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Advancing Care Beyond Technology:

Patient Experience and Satisfaction with MR- Linac Radiotherapy

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Background:

Magnetic Resonance Linear Accelerator

- Combined MRI + RT delivery machine
- Better soft tissue resolution
- Improved treatment delivery accuracy
- Potential impact on patient experience
- Victorian MR-Linac Statewide Service



Aim:

- Explore patient expectations/concerns
- Impact of MRL on patient experience
- Satisfaction with MRL service
- Identify areas for service improvement

Methods: Patient experience and satisfaction

- Survey research methodology
- Total sample size of 120 participants
- Validated questionnaires
- Additional capacity for self-reporting

Data collection

- Online survey via RedCap software
- At three time points



Methods: Time point 1-Pre-Sim (planning) session

Page 1

Patient Concerns About Radiotherapy before treatment

Please complete the survey below.

Thank you!

Please answer YES or NO to the below concerns about your upcoming radiotherapy treatment.

	No	Yes
1) Feeling tired	☐	☐
2) Changes to energy level	☐	☐
3) Feeling weak	☐	☐
4) Anxiety or worry	☐	☐
5) Not able to carry out daily functions/work	☐	☐
6) Limitations in social/recreational activities	☐	☐
7) Disruption to family life	☐	☐
8) Pain	☐	☐
9) Skin burning	☐	☐
10) Sadness, unhappiness or depression	☐	☐
11) Limitations in work	☐	☐
12) Changes to my appearance	☐	☐
13) Nausea	☐	☐
14) Damage to immune system	☐	☐
15) Damage to internal organs	☐	☐
16) Effects on fertility	☐	☐

(Shaverdian et al, 2019)

Methods: Time point 2- After first treatment session

Page 1

Patient experience on the MR Linac

Please complete the survey below.
Thank you!

Radiotherapy treatment delivered on the MR Linac (Unity) using Magnetic Resonance Imaging (MRI) is a new technology. Please click/tick the response that best fits your experience for each of the statements listed.

	Not at all	Slightly	Moderately	Very
1) I needed more detailed information before my treatment	☐	☐	☐	☐
2) I found the treatment position comfortable	☐	☐	☐	☐
3) I found the treatment bed comfortable	☐	☐	☐	☐
4) I found it easy to stay still and maintain the treatment position	☐	☐	☐	☐
5) I wanted to come out of the machine during my treatment	☐	☐	☐	☐
6) I felt calm during my treatment	☐	☐	☐	☐
7) I found the noise in the room easy to tolerate	☐	☐	☐	☐
8) I found the lighting in the room easy to tolerate	☐	☐	☐	☐
9) I found the time taken for the treatment easy to tolerate	☐	☐	☐	☐
10) I felt dizzy during my treatment	☐	☐	☐	☐
11) I felt dizzy immediately after my treatment	☐	☐	☐	☐
12) I felt hot during my treatment	☐	☐	☐	☐
13) I felt tingling sensations during my treatment	☐	☐	☐	☐
14) I experienced a metallic taste during my treatment	☐	☐	☐	☐
15) I needed more communication from staff during my treatment	☐	☐	☐	☐
16) I forced myself to manage the situation	☐	☐	☐	☐
17) I found listening to the music helpful whilst having my treatment	☐	☐	☐	☐
18) I understood the procedure	☐	☐	☐	☐
19) Comments:				

(Barnes et al, 2021)

Page 1

Overall Satisfaction

Please complete the survey below.
Thank you!

Click/tick the response that best fits your overall satisfaction with the radiotherapy treatment that you have received

	Not at all satisfied,	Slightly satisfied,	Moderately satisfied	Very satisfied
1) Overall Satisfaction	☐	☐	☐	☐



Methods: Time point 3-After last treatment session

Page 1

Patient concerns about Radiotherapy after treatment

Please complete the survey below.

Thank you!

Please answer YES or NO to the below concerns after completing your radiotherapy treatment.

	No	Yes
1) Feeling tired	☐	☐
2) Changes to energy level	☐	☐
3) Feeling weak	☐	☐
4) Anxiety or worry	☐	☐
5) Not able to carry out daily functions/work	☐	☐
6) Limitations in social/recreational activities	☐	☐
7) Disruption to family life	☐	☐
8) Pain	☐	☐
9) Skin burning	☐	☐
10) Sadness, unhappiness or depression	☐	☐
11) Limitations in work	☐	☐
12) Changes to my appearance	☐	☐
13) Nausea	☐	☐
14) Damage to immune system	☐	☐
15) Damage to internal organs	☐	☐
16) Effects on fertility	☐	☐

(Shaverdian et al, 2019)

Page 1

Patient experience on the MR Linac

Please complete the survey below.

Thank you!

Radiotherapy treatment delivered on the MR Linac (Unity) using Magnetic Resonance Imaging (MRI) is a new technology. Please click/tick the response that best fits your experience for each of the statements listed.

	Not at all	Slightly	Moderately	Very
1) I needed more detailed information before my treatment	☐	☐	☐	☐
2) I found the treatment position comfortable	☐	☐	☐	☐
3) I found the treatment bed comfortable	☐	☐	☐	☐
4) I found it easy to stay still and maintain the treatment position	☐	☐	☐	☐
5) I wanted to come out of the machine during my treatment	☐	☐	☐	☐
6) I felt calm during my treatment	☐	☐	☐	☐
7) I found the noise in the room easy to tolerate	☐	☐	☐	☐
8) I found the lighting in the room easy to tolerate	☐	☐	☐	☐
9) I found the time taken for the treatment easy to tolerate	☐	☐	☐	☐
10) I felt dizzy during my treatment	☐	☐	☐	☐
11) I felt dizzy immediately after my treatment	☐	☐	☐	☐
12) I felt hot during my treatment	☐	☐	☐	☐
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17) I found listening to the music helpful whilst having my treatment	☐	☐	☐	☐
18) I understood the procedure	☐	☐	☐	☐
19) Comments:				

(Barnes et al, 2021)

Page 1

Overall Satisfaction

Please complete the survey below.

Thank you!

Click/tick the response that best fits your overall satisfaction with the radiotherapy treatment that you have received

1) Overall Satisfaction

	Not at all satisfied	Slightly satisfied	Moderately satisfied	Very satisfied
	☐	☐	☐	☐

Overall Rating of Satisfaction with specific aspects of care

Please complete the survey below.

Thank you!

Based on your experience while attending Radiation Oncology Services at the ONJ Centre please indicate a satisfaction rating for each of the following specific aspects of care

Optional feedback questions can be answered at the bottom of the page

	Very Dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Very Satisfied
1) Interaction with staff	☐	☐	☐	☐	☐
2) Preparation before treatment	☐	☐	☐	☐	☐
3) Support after treatment	☐	☐	☐	☐	☐
4) Experience while using the MR-Linac	☐	☐	☐	☐	☐
5) The information provided about the side effects of treatment	☐	☐	☐	☐	☐
6) The timeliness of the information provided	☐	☐	☐	☐	☐
7) What did you like best about this service? (Optional)					
8) What was the most difficult aspect of using this service? (Optional)					
9) How might we improve the service? (Optional)					



Results: Participants & Study Cohort

64 participants enrolled (June 2025 – January 2026)

At abstract submission:

- 46 completed treatment
- 7 still in progress
- 11 did not proceed with MR Linac treatment

Since abstract submission:

- Remaining 7 participants have now completed treatment

Final sample included in current analysis, n = 53 participants



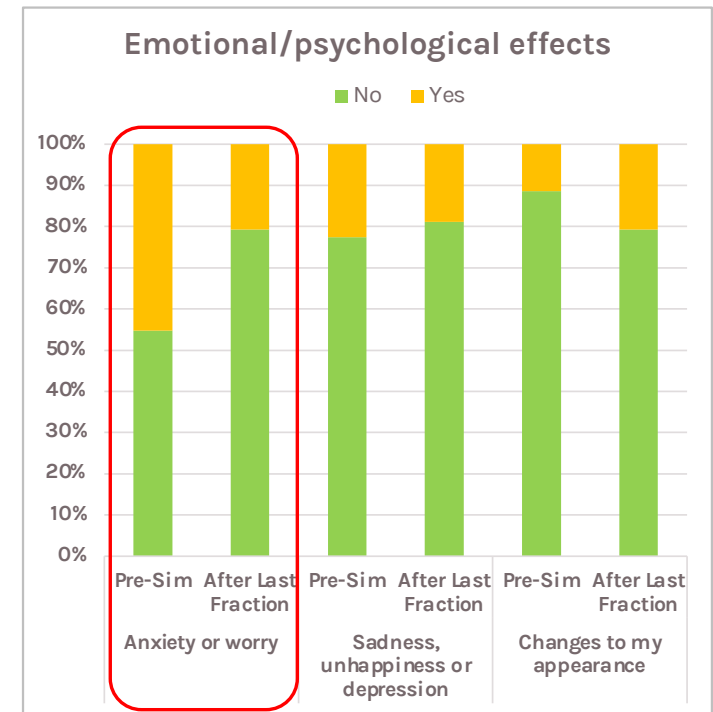
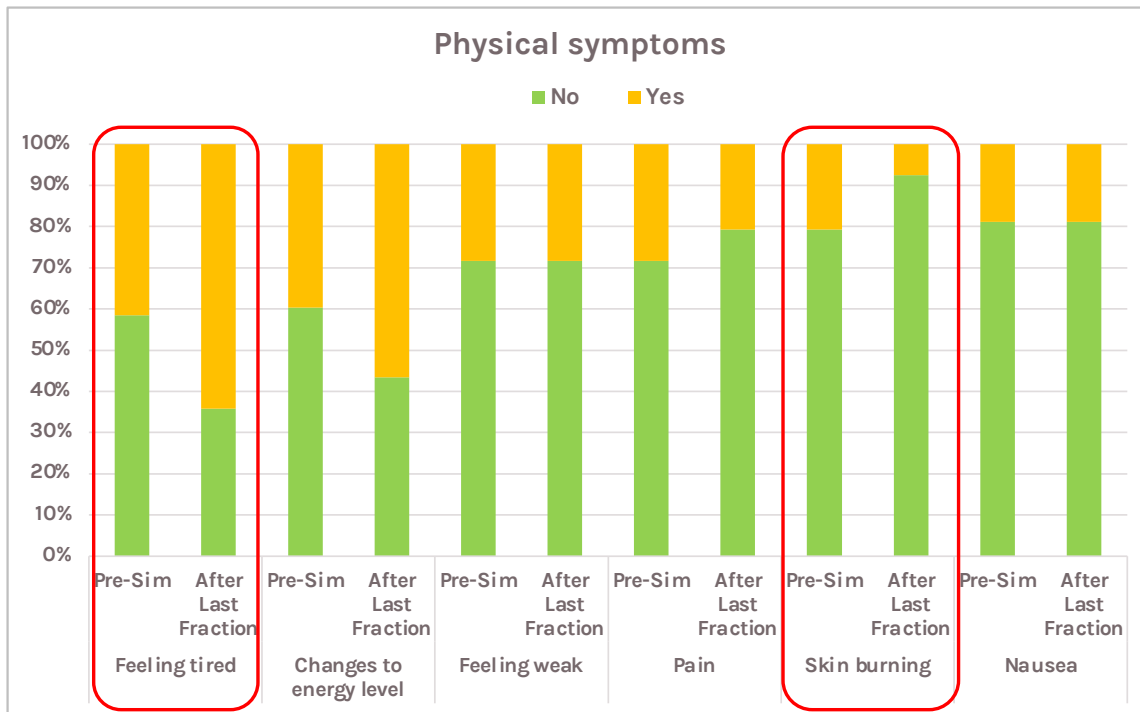
Results: Patient characteristics

Table 1 - Study Cohort, n=53	
Variable	Value, n (%)
Sex at Birth	
Male	34 (64%)
Female	19 (36%)
Age at treatment (years), mean (SD)	65.51 (10.66)

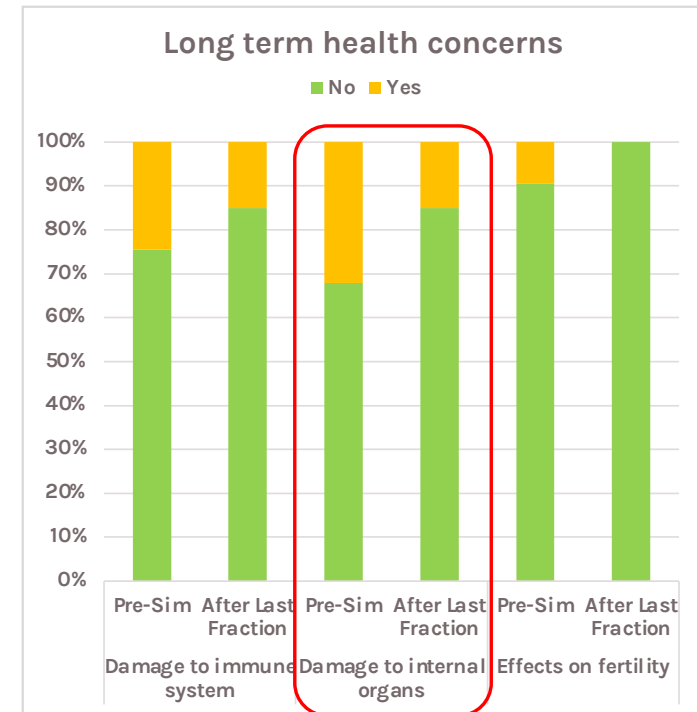
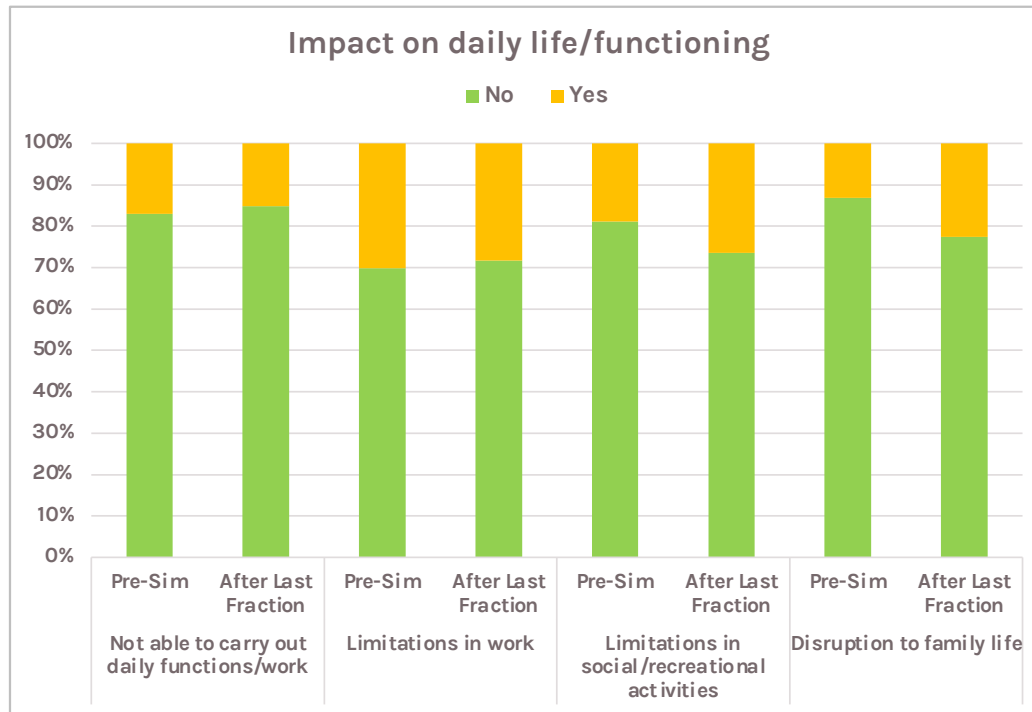
Table 2 - Site of Treatment, n=53	
Variable	Value, n (%)
Site of Treatment	
Prostate	16 (30%)
Breast	11 (21%)
Brain	6 (11%)
Liver	6 (11%)
Pancreas	3 (6%)
Adrenal	3 (6%)
Head and Neck	2 (4%)
Pelvic Nodes	2 (4%)
Abdominal Nodes	1 (2%)
Kidney	1 (2%)
Esophagus	1 (2%)
Soft tissue	1 (2%)

Table 2 - Treatment Details, n=53	
Variable	n (%)
Dose and Fractionation	
40/5	15 (28%)
30/5	11 (21%)
50/5	4 (8%)
45/5	1 (2%)
	31 (59%)
26/2	6 (11%)
60/30	6 (11%)
42/3	5 (9%)
68/15	2 (4%)
70/35	2 (4%)
41.4/23	1 (2%)

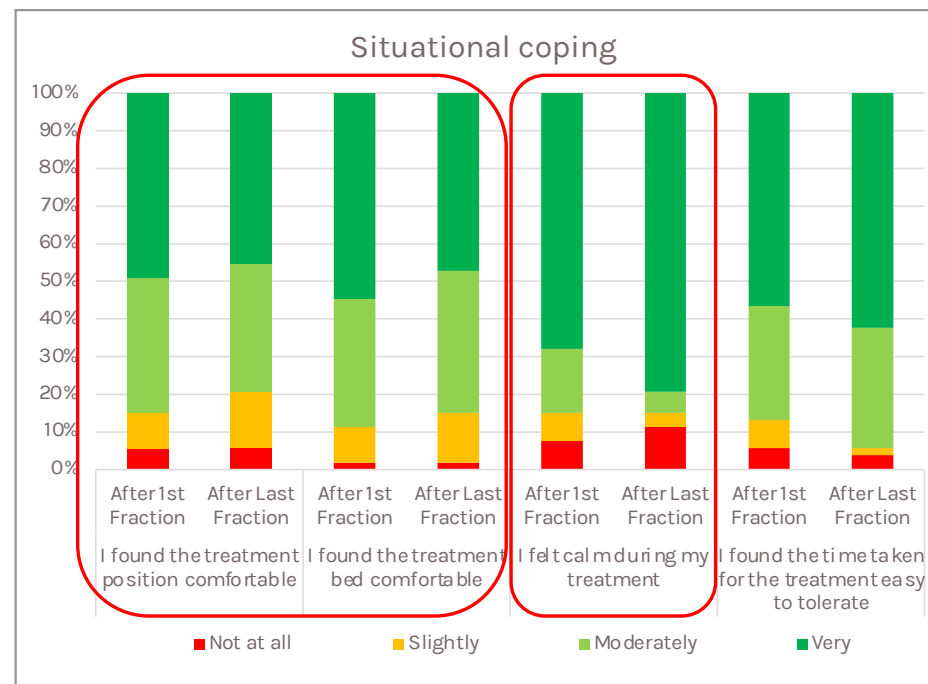
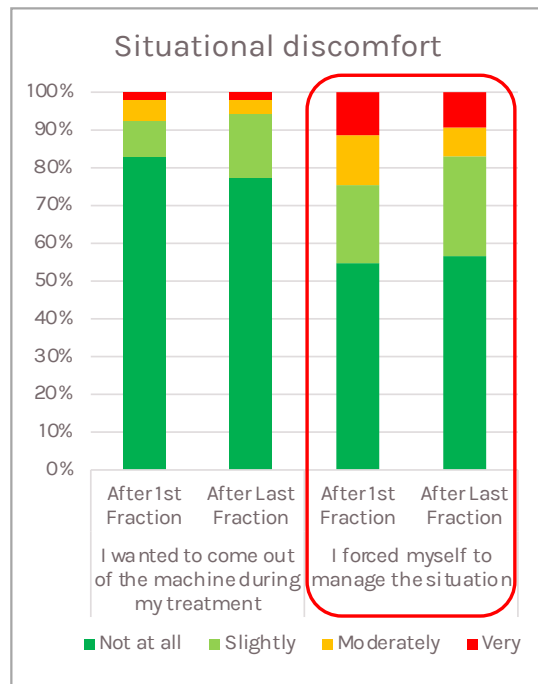
Results: Patient concerns about RT



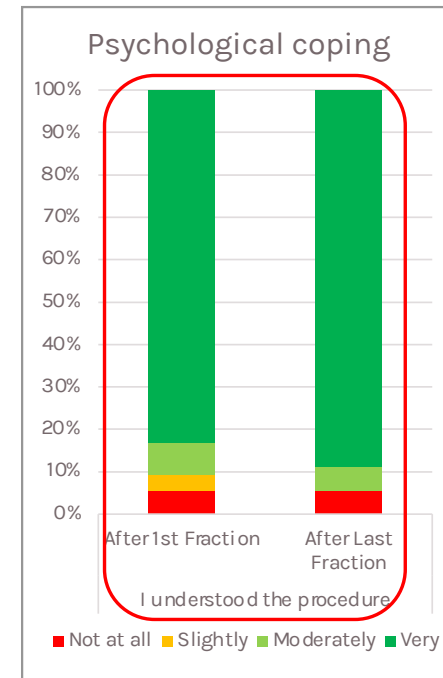
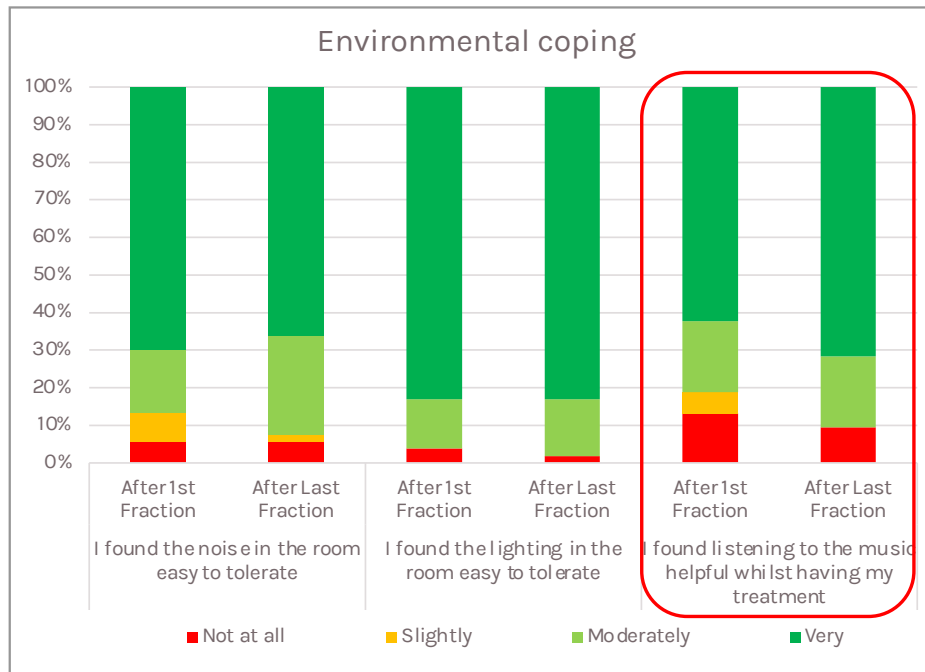
Results: Patient concerns about RT



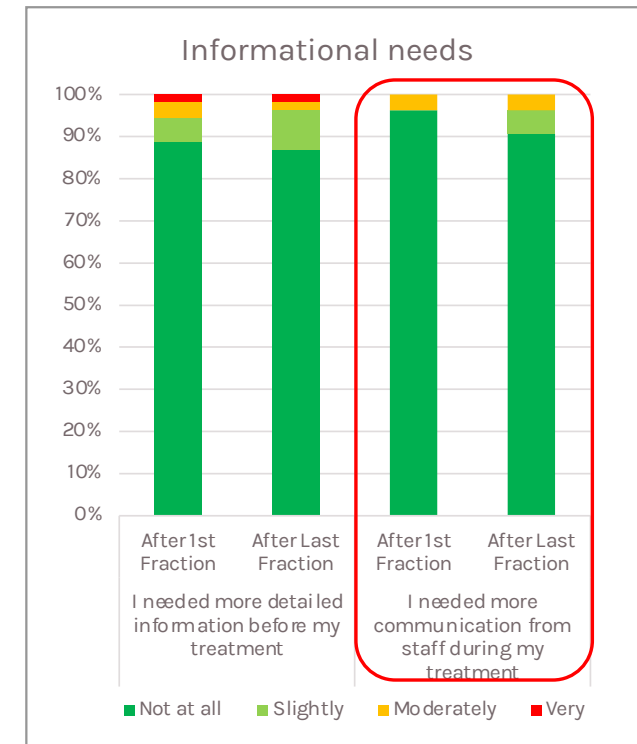
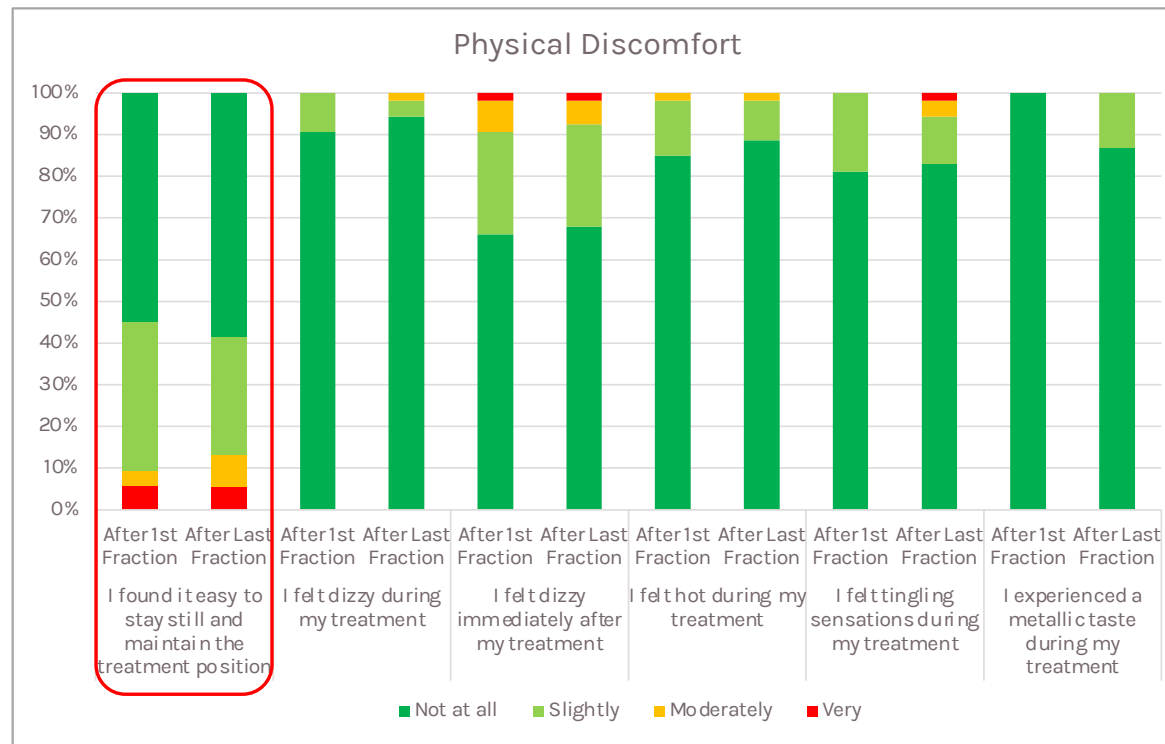
Results: Patient experience on the MRL



Results: Patient experience on the MRL



Results: Patient experience on the MRL



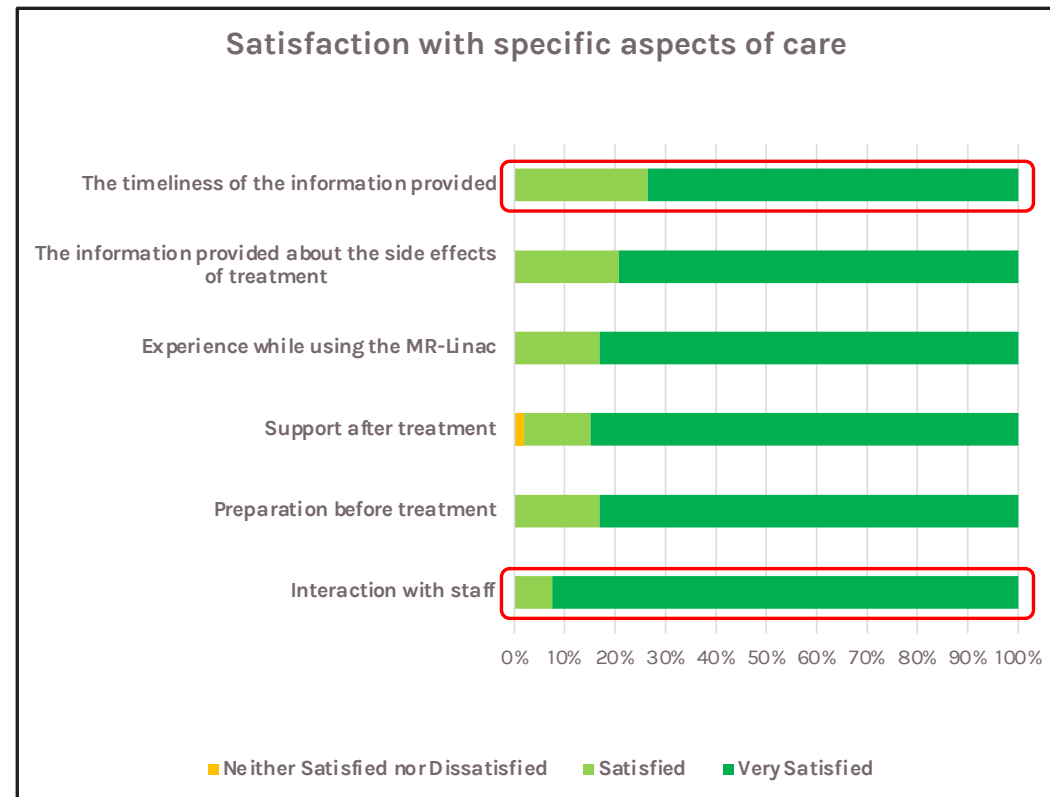
Results: Patient experience on the MRL

- “Staff were absolutely fantastic, couldn’t fault the team at ONJ. So very grateful to have a wonderful facility”
- “I appreciate the support, and care provided especially the encouragement and time information provided as this assisted me with knowing- how much longer until completion”
- “I found the procedure fairly easy, just felt a bit stiff and sore when I came out”
- “The procedure was bearable”
- “To hold still and in the required position (in my case 50 minutes) was extremely difficult and required a great deal of determination and concentration. The noise the machine made is disturbing but having had MRIs before I knew what to expect. The staff were friendly, informative and helpful”



Results: Satisfaction

Factor	After 1st Fraction	After Last Fraction
Number of participants	53	53
Overall Satisfaction		
Not at all satisfied,	1 (2%)	0 (0%)
Slightly satisfied,	1 (2%)	0 (0%)
Moderately satisfied	3 (6%)	1 (2%)
Very satisfied	48 (91%)	52 (98%)



Results-Open ended questions (optional)

What did you like best about the service?

- Very caring supportive professional team
- Always made me feel as if my health was of paramount importance
- Great communication about everything that was happening regarding treatment

What was the most difficult aspect of using this service?

- Lying still, especially as an asthmatic
- Relaxing initially and breathing anxiety
- Finding a parking space

How might we improve the service?

- A little more information about the treatment session, what happens/timing
- Some coaching on breathing techniques would be helpful
- More technical detail on the MRI Linac



Conclusion:

- High patient satisfaction reported for MR-guided radiotherapy at the ONJ Centre
- MR Linac treatments are generally well tolerated and positively impact patient experience
- Areas for improvement:
 - Physical comfort during treatment
 - Emotional support needs
 - Information & education provision

Conclusion:

- Explore whether differences in patient experience are associated with tumor site, treatment duration, overall treatment course
- Additional data currently being collected on patient factors (e.g anxiety, claustrophobia, noise sensitivity) and disease characteristics
- Ongoing recruitment and final analysis will provide further insights to support service evaluation and improvement



Thank you

Austin
HEALTH

Questions?

For further information/MR Linac indications/shared experiences across Australia please contact me by email: Monique.blanchard@austin.org.au



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