



Successful implementation of Align RT for Head & Neck/ Tattooless applications



Today's workshop

Shared experiences from successful deployments to help with your implementations

Practical skills & strategies for managing the human elements of change

Activities & discussions with peers and experts to provide specific actions for your project

Contacts and resources for further support and information

Implementing Tattoo and Mark Free Treatments

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Royal Derby
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Queen's
BURTON



Samuel Johnson
LICHFIELD



Sir Robert Peel
TAMWORTH



Florence Nightingale
DERBY

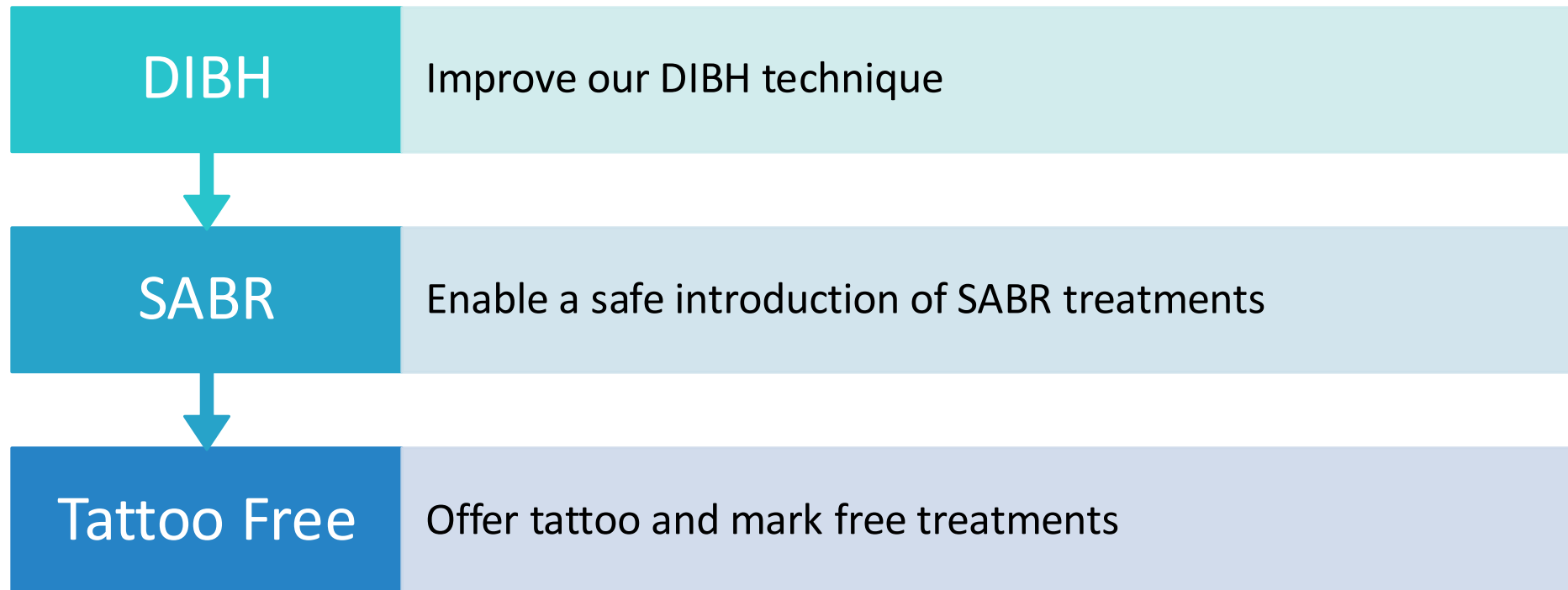
Royal Derby Hospital



- 4 Varian Truebeam Linear Accelerators
- 1 Philips Big Bore CT with SimRT
- SGRT on 2 linacs – AlignRT Advance (6.3)



Introduction - Our Department Goals



'Tiny' Tattoos aren't 'tiny' for patients

Radiotherapy tattoos: Women's skin as a carrier of personal memory—What do we cause by tattooing our patients?

[Torsten Moser](#), PhD,¹ [Menna Creed](#), BSc Hons, [Robyn Walker](#), BA,¹ and [Gernot Meier](#), PhD²

*- it's a constant reminder of
the treatment and traumatic
time*

*Getting tattooed ...it is
a daily, physical
reminder that I had
stage 3 cancer*

The thought of
being tattooed
mentally
"tortured" me

138 women took part in a study that showed:

70% had negative feelings about this involuntary body modification

78% of patients would choose a treatment which avoided tattoos and/or marks

45 miles is the average additional distance patients are willing to travel to a centre that is tattooless/markless (Moser et al 2019)

Tattoo and mark free – Day 1

Listened to others experience – teams felt they did not need tattoos with AlignRT



“we didn’t want to be that site that still tattooed patients, as a ‘comfort blanket’ but didn’t use them. We didn’t think this was fair or ethical for the patient.”

-Sue Marriott, Head of Radiotherapy



We became the first NHS centre in the UK to go live on day one with tattoo and mark free treatments for our breast patients



“We did this with the patients at the heart of our implementation”

Timeline

Meeting with VisionRT to discuss tattoo and mark free breast treatments

18th May
2021

8th & 9th June

Initial Training

End to End Testing began

8th June

SimRT Training

22nd June

Began scanning breast patients with no tattoos

23rd June

13th July

Go Live

Staff Training



- Training modules from VisionRT portal
- ROI training
- Hands on experience for go live team

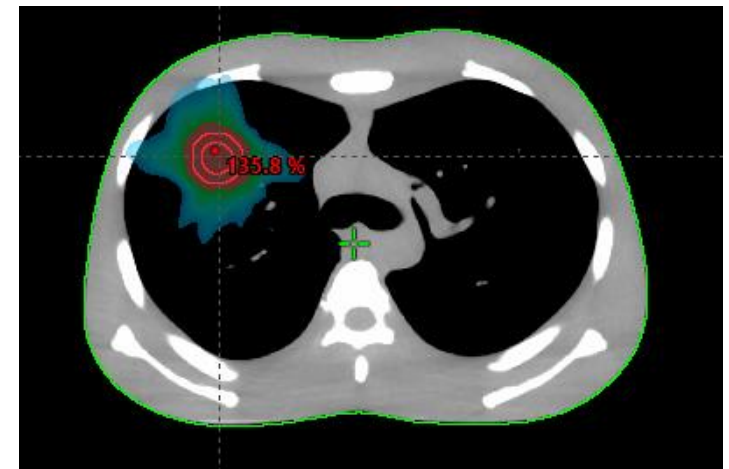
Competency Record for Patient Preparation in AlignRT

BREAST

Patient ID	Treatment Site	Export (X)	Import (X)	ROI (X)	Trainee Sign/Date	Assessor Sign/Date
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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End to End Testing



End to End Testing



Session	Vrt [cm]	Lng [cm]	Lat [cm]	Pitch [°]	Roll [°]	Rtn [°]
▶ Tue 08/06/	+0.22	-0.04	-0.14	n.a.	n.a.	0.0
Thu 10/06/	+0.18	+0.15	+0.15	n.a.	n.a.	0.0
Fri 11/06/20	+0.27	+0.33	-0.35	n.a.	n.a.	0.0
Mon 14/06/	+0.16	+0.43	+0.22	n.a.	n.a.	0.0
Wed 16/06/	+0.04	+0.08	+0.09	n.a.	n.a.	0.0

Go Live

- By following a clear training and testing programme we were able to go live for DIBH SGRT treatments tattoo and mark free on day 1 of implementation
- Support from Clinical Application Specialist
- Gained experience with problem solving
- **No regrets!**

- Staff feedback extremely positive

“As a treatment staff member, I feel much more confident treating our breast patients using SGRT than I did with our previous techniques. Set up is much more accurate, with the software monitoring our patients constantly while we image and treat them, we are aware of any slight movements from their optimal position - I can't imagine going back to the old way of working.”

Lizzie Howes – Senior Therapist

Tattoo and Mark Free

- Any DIBH Patient
- Lung SABR
- Some Palliative
- Patient requests



Lung and Oesophagus – Tattoo free

- Our concerns:
 - Linac Capacity
 - No contingency for Cat 1s
- 9th September 2022 – Met with VisionRT to discuss the roll out to thorax patients
- October 2022 – increased capacity on our SGRT linacs as staffing levels improved
- **January 2023** – began scanning **all thorax patients with no tattoos**
- Benefits – quicker, more accurate set up times
- Reassurance for staff and patients if they coughed / moved
- Service days still a challenge
 - Working until 8pm / weekends or rest cat 2s
- Contingency procedure for cat 1s tested and implemented
 - For use if both linacs down

Thorax Contingency Procedure

Couch parameters must be captured > Check location of the tumour on the plan – i.e. right upper lobe >

Ensure sagittal laser is running through anatomical midline > Check elbow to elbow distance >

Couch automate to the planned parameter position > Visually check on skin that isocentre is falling in the expected position for tumour site > Check anterior and Lateral SSD with 1cm >

Acquire 2D KV Pair – match to bone and apply shifts (RTN/YAW/ROLL to be under 3 degrees / VRT/LAT/LNG under 1cm >

Acquire CBCT

Site	1st KV-KV Pair					Repeat Kv-KV Pair					CBCT					
	Pitch	RTN	Vert	Long	Lat	Pitch	RTN	Vert	Long	Lat	RTN	Pitch	Roll	Vert	Long	Lat
Lower Oesophagus	0.3	-0.1	-0.60	-0.04	-0.37	N/A					0.5	1.6	0.4	0.16	-0.07	0.05
Mid Oesophagus	1.6	-3.9	0.14	-1.28	-0.11	1.7	-2.0	0.14	-0.22	-0.25	2.5	1.9	-2.2	-0.11	-0.24	-0.17
Right Lung	-0.5	1.7	-0.51	-0.41	0.65	N/A					0.3	-1.0	1.8	0.37	0.16	0.14
Right Lung	1.5	2.4	-	-	-	1.7	1.0	0.20	0.31	-0.70	1.9	0.6	1.9	-0.22	-0.17	-0.07
Right Lung	-1.4	-0.7	0.16	0.24	-0.13	N/A					-0.6	1.5	-0.7	0.10	0.40	0.10

Further SGRT Developments

AlignRT on all linacs



Move to tattoo free for all sites



Open faced masks





Thank you

Lydia.kedziorek2@nhs.net



The power of emotion in driving effective change

People don't resist change, they resist being changed

Peter Senge author of "The Fifth Discipline"

Making your own connections

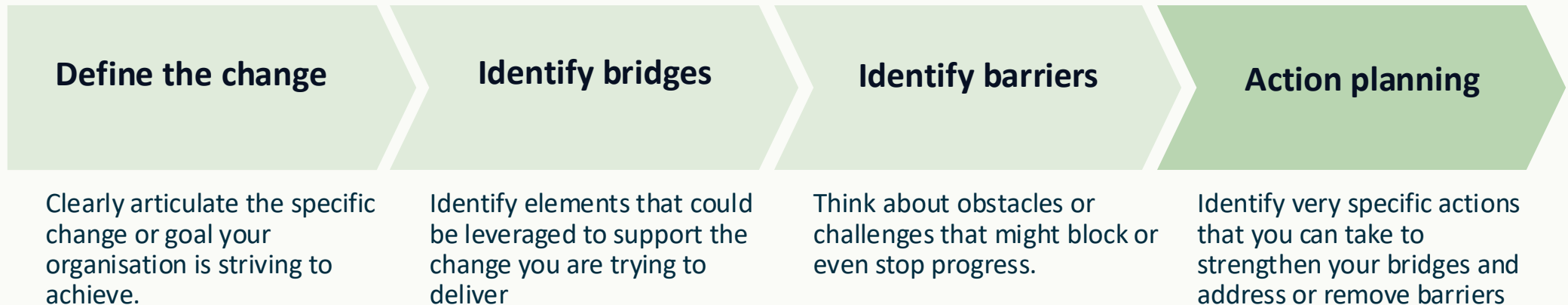
Activity

- Why is this workshop important to me?
 - In as much detail as possible
 - As many as reasons as possible
 - *2 minutes*
- Thinking about the legacy treatment walk “A mile in my shoes”
 - How are you feeling ahead of the treatment?
 - How do you feel during the treatment?
 - How are you feeling post-treatment?
 - *5 minutes*

Capture the thoughts on the Post-It notes on the tables and stick onto the relevant flip chart.

Table discussion.

Managing the change - bridges and barriers



Critical success criteria:

- Be as specific as possible through all stages
- Use this as a mechanism for involving and consulting other stakeholders
- Treat as an evolving process as things will be constantly changing

Bridges and barriers

Activity

- What are the bridges supporting your implementation?
 - How will they help?
 - What can you do to turbocharge them?
 - Specificity is key
- What are the barriers? (within your control & influence)
 - Can any of the bridges help you overcome these barriers?
 - If so how?
 - What other actions can you take to overcome these barriers?
 - Who else can help you?

Reflect personally on your project and capture your insights.

Discuss and compare with someone on your table.

Managing the change - change vs transition

Bridges model for change

Change

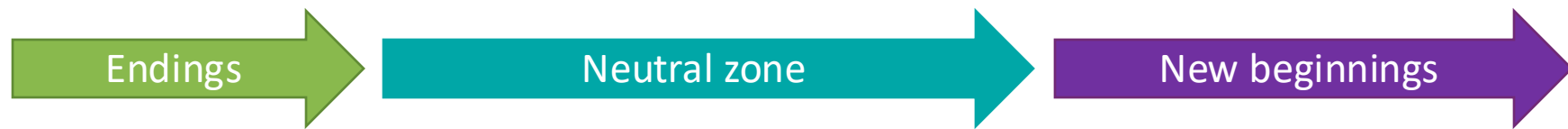
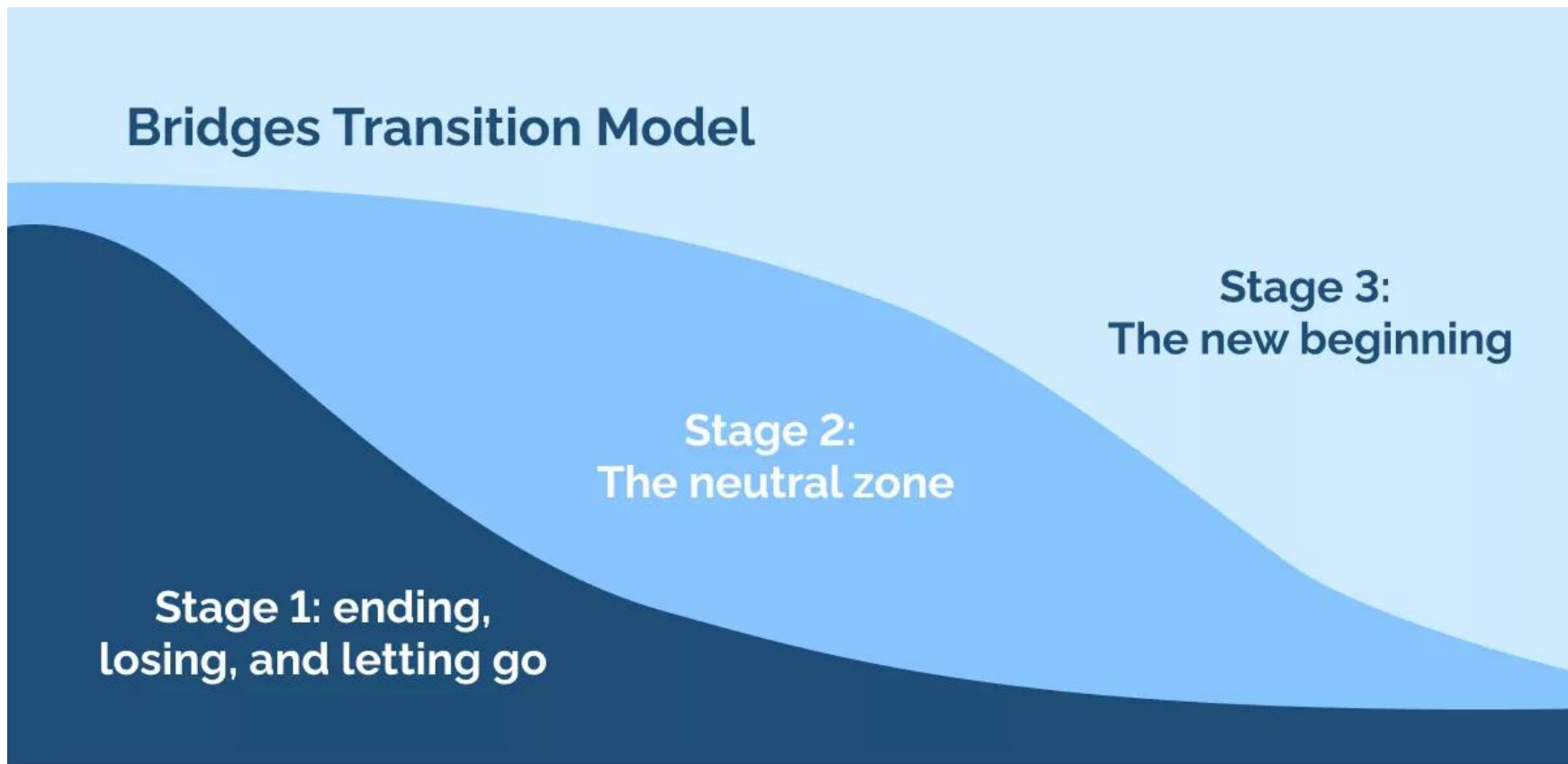
is an event. It's a restructuring, a hotel opening or closing, a colleague leaving or a new piece of technology being turned on

vs

Transition

is the **psychological process** people go through in order to adapt to the change. It's complex and messy!

Transition and the change curve



Adapted from the Bridges Transition Model

Endings, neutral zone, new beginnings

Activity

- Identify 2 or 3 critical stakeholders on your implementation journey
 - Who are they?
 - Where are they on the transition journey?
 - What evidence do you have that supports that?
 - What actions can you take to move them into the *New beginnings* phase?
 - Who can help you with these actions?

What other support would be helpful for your implementation?

Personal action planning

Activity

- Reflect personally on the following:
 - What 2 things did you learn from your peers in the opening presentations that is helpful for your implementation ?
 - How can you use an emotional connection to strengthen stakeholder connections?
 - What actions are you going to take from the 'Bridges and barriers' model
 - What actions are you going to take from the 'Endings – neutral zone – new beginnings' model?

What other support would be helpful for your implementation? – Capture on Post-Its

Wrap-up

- Shared experiences from people who have already been on your journey
- Strengthening success by connecting to people's emotions
- Bridges and barriers to provide a framework and some insight into your implementation
- Change vs transition as a model to identify where people are on the journey
- Actions to take away
- Support moving forwards

Supporting you on your journey

We are inspired by the work you do and your partnership with Vision RT and the positive impact you have on your patients lives.

If you have questions related to the change frameworks we covered as you work through your implementation journeys then we would be happy to jump on a call.

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