

CASE STUDY ALIGNRT & DIBH FOR REDUCED RADIATION TOXICITY

35% Lower Dose to Breast
28% Smaller Planning Target Volume
Tattoo and Mark-free Treatment



**SHANDONG
CANCER HOSPITAL
AND INSTITUTE**

CHALLENGES WITH LYMPHOMA PATIENTS

Shandong Province Hospital was looking for a superior DIBH solution for their young mediastinal lymphoma patients as these patients have an increased risk of lung cancer, breast cancer and cardiovascular disease after radiotherapy. In view of the high survival rate of this disease and patients' young age, extra care needs to be taken to reduce toxicity after radiation therapy and an accurate and highly reproducible DIBH solution is critical.

OVERVIEW:

Institution Type: Government Hospital
Location: Jinan City, Shandong Province, China
SGRT System: AlignRT x 1
Years with system: Varian VitalBeam (5 years)
Cancer types treated: Thorax and pelvis



GOALS

1

ACCURACY

Implement an accurate and highly reproducible DIBH technique.

2

DOSE REDUCTION

Find a technology that will help them effectively reduce dose to lung, breast and heart.

3

PATIENT SATISFACTION

Develop workflows with AlignRT to provide tattoo and mark-free treatment and enhance the patient experience



SOLUTION

Shandong Province Hospital has been using AlignRT on thoracic, breast and cervical patients since 2018. In 2020, Vision RT developed a educational plan to maximize the hospitals utilization and technology for better patient outcomes.

RETRAINING PROGRAM

1

Vision RT's Clinical Application Specialist visited the site as part of the retraining program and worked with their staff to develop streamlined workflows and increase their knowledge of AlignRT.

NEW WORKFLOW

2

The retraining program helped them devise a unique workflow combining the linac's automatic couch positioning function with AlignRT's move couch function to position patients efficiently and accurately. This workflow was published in an abstract which was accepted by ASTRO in 2021.

DIBH

3

The Clinical Application Specialist worked with them to develop DIBH technique for their mediastinal lymphoma patients. Eventually, they moved towards tattoo and mark-free treatment after successful implementation of the workflow.

"One of our core values is to be the best and strive to be the first in everything we do. Especially when it comes to our patients, in order to have better and safer treatment, we will be the first to pioneer the latest technique and technology."



Yin Yong
Chief Physicist

RESULTS

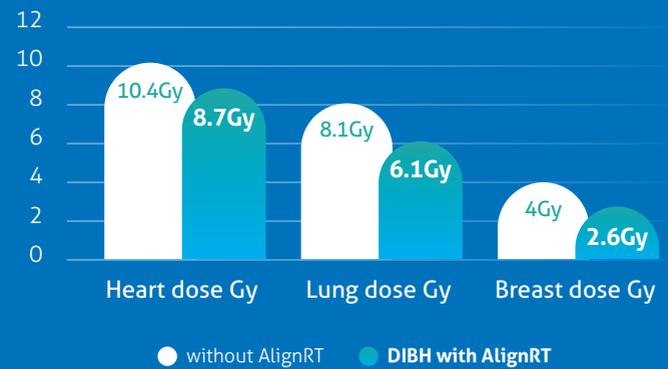
The use of DIBH with AlignRT reduced

1. Planning Target Volume (PTV) by **28%**
2. Dose to Heart by **16%**
3. Dose to Lung by **25%**
4. Dose to Breast by **35%**

Reduced Planning Target Volume with AlignRT

527 PTV 380 PTV

Lower Dose with AlignRT



FUTURE PLAN

Shandong Cancer Hospital plans to expand this technique to all their breast cancer patients. In addition, they plan to expand the use of AlignRT to other sites such as SRS treatment.



US Vision RT
Phone Number: 866.594.5443

Vision RT, Inc.
580 Howard Avenue
Somerset, NJ 08873