

B_rachy RAD_iation -FIT

Intensity-Modulated
Brachytherapy (IMBT) System

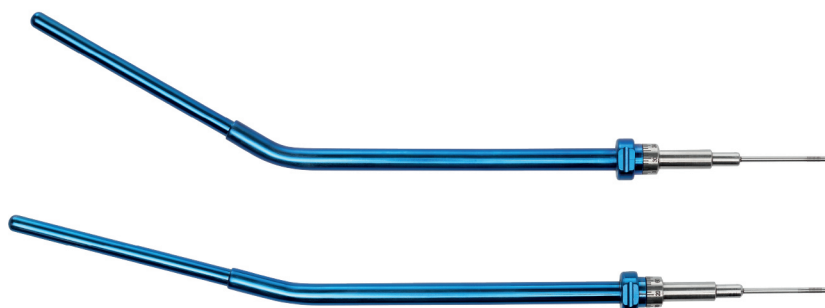
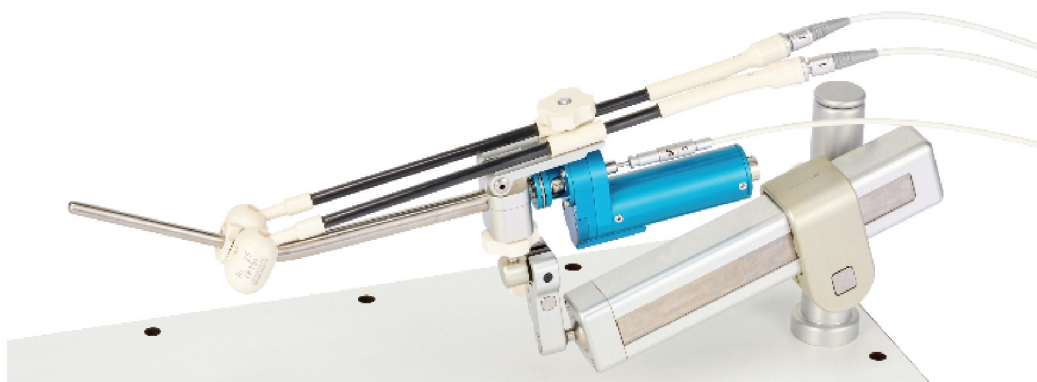


Intensity-Modulated Brachytherapy (IMBT) System



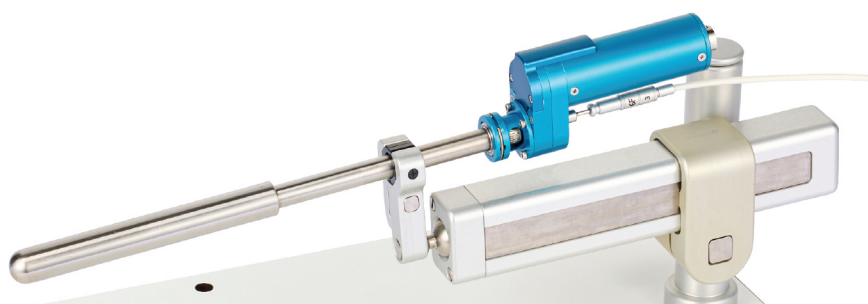
IMBT Applicators

| For cervical & endometrial cancers



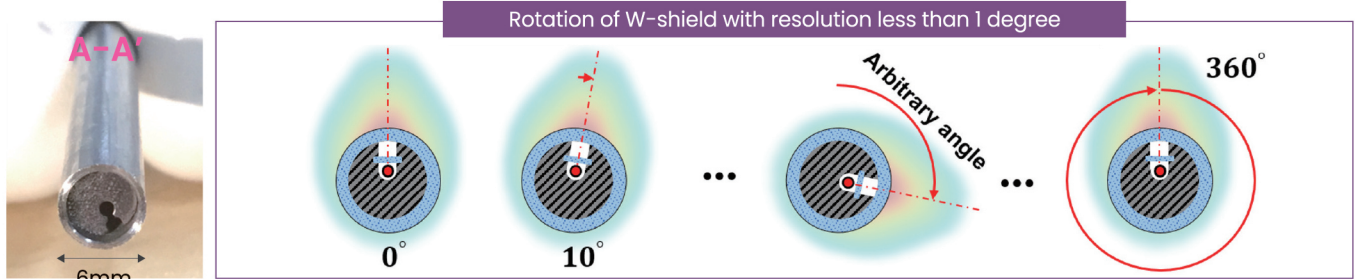
» Tandem applicator

| For breast & vaginal cancers

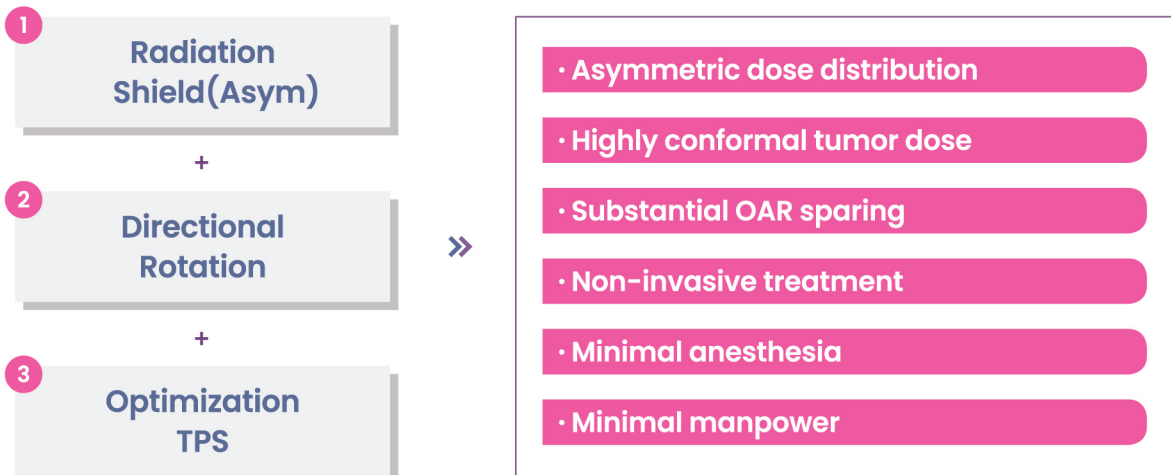


» Cylindrical applicator

Working Principle



Features of IMBT Applicators



Treatment Planning System

Name: Patient Name
ID: Test_Patient_2
Prescription: 3000 cGy / 6 fx

Pixel spacing: 4.00 mm
CT index: 23 / 40

Zoom
Pan
Init view

Angle Resolution: 10
The number of Tandem dwell Points: 27

ROI/DVH window

- GTV
- HR-CTV
- IR-CTV
- RECTUM
- SIGMOID
- BLADDER
- BOWEL
- BODY

DVH constraint window

Add constraint Delete last constraint

ROI constraint idx: 0 Add constraints sub information

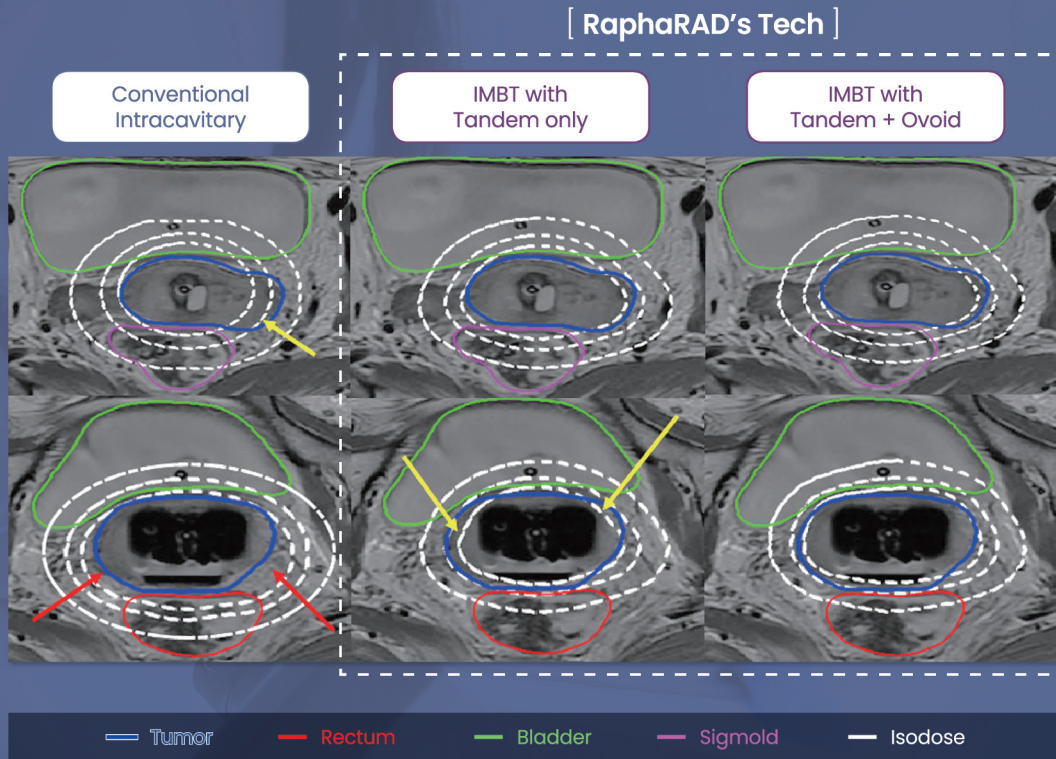
Idx	ID/Type	cm3	Voi [%]	Dose [cGy]	Actual dose [cGy]	Priority
0	RECTUM	15.408				
	Upper		0.0	0	0	0

Dose calculation / optimization control panel window



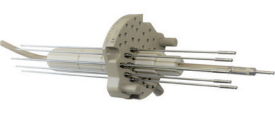
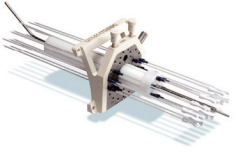
Initialize Optimization Start Confirm Cancel optimization

```
# Initializing dose kernel - please wait...
# Creating Dose Kernel
# Created Dose Kernel
# Optimization: Started
# Maximum dose: 5971975.000000 cGy
# Optimization: Completed
```

Comparison of Dose Distributions



Comparison with Other Applicators

Comparison	RaphaRAD	Elekta	Varian	E&Z Bebig
Product				
① Dose distribution	Asymmetric ○	Asymmetric ○	Asymmetric ○	Asymmetric ○
② Invasiveness	Non-invasive ○	Invasive X	Invasive X	Invasive X
③ TR accuracy	Accurate ○	Skill-dependent △	Skill-dependent △	Skill-dependent △
④ Radiation risk	Low ○	Skill-dependent △	Skill-dependent △	Skill-dependent △
⑤ TR prepar.	Short ○	Long X	Long X	Long X
⑥ Manpower	Minimal ○	Much more X	Much more X	Much more X

Patents

- > Apparatus for body-inserting having controllable radiation direction Korea (2017), Europe/China/Japan (2020), USA (2021)
- > Apparatus for body-inserting having controllable radiation direction and shape of radiation Korea (2019), China/Japan (2021), USA (2022)
- > Device, method and program for providing the plan of brachytherapy, and brachytherapy apparatus Korea (2021), USA (2024)