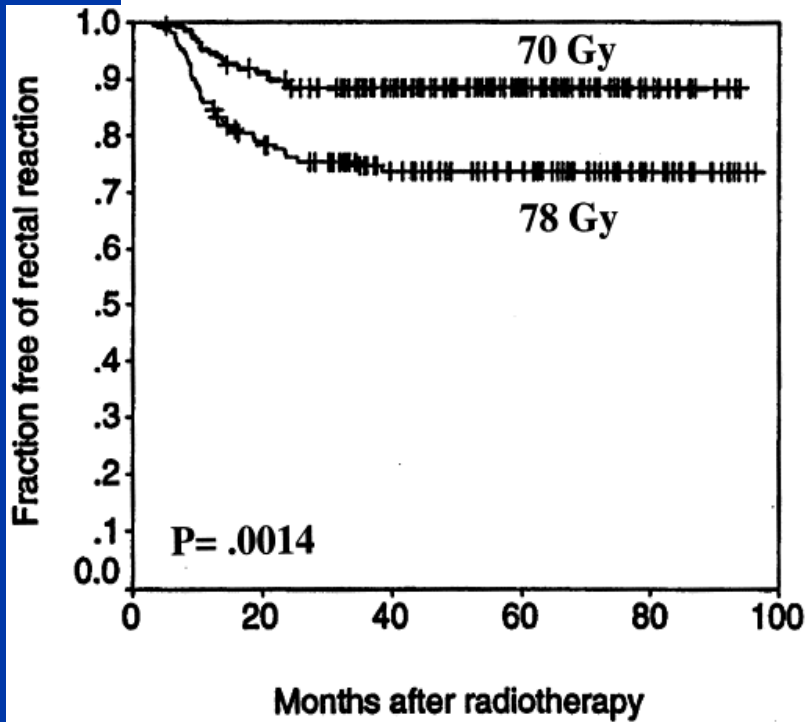
Phase III data

Dose Escalation

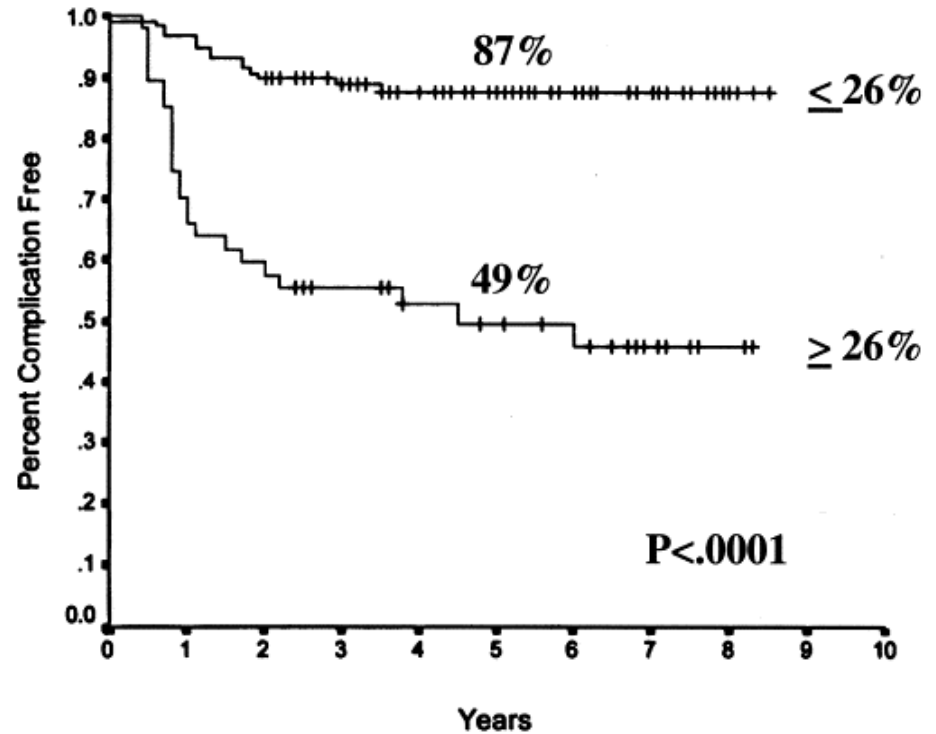
Toxicity Data

Cost of Dose Escalation

Grade 2, 3 Rectal Toxicity



Dose

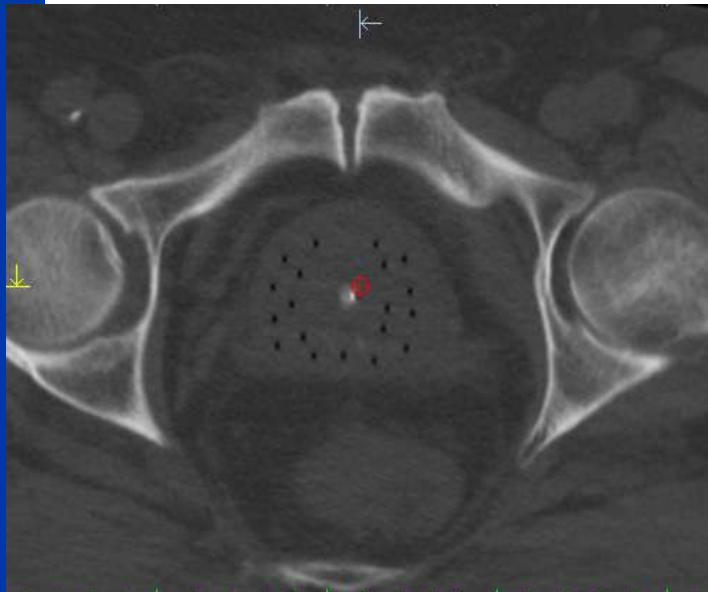


Rectal Volume

HDR Brachytherapy

Dose Escalation

*Intensity Modulated
Brachytherapy*



Scope Guidelines

Prostate cancer: NICE Full Guideline: February 2008

Brachytherapy is not recommended for men with high-risk localised prostate cancer.

Men undergoing radical external beam radiotherapy for localised prostate cancer¹ should receive a minimum dose of 74 Gy to the prostate at no more than 2 Gy per fraction.

High dose rate brachytherapy in combination with external-beam radiotherapy for localised prostate cancer

1 Guidance

- 1.1 Current evidence on the safety and efficacy of high dose rate (HDR) brachytherapy in combination with external-beam radiotherapy for localised prostate cancer appears adequate to support the use of this procedure provided that the normal arrangements are in place for consent, audit and clinical governance.
- 1.2 A multidisciplinary team should be involved in the planning and use of this procedure.

Review Ability to provide service locally

Current Brachytherapy activity

Staffing

Physics

Medical

Co-ordination

Theatre availability

HDR equipment

Review Ability to provide service locally

Staffing (90 HDR/ annum)

2 Consultant PA's Clinical Oncology

1.00 WTE Band 7 Medical Physics

0.4 WTE Band 8A Specialist Radiographer

0.5 WTE Band 3 Administration

1.25 Consultant PA's Anaesthetics

0.13 WTE Band 6 Nurse

0.26 WTE Band 5 Nurse

0.13 WTE Band 3 Nurse

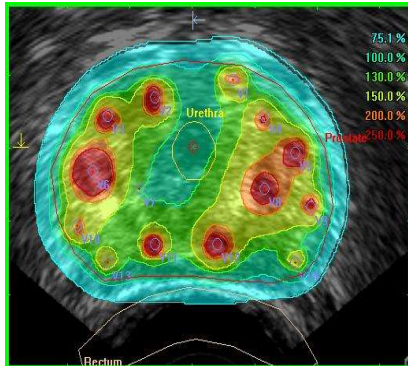
Develop Clinical protocol

Eligibility Criteria

Delivery method : CT planned / Ultrasound

Schedule

Dose / Fractionation



Current HDR schedules

Optimal Fractionation???

	Mount Vernon	Toronto	Christie	Exeter	Detroit	Kiel
EBRT	35.7	37.5	37.5	46	46	50/40
Fraction	13	15	15	23	23	25
Brachy	17	15	12.5/ 15	17	23	18
Fraction	2	1	5	3	2	2

Develop Business Case

Costs

Medical Time

Physics Time

Theatre Use

Bed Use

Consumables

Offset Costs: Reduction in fractionation

Private Income

Commissioner Support

Engage

Provide reasoned argument

Demonstrate benefit to patient

Demonstrate benefit to service

Starting Up

Mentorship and Guidance

Use established fractionation schedules

Ensure adequate space in job plan

Data collection

.....and keep on going!!!!



Future Direction

Consolidate Clinical service

Establish optimal dose fractionation

Explore Dose sculpting

Explore Monotherapy