

Development of Robot for CT-guided IR : Free physicians from Radiation

Takao Hiraki

Department of Radiology, Okayama University Hospital

Background

CT-guided Interventional Radiology

Procedures for physician to insert specified needle to lesion during real-time CT monitoring



e.g., Radiofrequency ablation

Cryoablation

Biopsy

Drainage

Preoperative marking

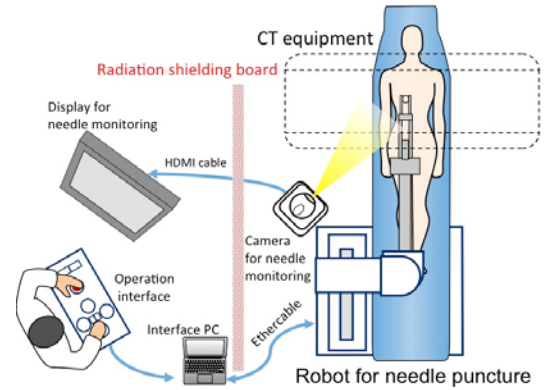
etc.

Advantage > Minimally invasive
Disadvantage > Radiation exposure to physician

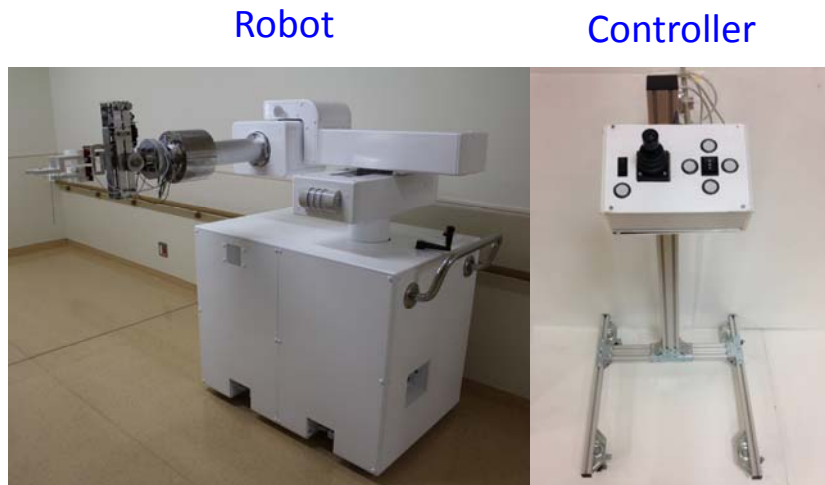
Purpose

To develop remote-controlled robot to free physician from radiation

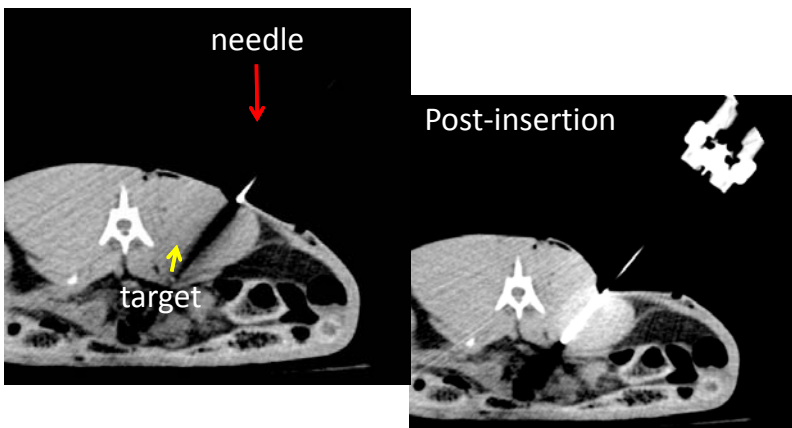
Image of Robotic IR



Phantom Study



Animal Experiment



Radiation Exposure

	Radiation Exposure (μ Sv)
Physician	0
Robot	225
Doll near CT gantry	56

Robot enables accurate needle insertion without radiation exposure to physicians!!