

Radiation Oncology Division

Introduction

Radiation therapy (RT) plays an essential role in the care of patients with cancer. It is used as a curative treatment in many patients with malignant disease, as an integrated therapy with chemotherapy and surgery, and as palliative treatment for those in whom curative treatment is not an option. The dose of radiation delivered to the tumor must be as high as possible, while being as low as possible in the surrounding normal tissues.

The focus of the Radiation Oncology Division is to develop, evaluate and expand the role of RT in cancer treatment. Establishing optimal irradiation techniques, including proton treatment, is also an important goal of the division.

Routine Activities

The Radiation Oncology Division includes five consultant physicians, nine radiation technologists, three medical physicists, one nurse, and one clerk. Physicians and medical physicists share both conventional radiotherapy and proton beam therapy. Five operating staff and one technician for fabricating apertures and compensators are

employed by the equipment manufacturers.

A conference on treatment planning and verification is held once a week in the evening, a journal club is held weekly, and a work conference is held monthly.

Treatment has been mostly based on three-dimensional planning with isodose distributions, performed by RT-dedicated multidetector-row helical scanning CT, to match the dose to the tumor. More than 1,100 new patients are treated annually, and more than 30 clinical trials that involve RT as a sole or combined treatment modality, for various cancers, are ongoing.

The conventional (photon-electron) treatment division is equipped with four treatment machines (a Microtron, two linear accelerators and a high-dose-rate brachytherapy unit), a CT simulator, three treatment-planning computer workstations, and many other devices. Quality assurance of the machines is also important for delivery of precisely targeted treatment.

● T. Ogino ●

Number of patients treated with radiotherapy in 2002-2006

	2002	2003	2004	2005	2006
New patients	936	1010	1124	1137	1146
New treatments	1127	1200	1308	1384	1418
Head & neck	229	199	238	259	270
Lung & mediastinum	329	354	350	393	395
Breast	174	202	251	294	300
Gastro-intestine	224	259	282	242	242
Hepatobiliary tract	50	63	37	52	54
Gynecological disease	7	1	2	3	0
Urological disease	48	60	70	74	94
Bone & soft tissue	6	4	11	12	6
Hematological disease	51	41	51	39	38
Others	9	17	16	16	19