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Radiotherapy - Linear Accelerators

- A Patient's Guide

The Future
of Glasgow's
Hospital Services



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**GREATER GLASGOW
HEALTH BOARD**

in partnership with
the NHS Trusts
in Glasgow

Radiotherapy - Linear Accelerators - A Patient's Guide

Radiotherapy is the treatment of diseases with x-rays. It has been used very effectively for many years, especially in the treatment of cancer. Cancers are usually made up of cells, which multiply rapidly. x-rays destroy these rapidly-multiplying cells, which makes this type of treatment particularly suitable. Radiotherapy is often used on its own as a treatment, but it may be given before or after surgery and/or in conjunction with special drugs (chemotherapy).

Linear accelerators are the highly sophisticated machines which produce the x-rays for radiotherapy treatments. Modern linear accelerators cost between £500,000 and £1 million each and are housed in special rooms built with a range of safety features. Both the machines and the buildings in which they are housed are subject to rigorous national quality and safety checks, which are carried out by technical staff employed by the North Glasgow Trust.

Since this radiation equipment is so expensive and must be well maintained it is best provided in specialised centres for whole regions. The Beatson Oncology Centre at the Western Infirmary is the West of

Scotland Regional Centre and houses all the linear accelerators within the NHS for the region.

At present the Trust has 6 linear accelerators all at the Beatson Oncology Centre.

The Trust is planning to have 8 machines carrying out clinical treatments by April 2002 and 9 machines from 2004. This figure was reached following a review of facilities in 1996 which showed that there needed to be more accelerators to treat the increasing number of patients now being referred.

The ambitious programme which has begun will not only see the gradual transfer of these services from the Western Infirmary site to Gartnavel but means that by the year 2007 North Glasgow will also have 9 linear accelerators all bought relatively recently.

This programme is quite complicated and the following table gives an indication of how this might all work in practice. This lets us replace all of the existing linear accelerators and have 3 additional machines over the next 7-10 years.

No of machines at Western	Gartnavel	Replacement/ Additional	North Glasgow Total	Date (assuming all moves sequential)
6	0		6	2000
5	1	First replacement	6	Jan 2001
5	2	First additional	7	April 2001
5	3	Second additional	8	July 2002
4	4	Second replacement	8	April 2002
3	5	Third replacement	8	April 2002
2	6	Fourth replacement	8	April 2003
2	7	Third additional	9	Oct 2004
1	8	Fifth replacement	9	July 2006
0	9	Sixth replacement	9	Jan 2007

The Scottish Executive and all West of Scotland Health Boards have supported our plans to build a new Radiotherapy Out-patient Department at Gartnavel General Hospital. Work began on this building in November 1999 and will be complete by May 2001. This building will contain the special rooms necessary to install new linear accelerators.

The installation work will be carried out in two phases. Phase 1 lasts up to April 2002. At the end of this phase there will be 3 new machines at Gartnavel General Hospital. One is a replacement for an existing machine

at the Western Infirmary and two are new. Then Phase 2 begins. This involves installing at Gartnavel more replacements and additional machines to reach the target figure of 9 linear accelerators.

Although the Trust has started planning for an increase in the facilities, it takes a number of years to build new radiation rooms and install the linear accelerators. The additional treatments we need to give now have been made available by extending the number of hours the machines are used each day and using extra machines locally in a private facility.

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During this programme of expansion we will need to return to the plan for the Beatson Oncology Centre and the Centre for Cardiothoracic Services. Our leaflet '18. Better Access For West Glasgow Residents' makes clear that planning will need to continue for the integration of the Beatson Oncology Centre and the Centre for Cardiothoracic services on the larger hospital site at Gartnavel.

In order to have proper access to the radiotherapy, the Centre at the Western Infirmary site will need to have two linear accelerators on site. This suggests that the plan will need to be finished before 2006/2007 before the number at the Western falls below this. Alternatively, when we reach the level of 4 linear accelerators at Gartnavel it might be possible to consider moving the Centre there. During this period of consultation we will need to firm up these plans in order to ensure the most effective continuity of service.

The Scottish Executive has recognised the importance of early diagnosis and treatment of cancers and has made this a national priority for the Health Service. The national guidelines for the maximum waiting time for radiotherapy treatments are 4 weeks for radical treatments, aimed at curing patients, and 2 weeks for palliative treatments, aimed at controlling the symptoms of the disease. If someone needs treatment more urgently this will be provided on the recommendation of his/her consultant.

The health service in Glasgow is working hard to make sure that its services meet the guidelines by making full use of the existing machines and using local private facilities in addition to the building of the new department at Gartnavel.

Comments on this issue or any other aspect of the proposals to modernise Glasgow's hospital services should be sent by June 30th, 2000 to

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Leaflet request form

Getting Informed

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Greater Glasgow Health Board
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- 2. Getting It Right For Patients: What It Means For Organising Services
- 3. Cancer Services: Specialisation In Action
- 4. Why Specialisation Matters - And What We Propose To Do To Make Its Benefits More Available
- 5. Creating More Responsive Accident And Emergency Services
- 6. Ambulatory Care: What Is It?
- 7. Minimally Invasive Technologies: Keyhole Surgery And The Like
- 8. The Overall Planning Challenge For Greater Glasgow - Acute Hospitals In A Wider Context
- 9. Some Recent Background History
- 10. Impact Of Regulations On Doctors' Working Hours

- 11. The Number Of Beds We Propose To Provide
- 12. Regional Services Provided By Glasgow Hospitals
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- 16. Detailed Analysis Of The Options For South Glasgow
- 17. Maternal And Child Health
- 18. Better Access For West Glasgow Residents
- 19. The GRI/Stobhill Partnership
- 20. Why Centralise Cardiothoracic Surgery?
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