In the online survey (n=73), when asked “what is your reaction to the possibility of upright radiotherapy, compared to conventional, lying down treatments?”, 41% of respondents answered “Excited, upright treatments sound like they’d be more comfortable”; 41% answered “I’m not sure; I’d need to try the chair” and 18% answered “No thanks, I’d prefer to lie down”.

In-person and online, many patients emphasised that clinical treatment quality, rather than body positioning, was their primary concern. Some patients indicated that the following upright radiotherapy research topics would be important to them: patient tolerance of rotation; possible claustrophobia from upright CT scanners; the potential use of modesty coverings, upright.

Conclusions
Patient views on radiotherapy body positioning are diverse and multifaceted. In-person and online, 24% of respondents (n=105), <20% of participants indicated an overall preference for lying down, over upright body positioning. The strongest preference for upright body positioning was found amongst the participants who’d received radiotherapy for head and neck cancer (91%).

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References

Upright body positioning for fixed beam radiotherapy: what do patients think?

T Underwood1,2, R Appleyard2, J Ulman3, C Holborn2, S Smith2, S Hill1, S Ingram1, R Tierney1, G Sands1, J Nunn1, K Yip1, H Probst2
1. Leo Cancer Care Ltd, Smallfield, Horley, UK
2. Department of Medical Physics & Biomedical Engineering, University College, London, UK
3. College of Health, Well-being and Life Sciences, Sheffield Hallam University, UK

email: h.probst@shu.ac.uk

Purpose
Positioning and immobilisation have been identified as important contributors to overall patient comfort during radiotherapy [1]. Yet thus far little data has been published on patient perspectives on upright body positioning [2,3]. Relative to gantries, combining fixed treatment beams with rotating, upright patient positioners can reduce room costs/footprints, especially for particle therapies [4].

Methods
After Research Ethics Committee approval, in-person workshops were conducted with volunteers who had completed external beam radiotherapy using photons for primary cancers of the breast (n=10), prostate (n=11) or head and neck (n=11). Workshops included: (1) guided, group discussion covering the participants’ experiences of radiotherapy and/or (2) participant trials with a static demonstration version of the Eve robotic upright patient positioning system (Leo Cancer Care Ltd). A separate online patient survey was disseminated via cancer support groups and radiotherapy advocacy organisations. For this, a video explaining the concept of upright radiotherapy was followed by brief questions. 73 individuals responded to this survey, self-certifying that they had received radiotherapy (for any clinical indication).

Results
A key theme that emerged from the in-person discussions was “everyone has a different journey”. Patients start their radiotherapy having already experienced different pathways (e.g. surgery, chemotherapy, brachytherapy), with or without comorbidities (e.g. limited mobility, blood pressure issues, obesity). Consequently, it is unsurprising that patient perspectives on body positioning for radiotherapy are heterogeneous. Lying down for treatment was difficult for a subset of participants. For many participants, overall body positioning was not a major issue. For a small subset, the opportunity to lie down and “tune out” was welcomed.

Results from the in-person workshops are summarised in the table. Within the breast cohort, radiotherapy arm positioning (post-surgery) & emotional vulnerability were identified as key barriers to comfort. Within the head and neck cohort, many struggled with RT immobilisation masks. 100% of the H&N cohort reported difficulties in swallowing while lying down and 91% thought that it would have been easier to swallow upright. Across all three clinical groups, participants consistently indicated that they’d feel a better social connection if RTTs positioned them upright, compared to lying down.

In the table, the percentage of respondents who answered “yes” is shown for various questions related to body positioning during radiotherapy.

<table>
<thead>
<tr>
<th></th>
<th>Breast</th>
<th>Prostate</th>
<th>H&amp;N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you feel emotionally vulnerable during radiotherapy?</td>
<td>70%</td>
<td>27.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Do you think upright positioning would increase the social connection between patients/RTs?</td>
<td>100%</td>
<td>73%</td>
<td>91%</td>
</tr>
<tr>
<td>Did you have difficulties lying-down/getting-up from the supine radiotherapy position?</td>
<td>33%</td>
<td>36%</td>
<td>55%</td>
</tr>
<tr>
<td>Do you think it would have been easier to get in/out of the upright treatment position?</td>
<td>86%</td>
<td>82%</td>
<td>100%</td>
</tr>
<tr>
<td>Overall, would you have preferred the upright treatment position?</td>
<td>86%</td>
<td>55%</td>
<td>91%</td>
</tr>
</tbody>
</table>