

Starting priority radiotherapy treatments more quickly

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Problem

Delays to starting radiotherapy may be detrimental to survival outcomes (Burnet, et al., 2006; Punglia, et al., 2010; Valdeviuc, et al., 2013) but radiotherapy planning is a complex multistep process involving many professionals working across several different teams and patients cannot start treatment immediately.

The radiotherapy department at Cambridge University Hospitals NHS Foundation Trust achieves local and departmental targets regarding the time taken for patients to start a course of treatment but wanted high-priority patients to be able to start treatment more quickly. These patients are those with rapidly-progressing tumours being treated curatively and for whom radiotherapy is the first and critical intervention.

Approach

The time taken for each step in the planning process was retrospectively analysed for a cohort of patients who received curative radiotherapy as their first treatment for newly diagnosed head & neck cancer at Cambridge University Hospitals NHS Foundation Trust in Q3 of 2013.

Findings

There was not a solitary rate-limiting step in the pathway that needed to be addressed and improvements would have to be made at each stage to achieve a significant overall impact. There was evidence of inefficiency and unused capacity suggesting that this would be possible without the need for additional resources.

Recommendations

Working arrangements, communication methods and team interactions were examined, representatives of each team were brought together and a new planning schedule was designed based on the minimum calculated time needed by each team to complete their portion of the work. A pilot study was then run for ten weeks to test feasibility of the new pathway.

Challenges

I was grateful for the fantastic support I received in understanding the complex world of radiotherapy department business management and for the enthusiasm from staff for making changes to their work patterns to achieve beneficial systems change. Complicating factors such as depending on hospital transport may prevent adoption of an accelerated planning pathway for many patients. Physicians must be prepared to work as flexibly with their multi-professional colleagues to support change in departmental practice.

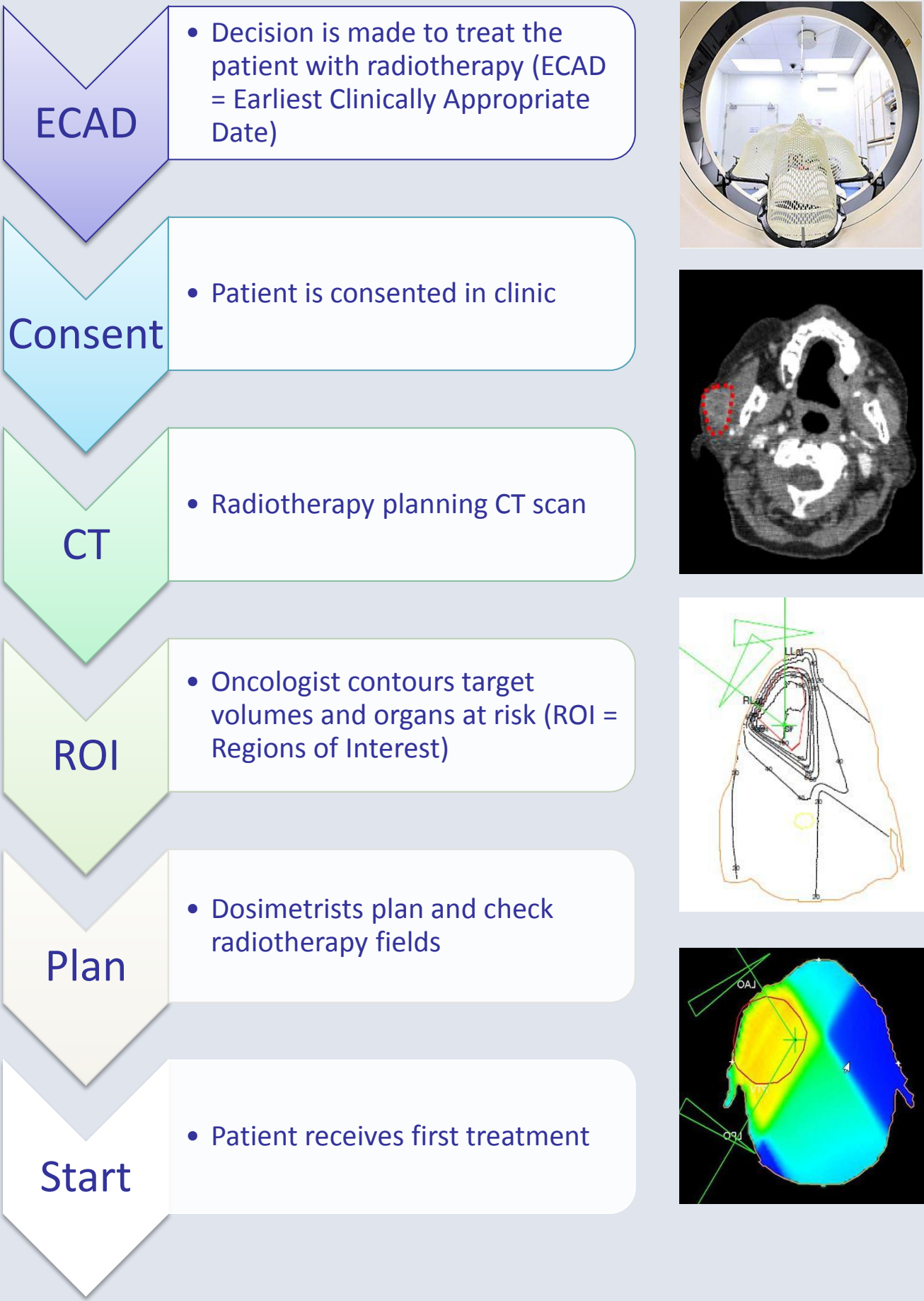
Improvements made and the next 12 months

The streamlined schedule worked effectively and enabled the patients treated in the pilot to start their radiotherapy more quickly than had been typical for the previously observed cohort (fifteen days on average from the decision to treat, compared to twenty-five days).

The accelerated planning pathway will be made available for priority patients to reduce the time taken to start radiotherapy treatment and could improve rates of cure without the need for expenditure on additional resources.

(No of days taken for each step)	Observed Cohort			Pilot Cohort			Change (mean)
	Min	Max	Mean	Min	Max	Mean	
Total planning time	19	29	25	12	19	15	-10
ECAD to planning CT completed	5	19	10	1	6	3	-7
From CT to ROI completed	0	6	2	3	8	5	+3
From ROI to Preplan completed	0	12	4	0	1	0.7	-3.3
From Preplan to Plan completed	0	9	2	0	1	0.3	-1.7
From Plan to Check completed	0	7	2	1	1	1	-1
From Check to first treatment	3	12	5	3	5	4	-1

Table - Timing data for observed cohort and pilot study



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