

# Treatment Accuracy with DIBH and SGRT: A Local Quality Improvement Initiative to Enhance Workflow, Safety, And Efficiency

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# Objectives

- **Standardize DIBH/SGRT setup steps to reduce re-positioning**
- **Decrease average room-time variability within scheduled slots**
- **Lower daily image counts when clinically acceptable (ALARA)**
- **Document countermeasures to recurring setup issues for staff education**



**FLORIDA CANCER  
SPECIALISTS**  
*& Research Institute*

**New Technology That Protects  
the Heart During Radiation:  
First Available in the Area at  
Florida Cancer Specialists  
& Research Institute**



**FLCancer.com/Articles**

- July 2019 – Clinic opened
- May 2023 – Align RT
- Sept 2023 – 6DOF couch
- Tattooless 1 year
- 12 FCS Radiation Clinics



# Ocala Cancer Center Awarded For Tattoo and Mark-Free Radiation Treatment





Treat BH LT Breast Pa  
Treat DIBH RT Breast Pa  
Treat APBI Patients  
Use DIB for Chest/Abdomen patients  
Tattoos  
Use Send to Couch

## 2025 Breast Patients

- LT 65; 63 DIBH **97%**
- RT 42; 38 DIBH **90%**
- Prone 27
- APBI 19; 17 DIBH **89%**

Total 153; 118 DIBH



## 2026 Breast Patients

- LT 12; 12 DIBH **100%**
- RT 17; 16 DIBH **94%**
- Prone 3
- APBI 4; DIBH 4 **100%**

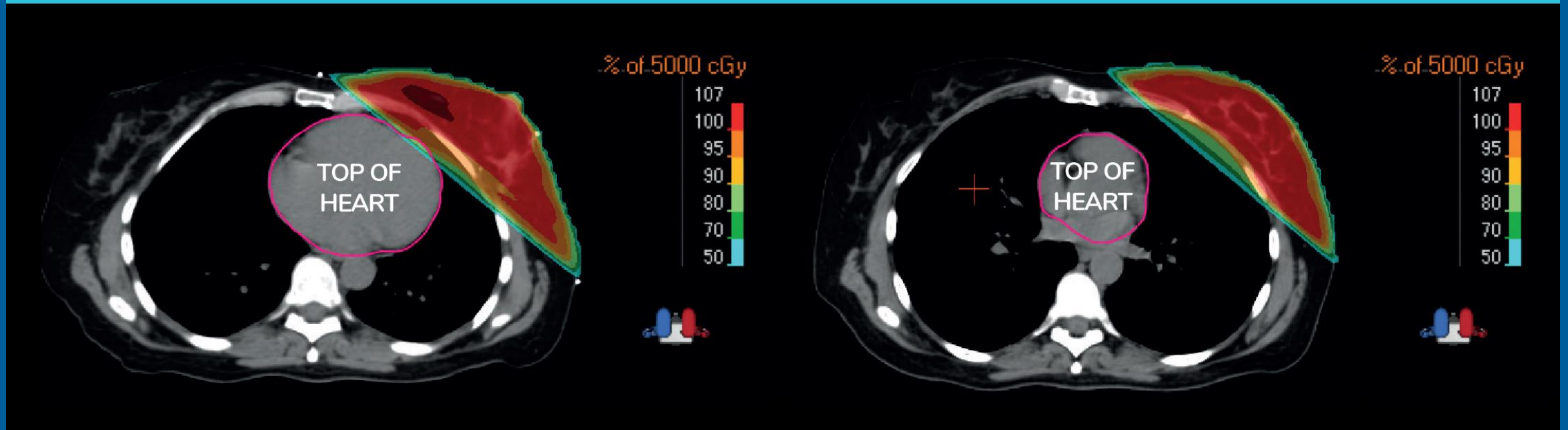
Total 36; 32 DIBH (Ja-Mar)



# Do we really need DIBH?

Normal breathing

Deep Inspiration Breath Hold



## ➤ APBI

- Early Stage
- LN negative
- Tumor Volume
- Over 50

FCS Introduces Specialized  
Radiation Treatment for Early-  
Stage Breast Cancer in Ocala  
and The Villages

Non-invasive Treatment Shortens  
Treatment Schedule



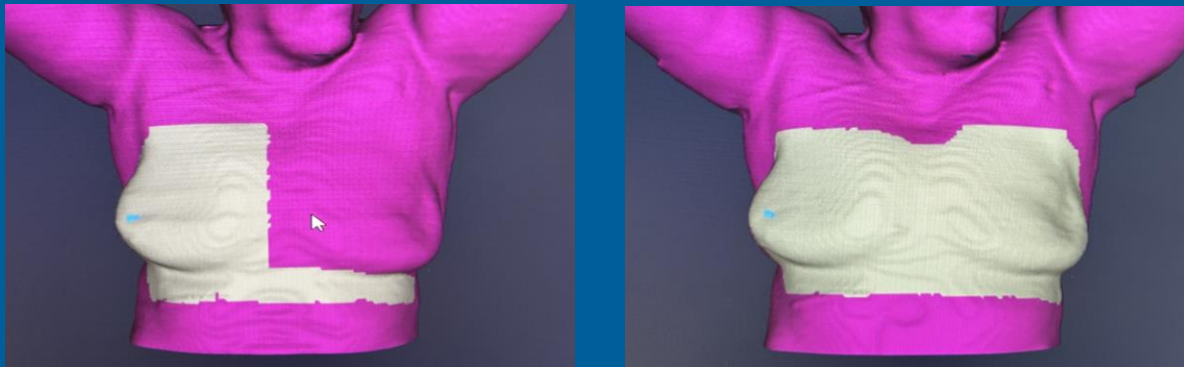
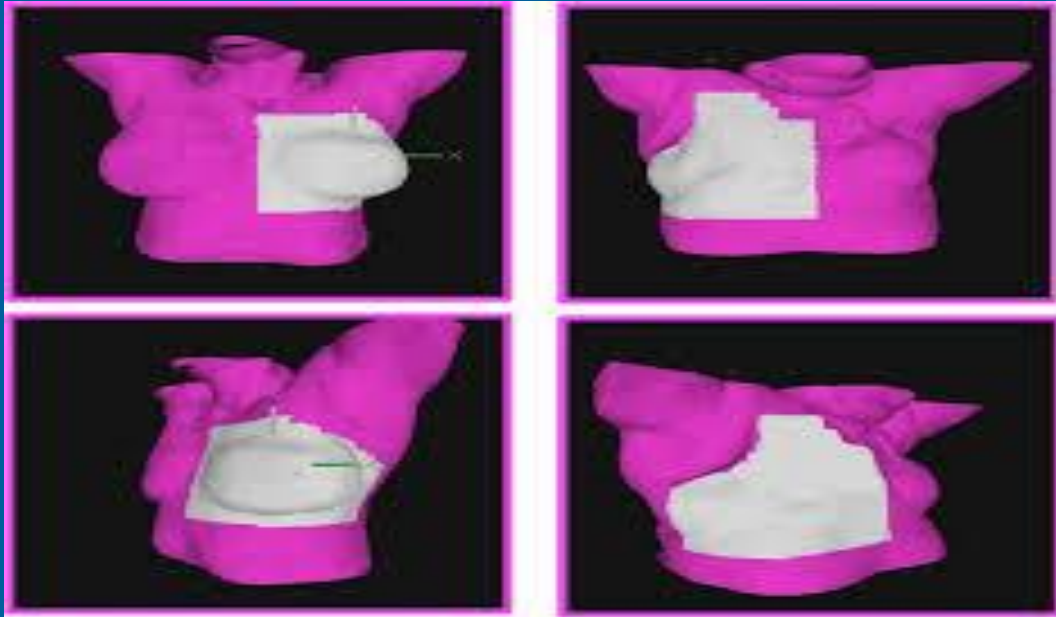
[FLCancer.com](http://FLCancer.com)

# CT Simulation Day



- Position patient on Breast Board or Wing Board
- Wire breast borders and scar
- Practice breath hold technique with patient
- Time breath hold; 25 seconds
- Scan patient FB and DIBH

# Creating Patients ROI



- Body and FB Body structures must be selected
- Choose Breast or Chest DIBH
- FB Body; setup surface
- DIBH; treat with Beam Control
- Make it easy! Copy&Paste

# 5 Simple Steps

Treatment

Run Monitoring

Everyday Imaging

Always Monitor

Terminate Session

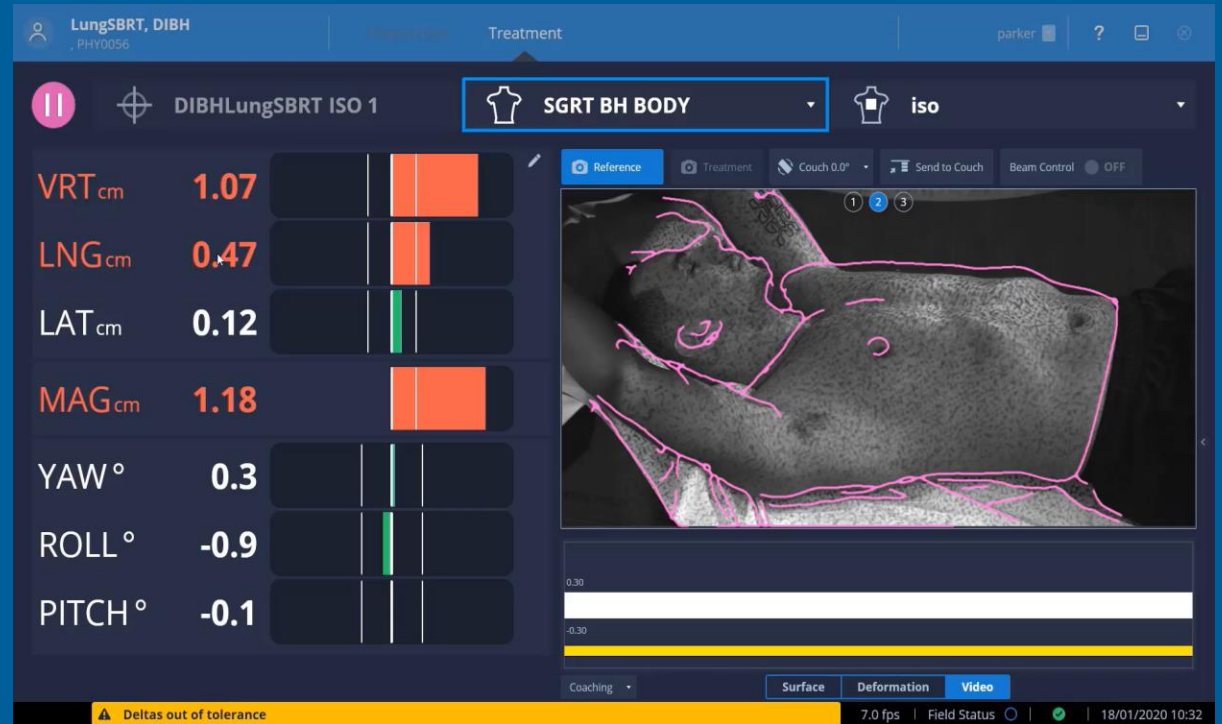
# In Room Setup

- Setup patient on table
- Turn on postural alignment
- Drive table to match outlines
- Adjust patient if needed
- FB scan, all parameters to 0
- Switch to DIBH scan, pt holds their breath, adjust if needed

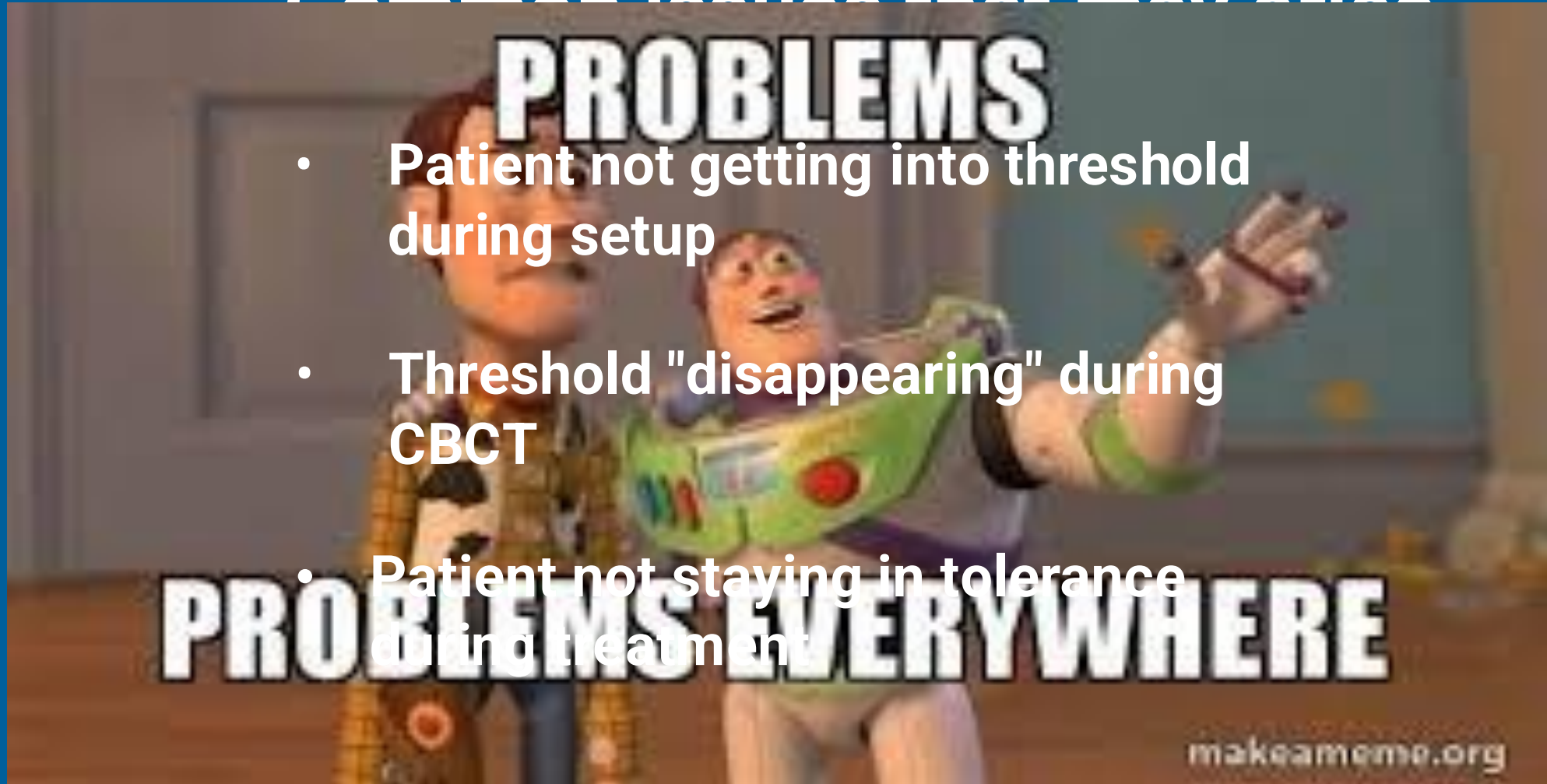


# Treatment

- Perform daily imaging on BH
- On BH; make all shifts/reference/SSD's
- Switch to FB and reference
- Switch back to DIBH, enable Beam Control, treat patient



Common issues that may arise



- Patient not getting into threshold during setup
- Threshold "disappearing" during CBCT
- Patient not staying in tolerance during treatment

## LT Breast DIBH Constraints

PTV Breast Goal 90-95%  
100%

Left Lung Goal V1600cGy <15-20%  
10.809%

Heart Goal  $\leq$  200-400 cGy  
59.5 cGy

## LT Breast FB Constraints

PTV Breast Goal 90-95%  
99.999%

Left Lung Goal V1600cGy <15-20%  
15.98%

Heart Goal  $\leq$  200-400 cGy  
95.7 cGy

## RT Breast DIBH Constraints

PTV Breast Goal 90-95%  
100%

Right Lung Goal V1 600cGy <15-20%  
5.679%

Heart Goal  $\leq$  200-400 cGy  
28.1 cGy

## RT Breast FB Constraints

PTV Breast Goal 90-95%  
99.975%

Right Lung Goal V1 600cGy < 15-20%  
17.342%

Heart Goal  $\leq$  200-400 cGy  
46.9 cGy

# How has Align RT and DIBH changed our daily flow?

- Shortened treatment times
- Less time spent in room
- Fewer daily images
- More patients on the schedule
- More efficient

## ➤ Time Studies

