



# The Breast Cancer Patient

## A Radiotherapy Perspective

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Radiotherapy Manager

The majority of the patients attending the Clinic for a course of radiotherapy have breast cancer. In preparation for a course of radiotherapy, all breast patients have a CT scan of their chest area. The data from the scan is then fed electronically into the treatment planning system where the radiographers and physicists look at the patient in 3D and, from the information displayed, produce an individual treatment plan which is then approved by the clinical oncologist.

This process takes about a week from the time of the CT scan. The patient will then undergo what we call a 'dummy run'. Here, the treatment plan is downloaded electronically directly to the treatment machine from the planning system, removing the risk of any error due to the manual transfer of information. The patient is then aligned on the treatment machine, and the position and measurements are checked against the treatment plan. Electronic images are also taken to verify the plan is optimum.

The patient will then start their treatment the next day. The majority of patients attend treatment sessions for between five and six weeks. Each treatment (known as a fraction) takes between 10-15 minutes, with most of that time spent placing the patient in the

correct position and checking measurements. All patients receive verbal and written information about what to expect and the team of radiographers spend a great deal of time offering information and advice. Patients are also seen by our dedicated breast care nurse and will routinely see their consultant either on a weekly or fortnightly basis.

During the course of their treatment, patients are advised to wear loose comfortable clothing and are given advice on skin care. Most patients continue with their normal routine, for example, continuing to work, but tiredness is common, and therefore patients are advised to take it easy and accept offers of help or reduce their hours. Whilst attending for treatment patient's skin may become pink and itchy and some patients experience some

breakdown (similar to blisters). Radiographers and the breast care nurse can advise on this and also apply dressings, if appropriate.

### The Role of the Physicist

Tony Bedford, Head Physicist and MPE (medical physics expert) oversaw the commissioning of the Radiotherapy machines and is responsible for establishing the quality assurance and maintenance programmes for the equipment. He also commissioned the treatment planning system and advises doctors and radiographers on solutions to complex planning issues. He, along with Carol Hurd, Radiotherapy manager is also a RPS (radiation protection supervisor) ensuring that safe practice and systems of works are carried out at all times.

### Cancer of the Prostate

Another common tumour treated at the Clinic is prostate cancer. As with the breast patients, all prostate patients will have a CT scan and dummy run as part of preparation for their treatment. However, because we "phase" the treatment - that is shrink (in size), the tumour volume that we are treating in each phase, the patient will undergo either one or two further CT scans to confirm the position of the prostate within the pelvis.

Radical radiotherapy for patients with prostate cancer can last up to 7 weeks. In addition, the actual planning of the patient in the planning system is complex and requires the clinician to actually sit at the planning PC and draw around the prostate and surrounding critical structures in 3D (bladder and rectum). Using this, the planning system can calculate DVH's (dose volume histograms - showing maximum and minimum radiation doses within these areas). Furthermore, a complex plan is produced whereby the targeted area is

precisely defined by special shielding structures (MLCs or multi-leaf collimators) within the radiotherapy machine head. As a result of the time it takes to produce a treatment plan, there may be up to two weeks between the initial CT scan and the dummy run.

Prostate patients are also given relevant information by radiographers, including dietary advice, important in these cases, as a small amount of bowel will be included in the treatment area causing some temporary side effects.