

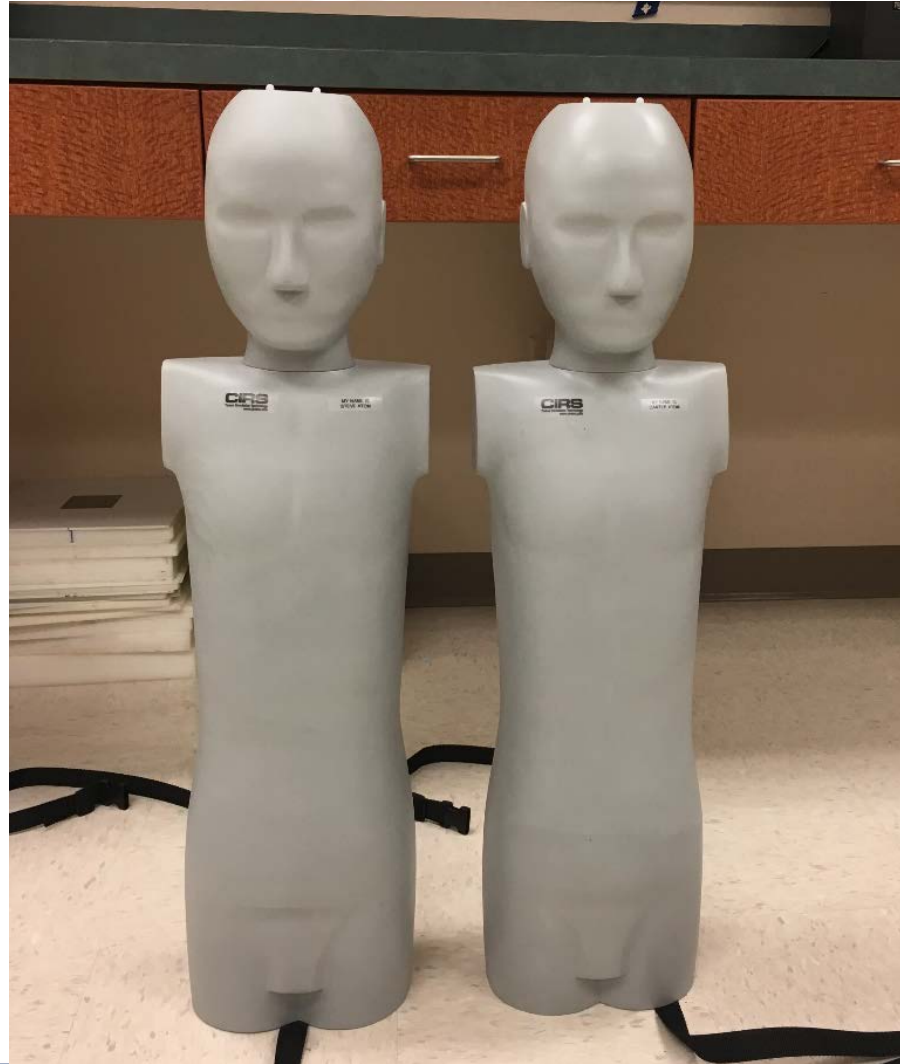


# IROC-Houston's Pediatric TBI Phantom Credentialing Program

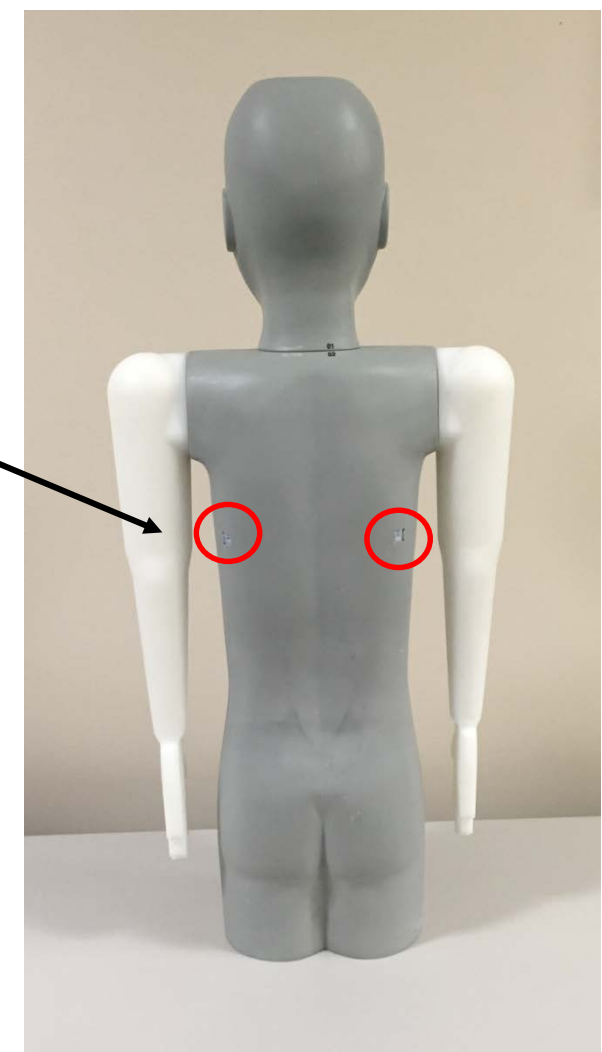
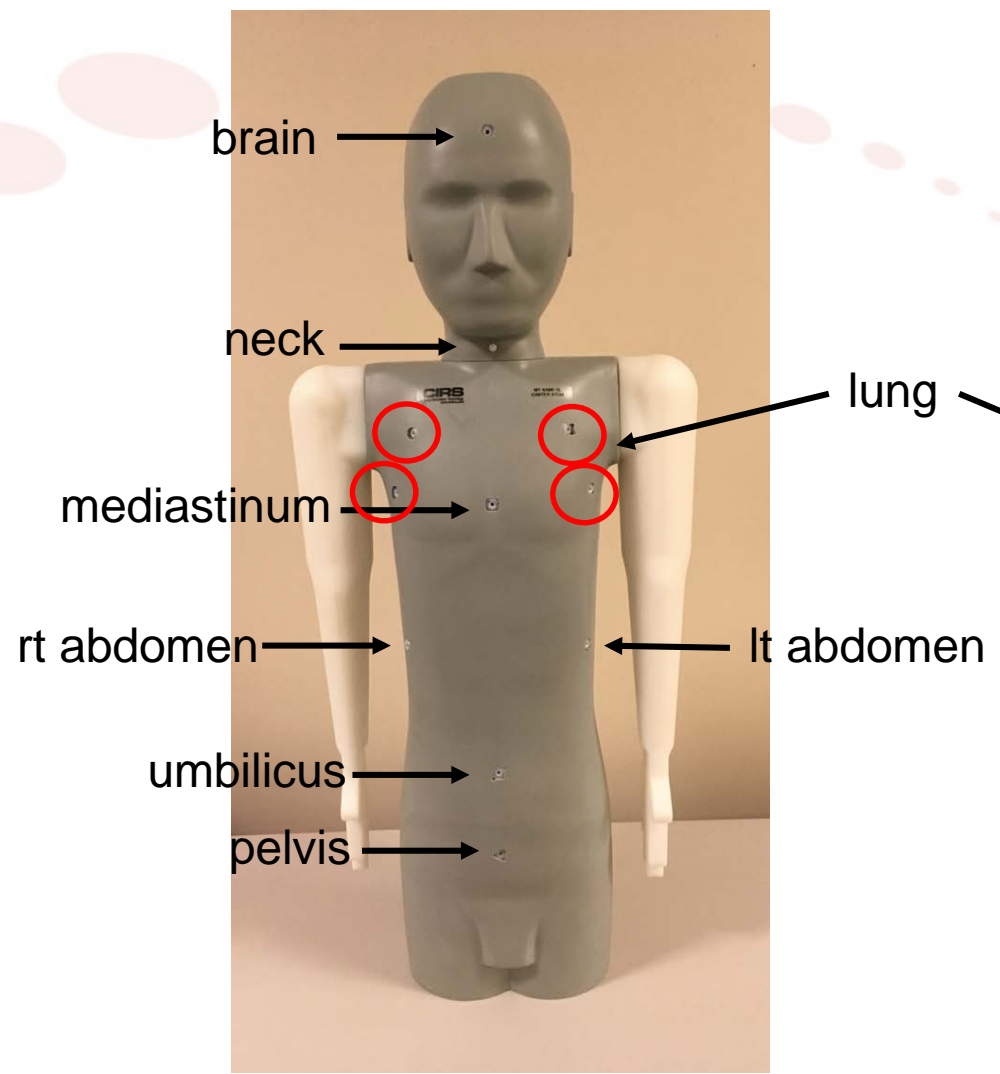


# Meet Hansel and Gretel

- 2-fold purpose
  - Credentialing
  - Lung dose measurements

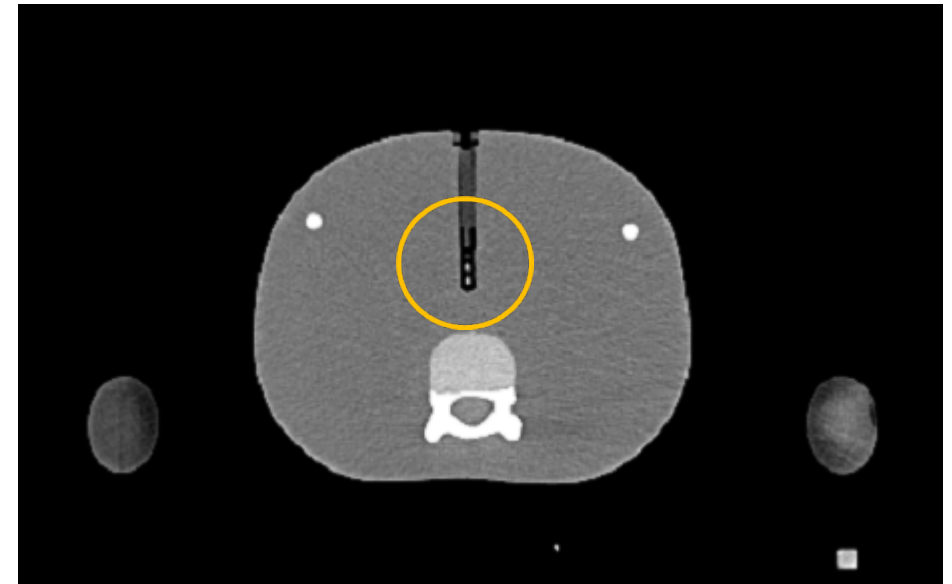
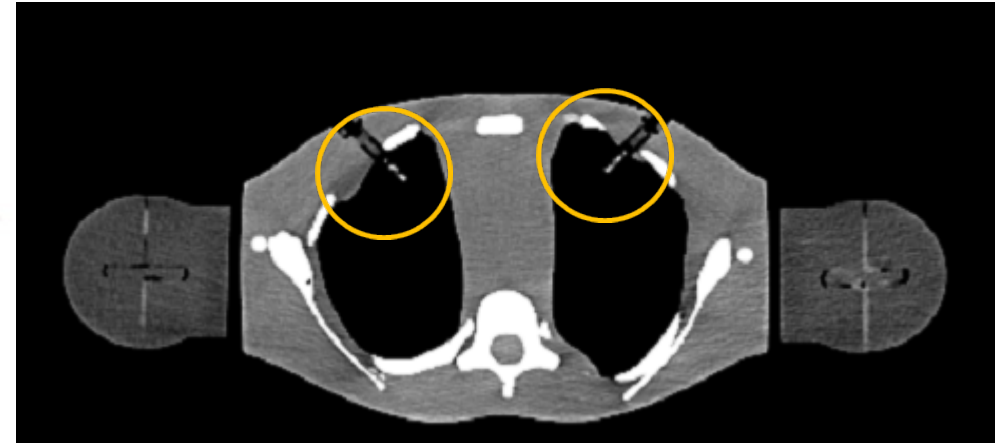
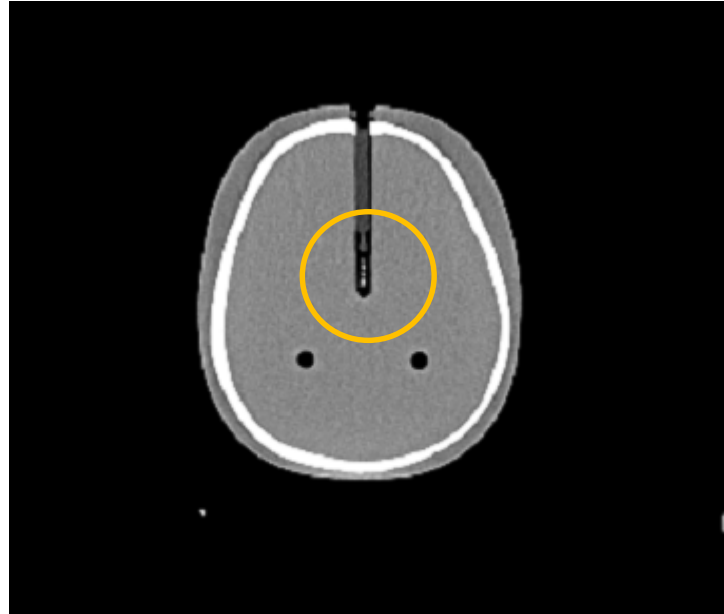


- 10 yr old pediatric CIRS phantom
- No slices
- No pre-drilled holes



# TLD

- 13 TLD
- Visible on CT
- Loaded in rods physicist can reload





# Directions

- Deliver 3 Gy to midline umbilicus
- Use lung blocks as you would for patient



# Irradiations

7 institutions

16 irradiations

Variety of setups

Variety of delivery

With and without lung blocks

# Position/Beam Direction

6 decubitus

4 sitting

1 supine

5 supine/prone

14 AP/PA

2 lateral

# Plans/Lung Blocks

2 plans  
(1 Eclipse, 1 Pinnacle)

8 blocked irradiations  
8 non-blocked irradiations



# Results

Area	Average dose	% of RX
Umbilicus	297.5 ± 10.7	0.99
Neck	282.4 ± 21.8	0.94
Lung without blocks	324.1 ± 10.9	1.08
Lung with blocks	176 ± 101	0.59

# Conclusions

- Good agreement with RX point
- Unblocked lungs receive ~8% higher than RX
- Large variation in blocked lung dose
- Some treatments give even blocked lung high doses



# Questions

- Thanks!