

# Implementing SGRT in Free- Standing Network

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# Conflicts of Interest

- None



# Participant Poll

- How many are here considering an SGRT purchase?



# Participant Poll

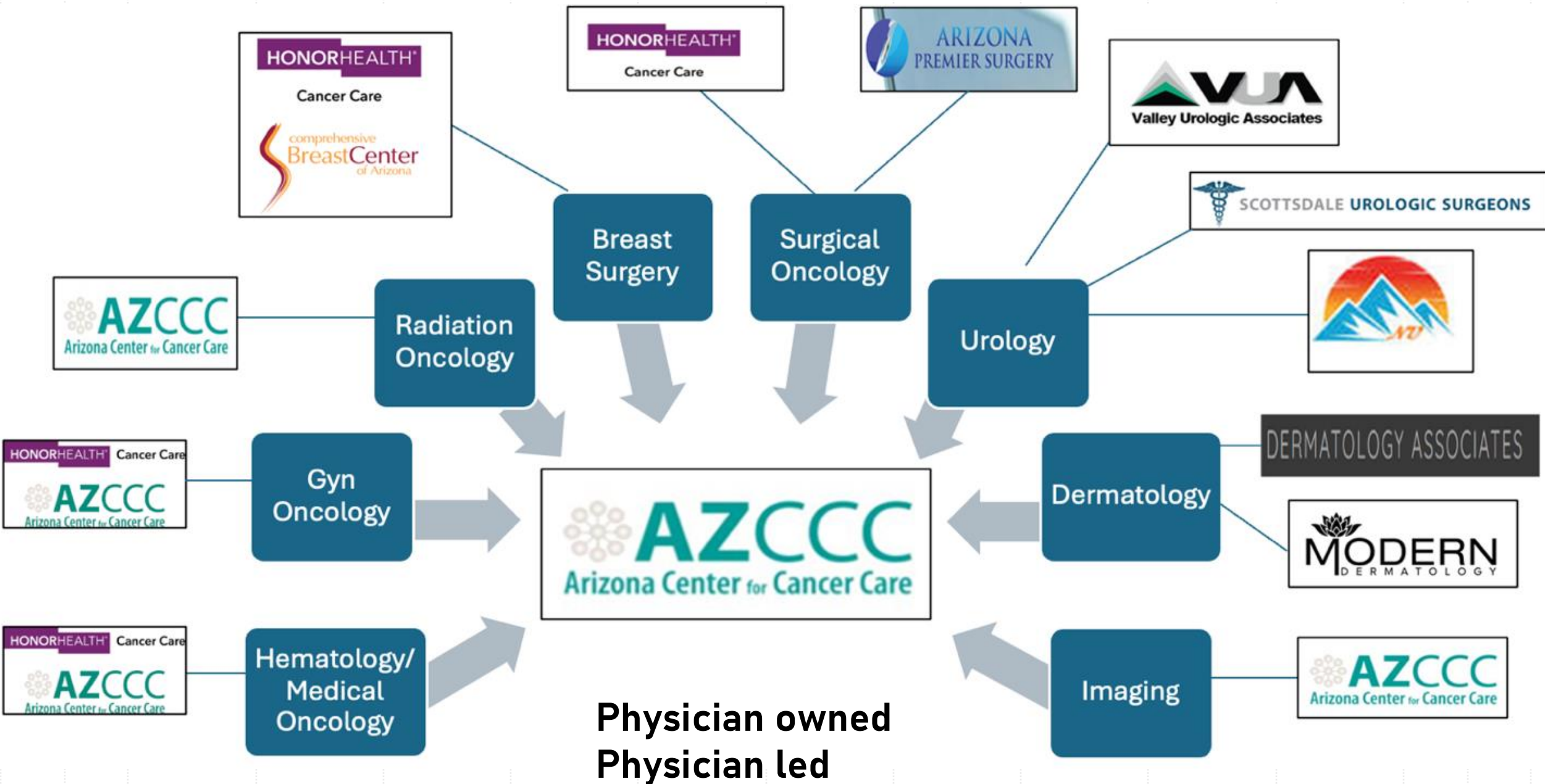
- How many are actively using SGRT and are here for ongoing education and increasing utilization?

- How many are here (at least in part) because you scored a trip to Disney World?



# SGRT Implementation in a Free Standing Network

- Background and Rationale
- Process
- Recommendations
- Summary and Personal Experience



# ~100 total providers

Medical Oncology  
Radiation Oncology  
Urology  
Gyn-Oncology  
Breast Surgery  
Surgical Oncology  
Dermatology

- Radiation Oncology
  - 8 locations
  - 10 linacs
  - 4 PET/CT
  - 4 HDR



# COVID-19 Lessons

- Seismic changes of COVID-19 began settling in 2021-2022.
- New appreciation of our vulnerability as a practice and business

*Medicine is a science of uncertainty and an art of probability*

▪ *-Sir William Osler*

# Post-COVID “Top-Down” Practice Review

- Goal: Position our practice to provide the highest quality, competitive and cost-effective care in our community, and moreover to face **unknown future challenges**.

*Plans are worthless, but planning is everything*

*-Dwight D. Eisenhower*

# Challenges like...

- Reimbursement cuts
- Increasing costs
- Staffing shortages
  
- Dubious solutions from conflicted entities.
- Beware of expensive solutions looking for a problem to solve.

Must....resist....The Shiny





The future will require that we:

treat more patients

...in less time

...with fewer resources (\$, staff, etc)

...with greater precision and quality

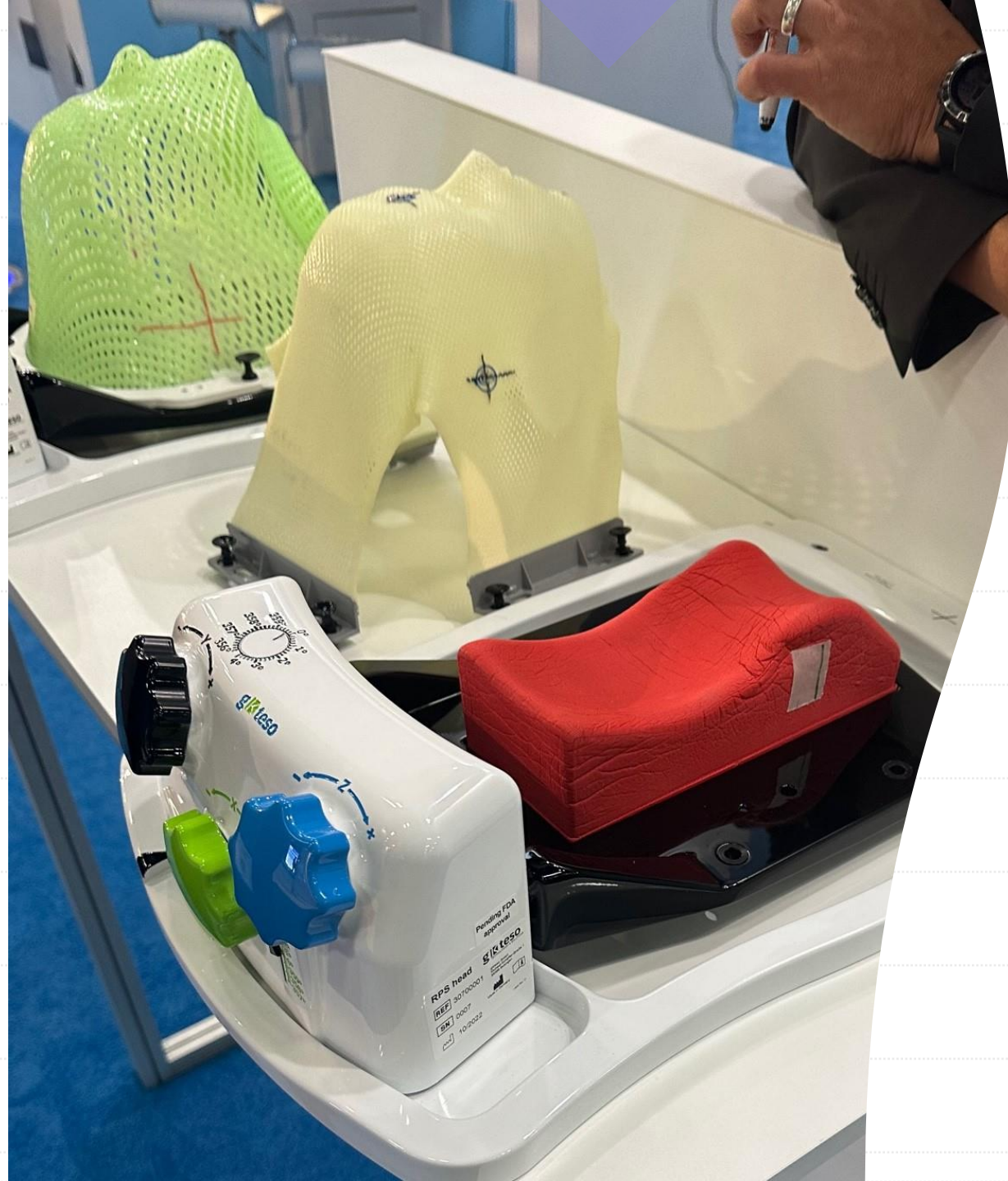


## Specific catalyst for SGRT adoption

- 2022 – Calypso support ended
- 2022 – my ASTRO vendor floor “recon”

# ASTRO Meetings

- Nearly 100% of educational and research presentations are available (later) on-line
- 0% of comparable vendor floor experience is available.
- We try to send one partner to walk the floor each year as an efficient survey of 'what's new'



- Surface marker that is offset from skin
- Allows automated deletion of marker from CT dataset

# RT-SPOT<sup>®</sup>

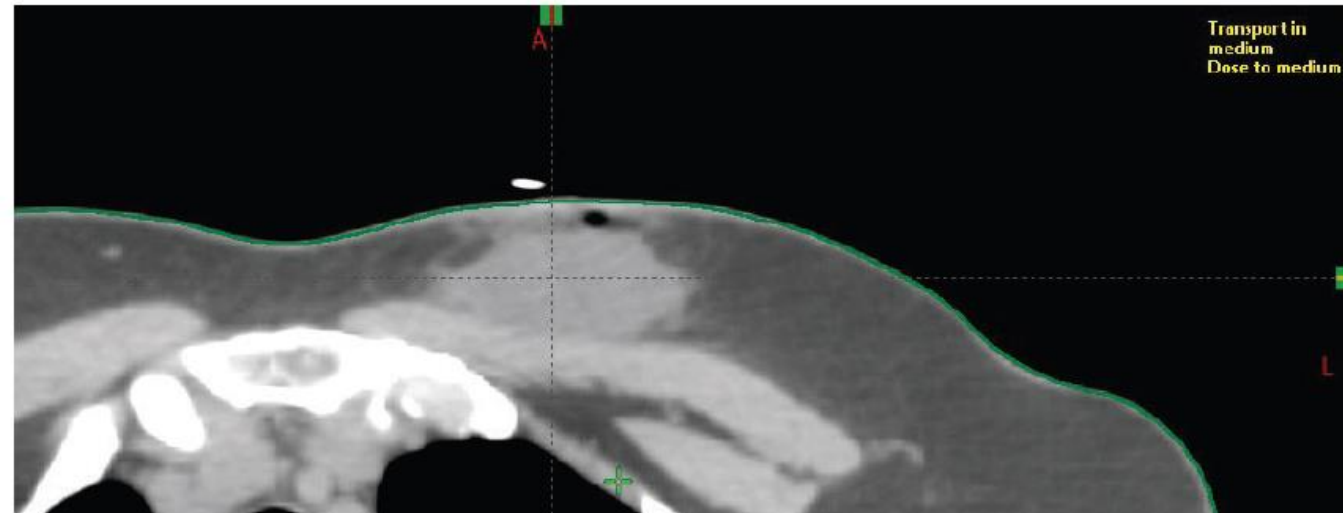
Beekley Medical<sup>®</sup>  
when your diagnosis  
must be right<sup>™</sup>

The only skin marker for CT simulation that is elevated from the skin line and helps to exclude the marker from the automatic body contour

- ▶ Minimizes dose perturbation and helps ensure dose accuracy
- ▶ Saves time by reducing the need for manual contouring and density override
- ▶ Flexible and easier to form into desired shapes
- ▶ Stays in place on the skin and does not lift
- ▶ Lower density, non-metallic line, minimizes artifact



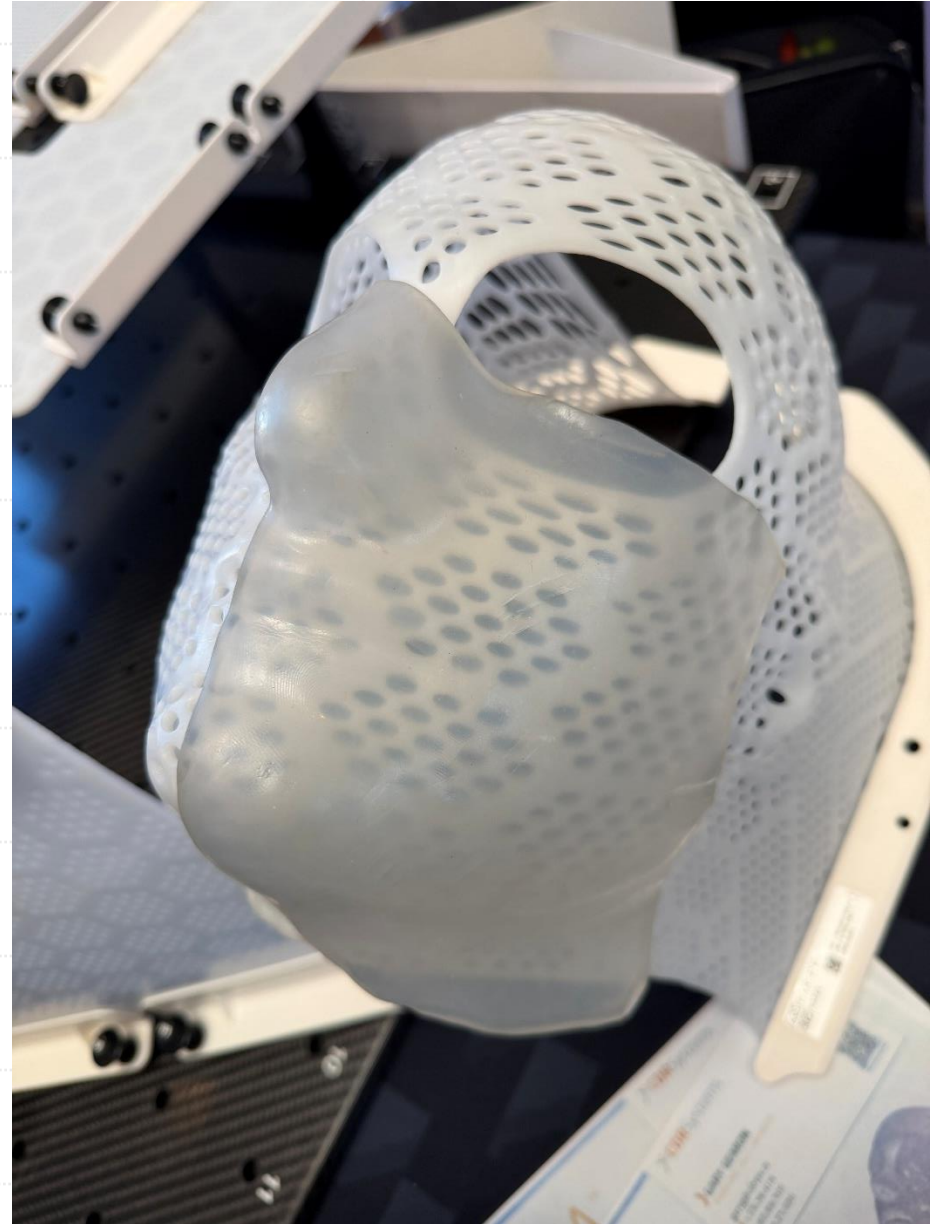
▶ RT-SPOT's medical grade foam backing elevates it from the skin line



◀ Axial CT Scan of female breast radiation patient

**CDR Systems** product on display here today

Transparent Bolus





# ASTRO 2022 Exhibitor Floor

VisionRT

C-RAD

Varian

(Klarity started March 2025)



# Selected VisionRT

- Recommendations of satisfied customers
- (I understood the issue with the few un-satisfied customers)
- Good communications and education during 'sales period



# SGRT Purchase Decision

- G-code at the time obviously improved the *pro forma*
- My personal recommendation was start with ONE system
- My practice CMO/CEO (physician): SGRT for ALL SITES
  - 'Commitment' mentality improved implementation
  - Daisy-chain the training across sites
  - Better price at scale

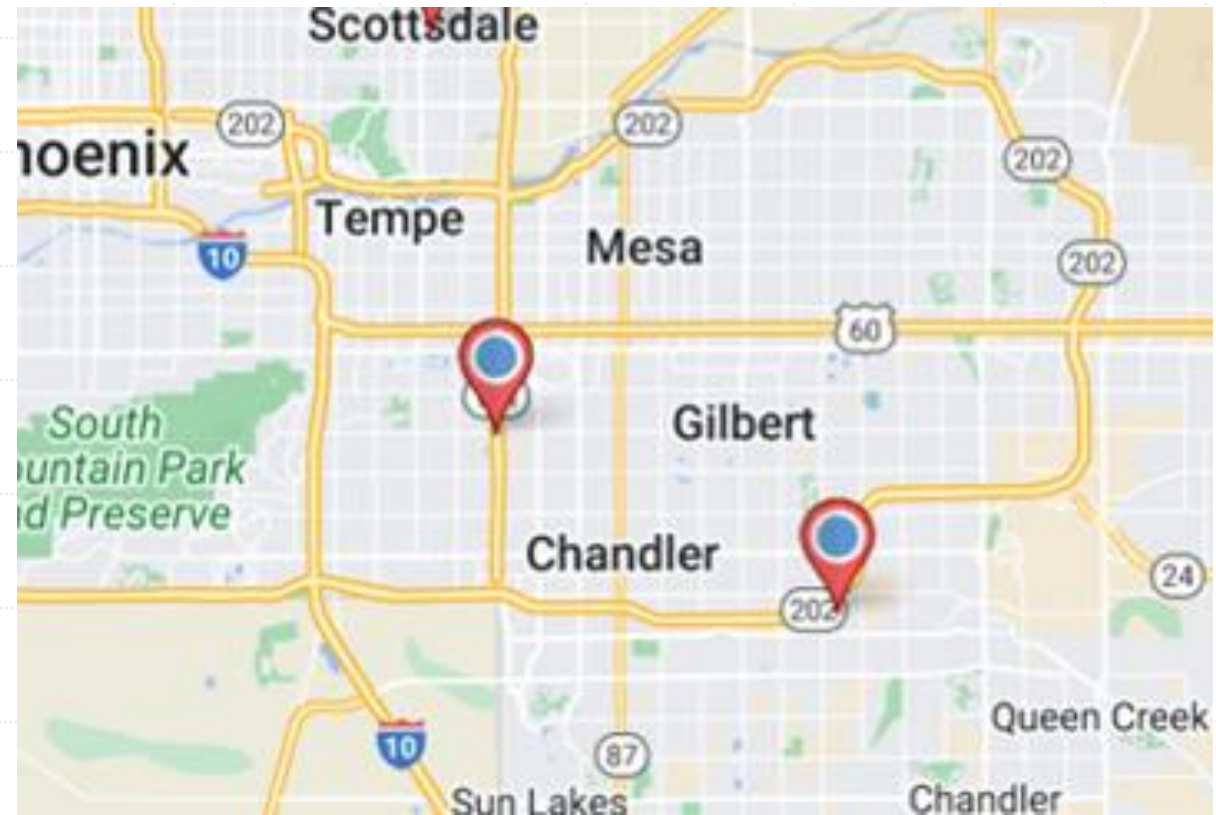


# Implementation Strategy

- Started at 1 location with local 'champions'
- Site visit by vendor engineers, prep by 'facilities'
- Training on-site by vendor
- Wash, Rinse, Repeat at other sites

# A Tale of Two Clinics: Implementation Advice

- 1<sup>st</sup> clinic – Gilbert
- 2<sup>nd</sup> clinic – Tempe/Chandler



# A Tale of Two Clinics

## Clinic #1 - GILBERT

- Established team, long work history and firmly established routines
- Essentially no experience with SGRT
- Anointed RTT SGRT 'champion' was a manager not normally working that site
- Busy schedule during introduction of SGRT (50-60 pts/day)
- Initially no offline-workstation available

## Clinic #2 - TEMPE

- Relatively new RTT team
- Newly hired Lead RTT from another state had robust SGRT experience and was already a super-user
- Less busy schedule amenable to placing some 'gaps' in the schedule for learning time.
- Offline workstation installed at start

# A Tale of Two Clinics

## Clinic #1

- Slow and a bit painful



## Clinic #2


- Instant success





# Full Practice Implementation

- Most sites experienced something in between
- More rapid implementation invariably associated with *prior SGRT experience* by Therapists, especially by Leads
- More rapid acceptance from team as benefits become manifest
- Now all sites RTT leads now agree they would greatly miss the tech if unavailable



What's an easy way to gently introduce benefits of SGRT to potentially resistant staff?





# Recommendation for Implementation:

- Start at a slower unit/site/clinic
- Add offline-workstation to allow staff to import new patients from sim, draw their ROIs, etc, during work day
- Anoint an RTT champion with experience with SGRT and who has influence with staff.
- This RTT champion has more influence on rapid success than any other variable.

# Doomed SGRT Implementations

**A large bureaucracy-heavy hospital**

where

**SGRT was bundled with other purchases,**

**without studied input or support from RTTs, physics, physicians,**

and

**'Dumped' on the department**

and

**Told "use it"**



# Patient Satisfaction with SGRT

- ~~Last week's~~ Brain tumor patient OTV 3 years ago:
  - Expressed fear because he had to swallow hard twice during the treatment arcs.
  - I showed him the AlignRT log of his treatment proving there no movement
- I think our industry underemphasizes the psychological value of this technology for reassuring patients.

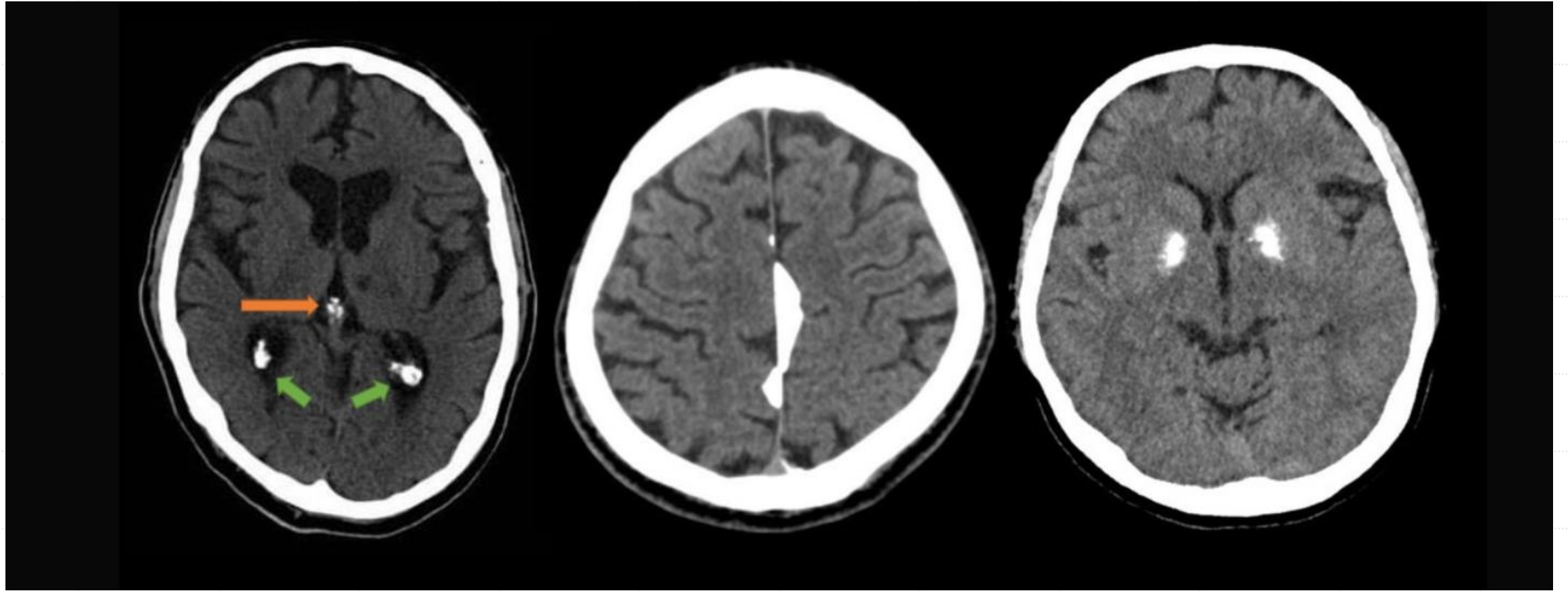


## 2022-2026: IGRT to SGRT 'shift'

- No tattoos (implemented). No skin marks of any kind for most
- Postural Video for initial positioning
- Used for all photon treatments, including DIBH for lung/breast/upper abdomen

# Efficiency Examples with SGRT

- I REPLACE IGRT for some treatments: simple tangents, many palliative plans.
- I am evaluating PARTIAL substitution for IGRT use: non-SRS brain tumor, H&N, DIBH breast/lung
  - Brain, H&N (current working plan)
    - SGRT and treat 3-4 days/week
    - Add CBCT 1-2 days/week looking for anatomic changes, edema shifts, etc.





## Poll of participants:

Do you run out of pitch on your 6 DOF couch with H&N/Brain or pelvis patients?



# Problem Solving Example: H&N/Brain

- Poor pitch correlation with SGRT c/w CBCT in H&N/Brain with open face mask
- Occasionally max-out on pitch even with 6 DOF couch for many sites.

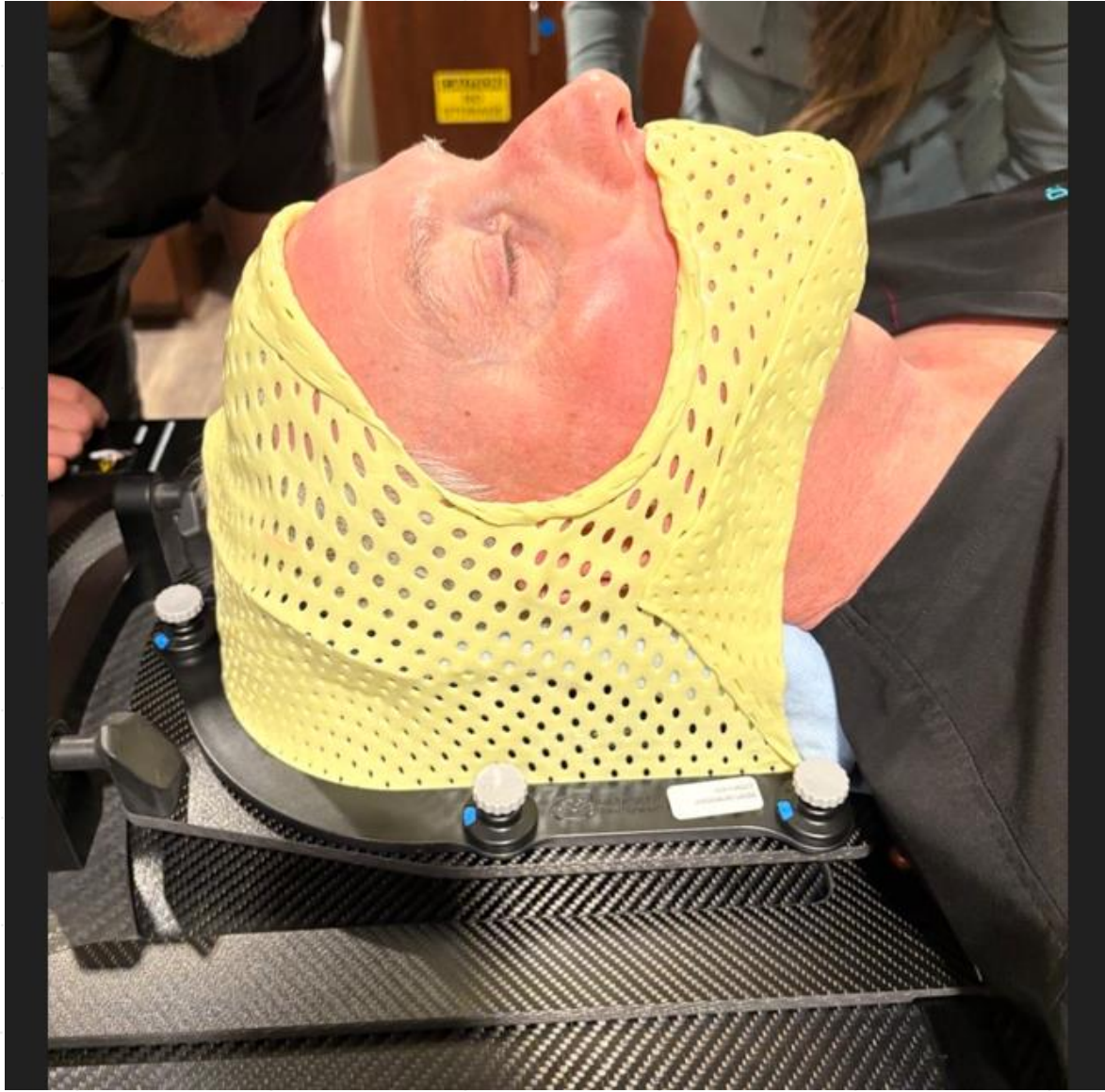


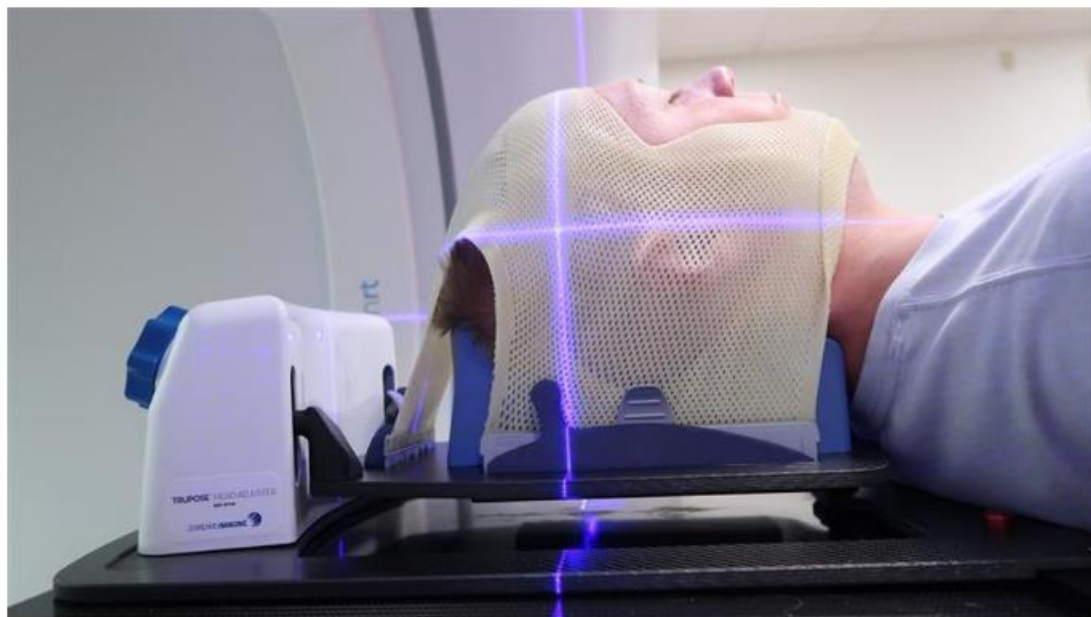
# Trouble Shooting SGRT

90% of issues are R&R:

- Real Estate (enough surface anatomy)
- Region of Interest (ROI)







# Troubleshooting

- PELVIS:
  - Subtle changes in hip flexion affects pelvis pitch tilt
  - Check ROIs and/or add ROI to groin/upper thigh as a guide when needed
  - Under-knee (comfort) devices increase setup variability if not indexed consistently
- H&N:
  - adequate exposure of the surface anatomy
  - use of low neck/shoulder ROI
  - Iterative process between low neck and upper surface anatomy
  - Option: 3DOF headrest (Trupose by Standard Imaging) as an option

What has been will be again...there is nothing new under the sun

- *Ecclesiastes 1:9*

# 1993-2026

- 1993- **Skin Tattoos** and orthogonal x-ray simulations, X-ray film and grease pencils
- 1996 - 3D planning
- 2000s - IMRT and **early SGRT usage**
- 2002 - Tomotherapy (VMAT with IGRT)
- 2005 - Integrated cone beam CT systems
- 2015 - Adaptive techniques
- 2026 - **back to skin (all of it!) with SGRT!**



# My Personal Experience with SGRT



Thank you!

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