LEO Cancer Care

THE CASE FOR UPRIGHT

Radiation Therapy

Innovation in Technology and Retention

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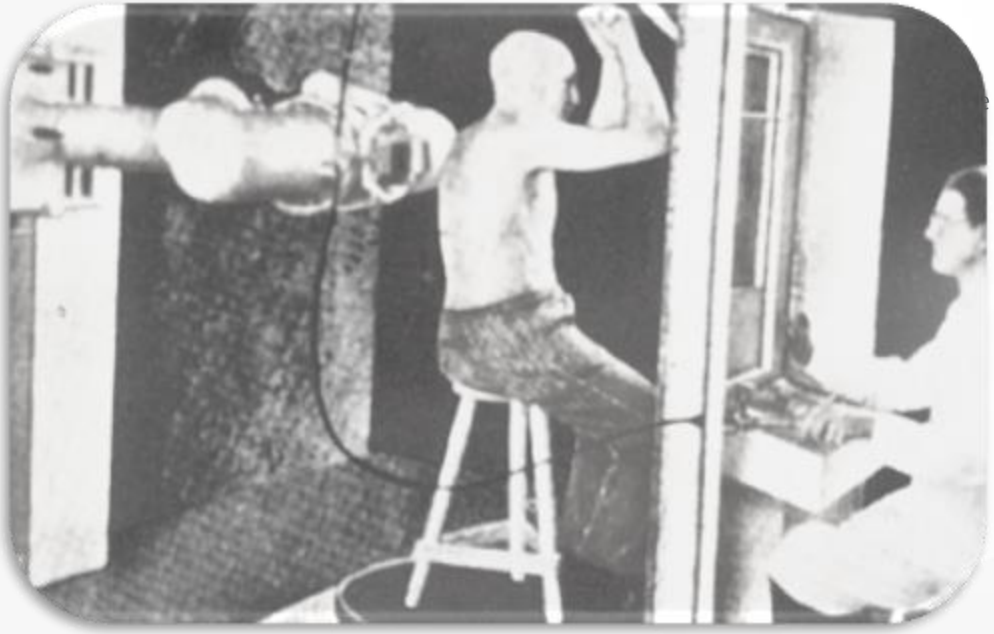
Learning Aims & Objectives

- Gain an awareness of the Leo Cancer Care Technology & the history of Upright
- Develop an awareness of the Upright Treatment delivery clinical workflow
- To share and critically evaluate the clinical research evidence for upright
- Consider the patient experience and upright Radiotherapy
- Therapeutic Radiographer Retention

History of Upright

- Late diagnosis & severe side effects were a factor in introducing supine treatment delivery
- Historically imaging technology has not been able to successfully image patients in the upright position



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Technology

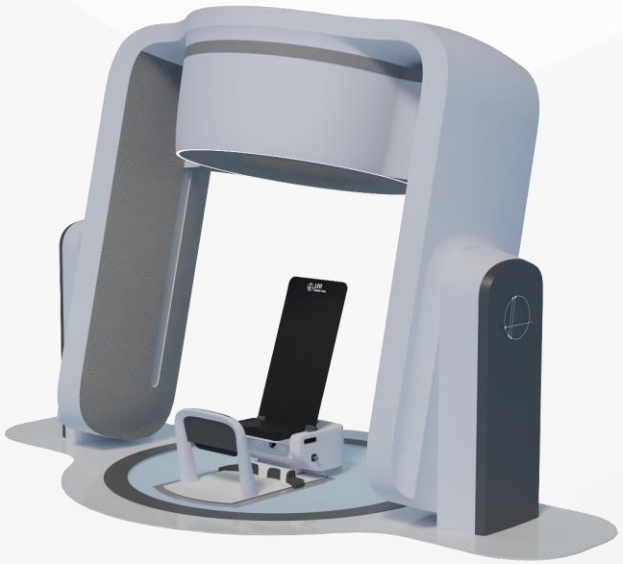
Leo Cancer Care Product Roadmap

Marie ™

Ruby ™

Upright X-Ray Therapy

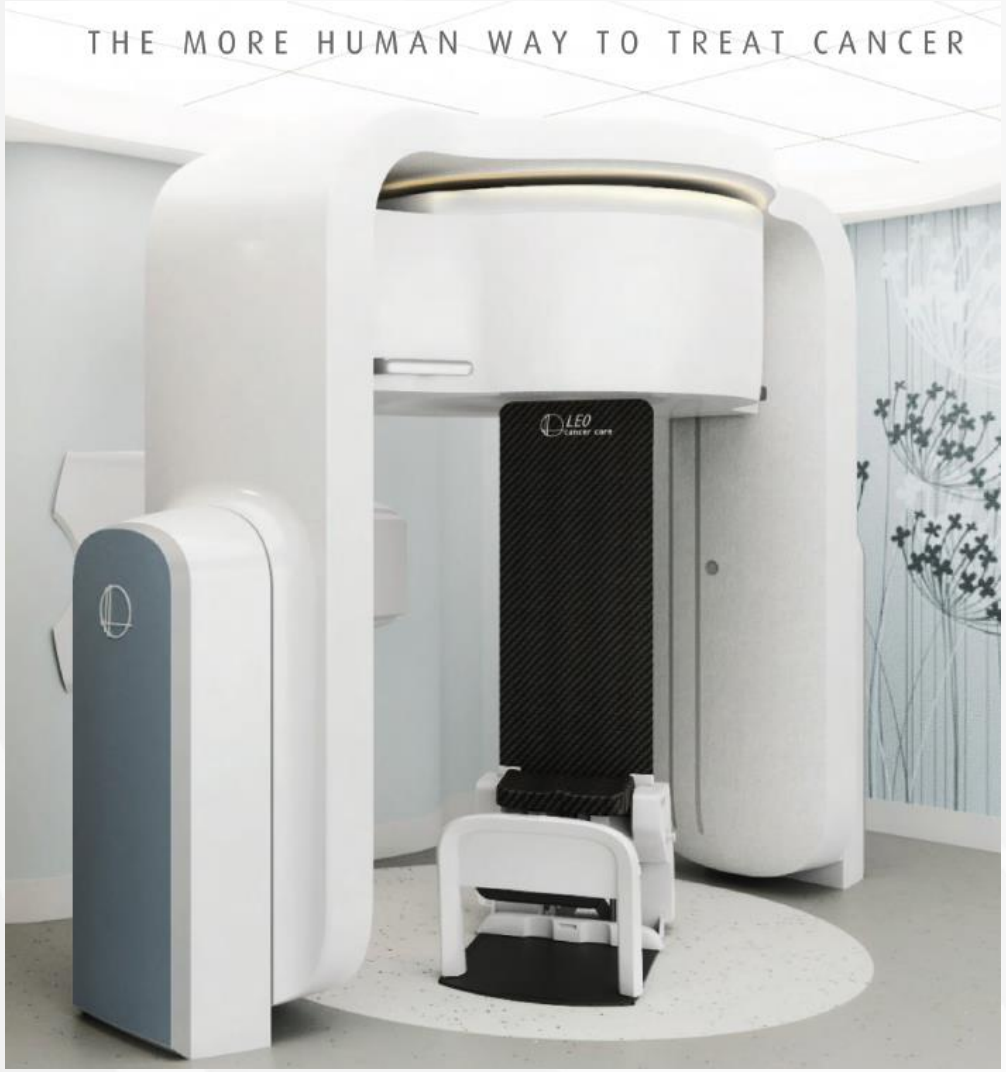
Aida ™



Upright Radiology

Patient Rotation System- Eve™

Upright CT Scanner



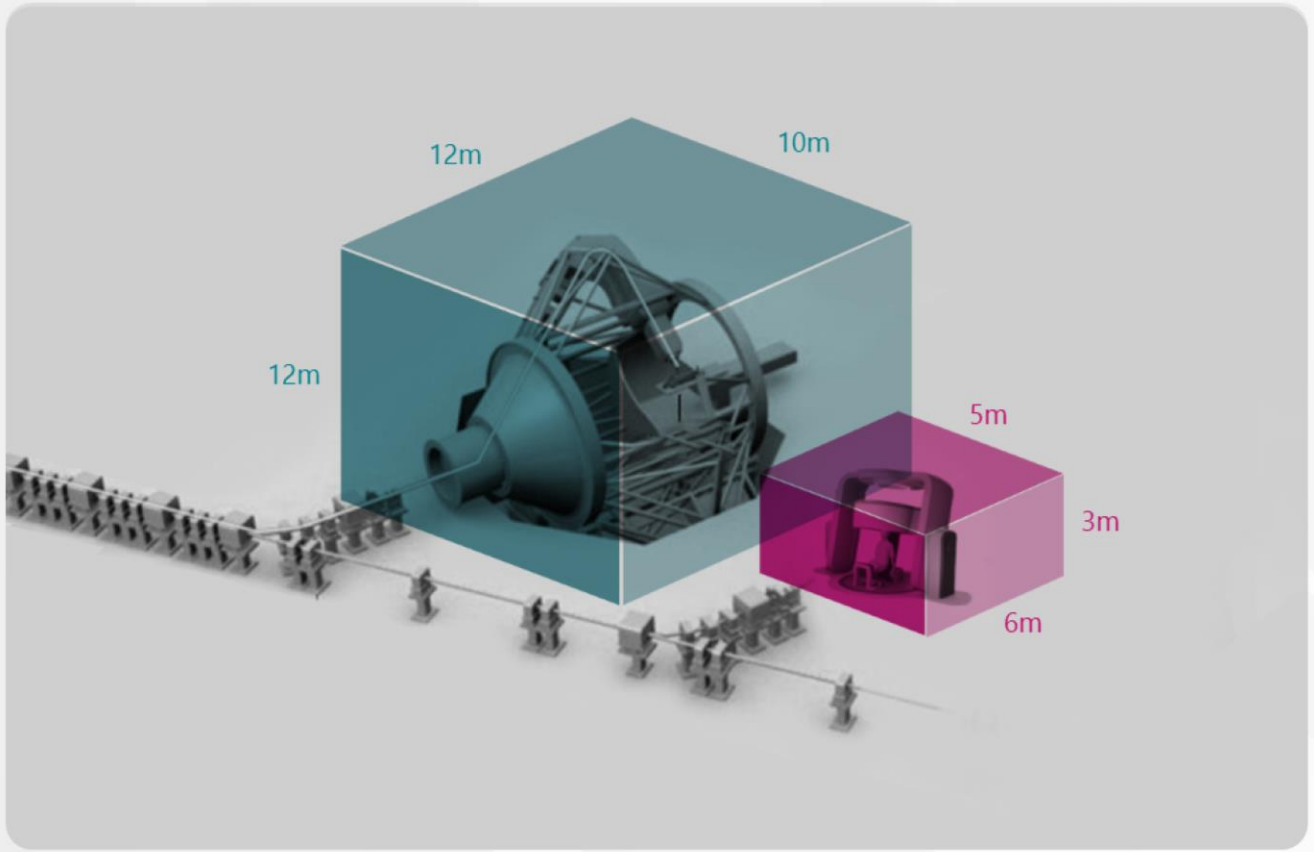
CT SCANNER

Bore Size: 84.5 cm
Field of View: 62.4 cm
Imaging Energies: 80 kV & 140 kV
Gantry Tilt Angle: +/- 15 Degrees
Travel Range: 175 cm
Slice Thickness: 1 mm

Our folding arm rest, adjustable to any height, is currently in development.

System workflow

Gantries and Fixed Beams Exist Side by Side



Typical Room Temp Gantry Shielded Volume:

1,400 m^3

Optimal Upright Room Shielded Volume:

90 m^3

Shielded Volume Ratio:

Gantry/Fixed = 16

Person-centred Radiotherapy

Treatments that come to you

Retention & Innovation – Check In

- The opportunity to provide research and product development to the technology.
- The advantages of the upright patient workflow increase efficiency.
- Potential for reduced manual handling.
- Global accessibility.

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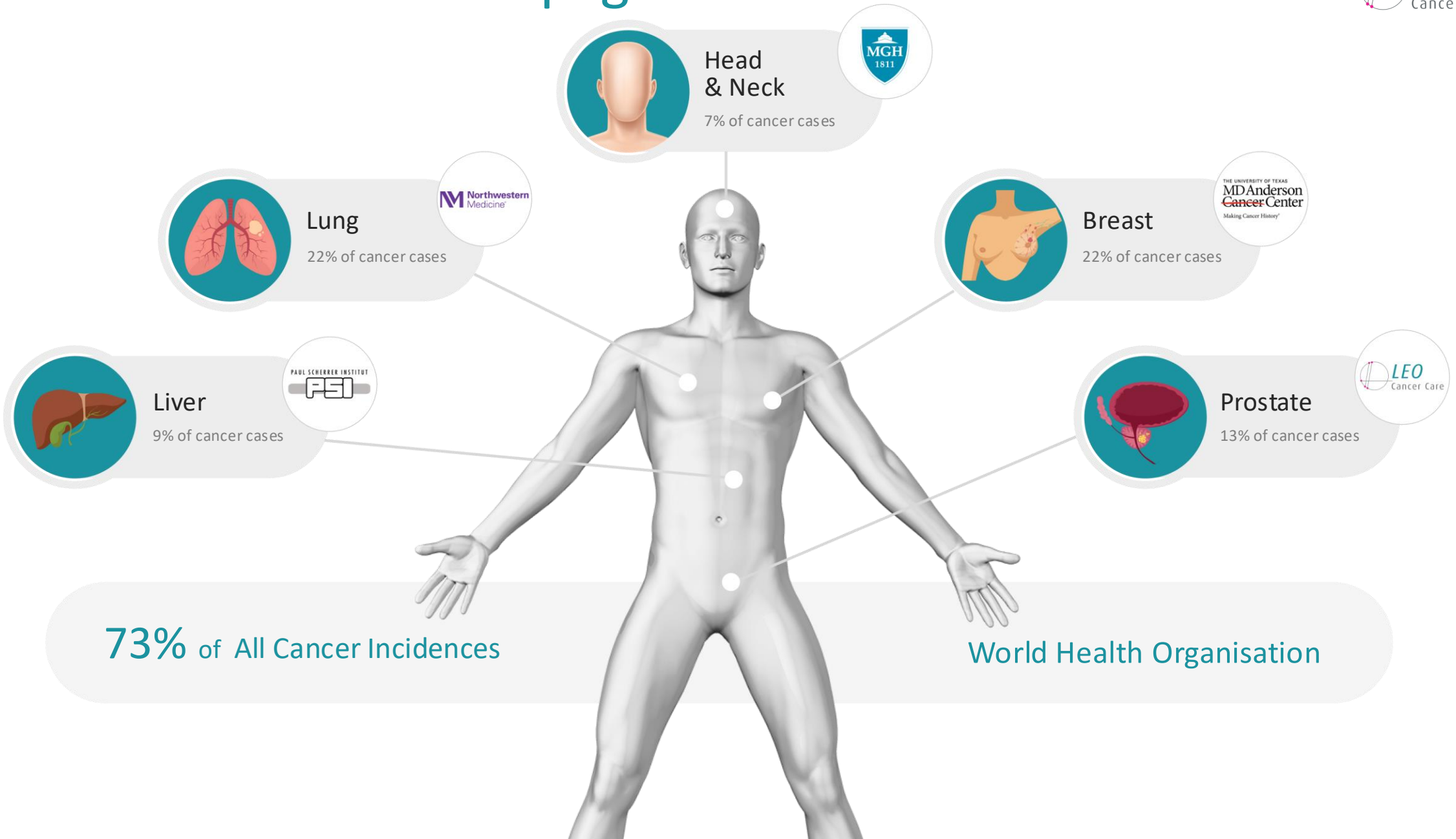
THE CLINICAL CASE FOR

Upright Radiotherapy

Potential Indications for Upright



73% of All Cancer Incidences

World Health Organisation

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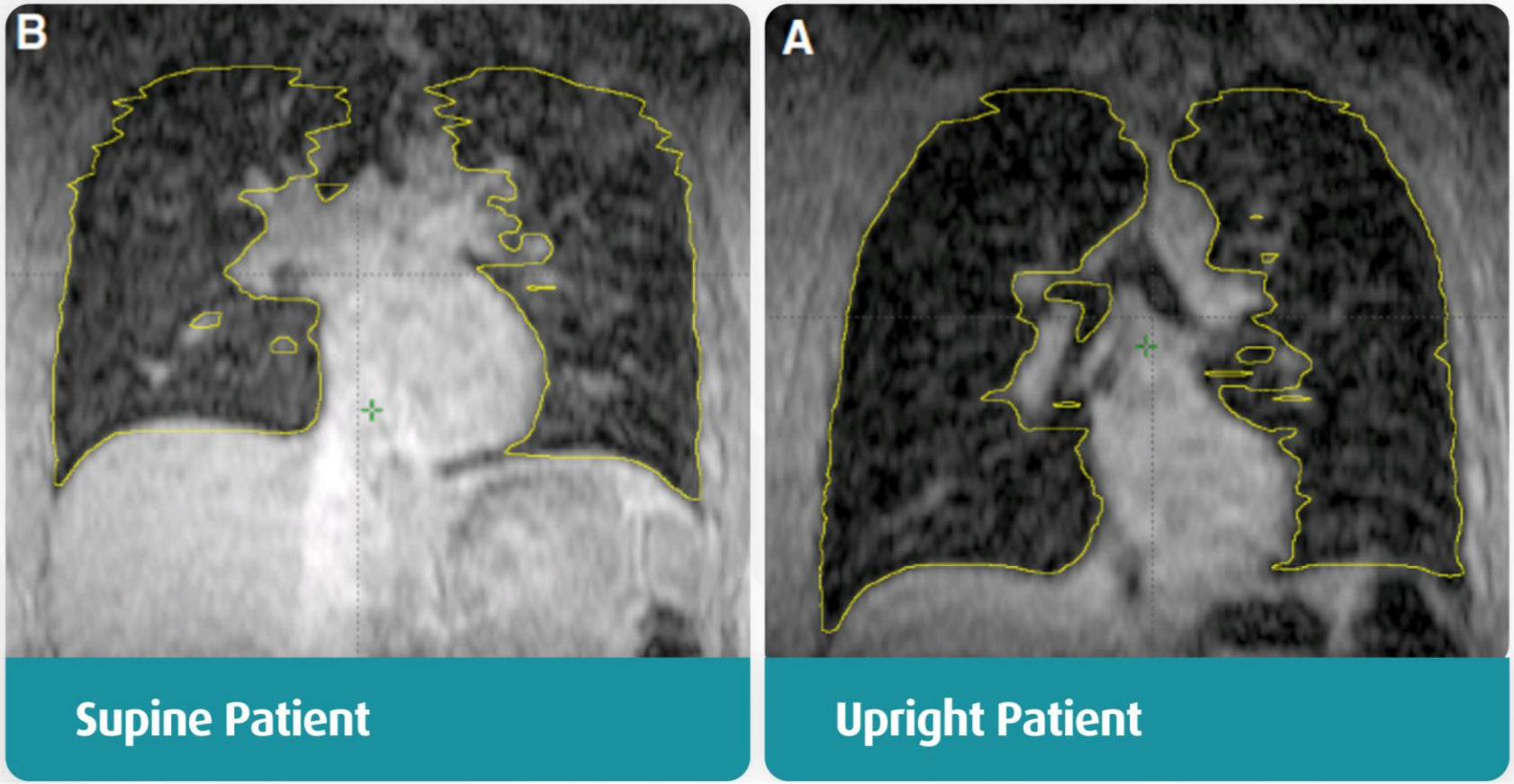
Upright Radiotherapy

LUNG Breathing Motion Reduced

Increased lung volume leads to reduced breathing motion



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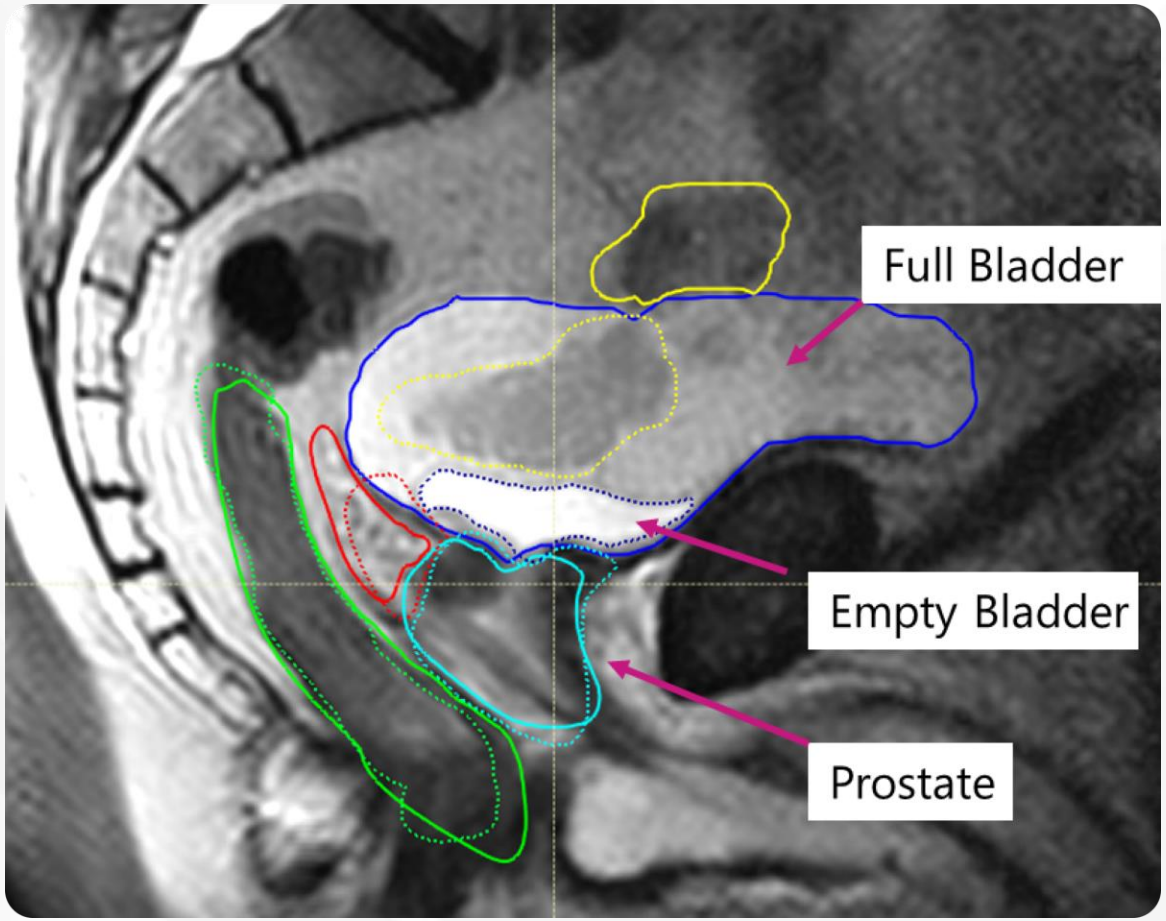
Upright Radiotherapy

PROSTATE Treating Without a Full Bladder

Male pelvic anatomy in the upright position

- Anterior-Posterior length and the bladder width is significantly larger
- Seminal vesicles are pushed down by the bladder
- Distance between the sacrum and the anterior bladder wall is significantly smaller
- Top of the penile bulb is further away from the apex of the prostate
- Position and shape of the prostate is not impacted significantly by bladder fill



Retention & Innovation – Check In

- Leading in making change to benefit the patient experience

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THE CLINICAL CASE FOR

Upright Radiotherapy

WHOLE BODY Empowering Patients to Feel in Control

Patient Research Sheffield Hallam University

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

T Underwood[1,2], R Appleyard[3], J Ulman[3], C Holborn[3], S Smith[3], S Hill[3], S Ingram[1], R Tierney[1], G Sands[1], J Nunn[1], K Yip[1], H Probst[3]
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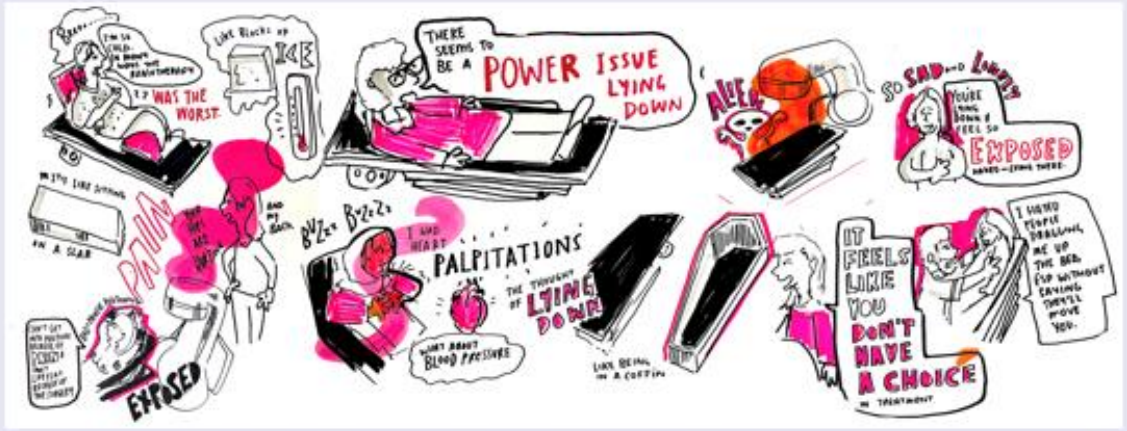


Live-drawings from the workshops showing individual perspectives on conventional RT for breast cancer (above) and prostate cancer (below). Artist: Sarah "Smizz" Smith.

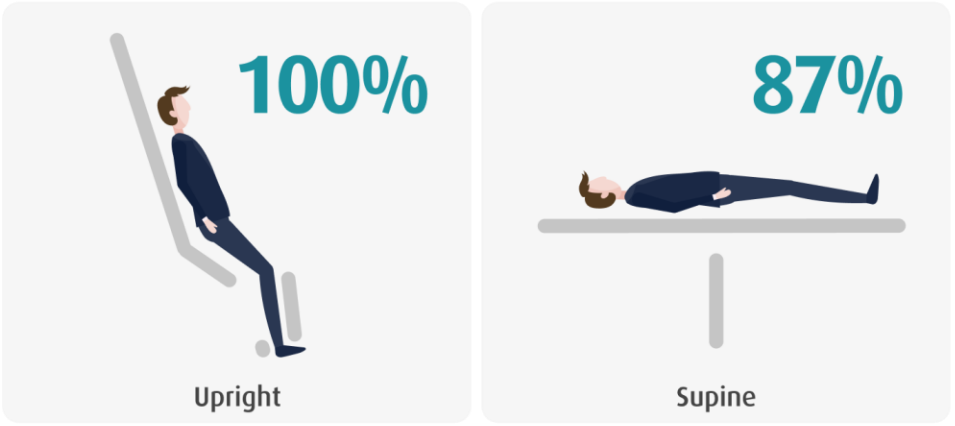
	Percentage answering "yes"		
	Breast	Prostate	H&N
Did you feel emotionally vulnerably during radiotherapy?	70%	27.3%	100%
Do you think upright positioning would increase the social connection between patients/RTTs?	100%	73%	91%
Did you have difficulties lying-down/getting-up from the supine radiotherapy position?	33%	36%	55%
Do you think it would have been easier to get in/out of the upright treatment position?	86%	82%	100%
Overall, would you have preferred the upright treatment position?	86%	55%	91%

Connection & Empowerment

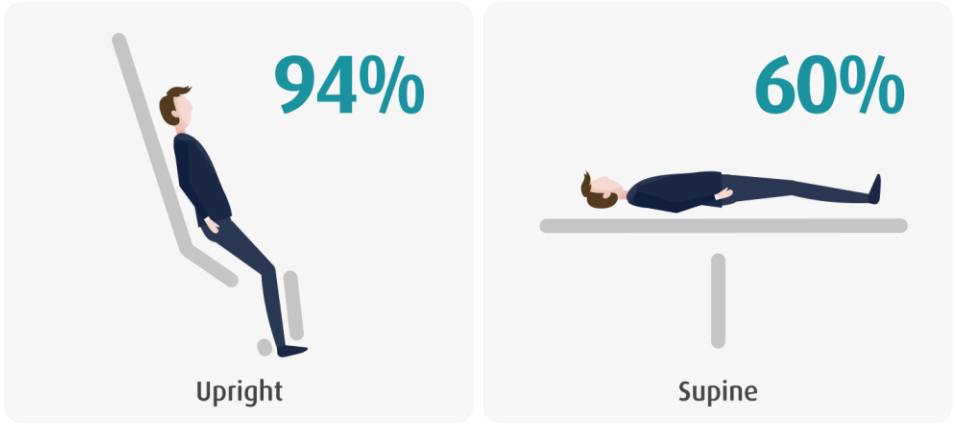
- Non-verbal communication increases patient satisfaction, understanding and reduces anxiety.
- Eye contact, facial expressions and body language can make verbal conversation more expressive and meaningful.
- Convey warmth, reassurance, empathy and support.
- Can detect emotional distress in patients all of which help to strengthen patient-clinician rapport.
- Power pose.

Patient Research Results from Centre Léon Bérard

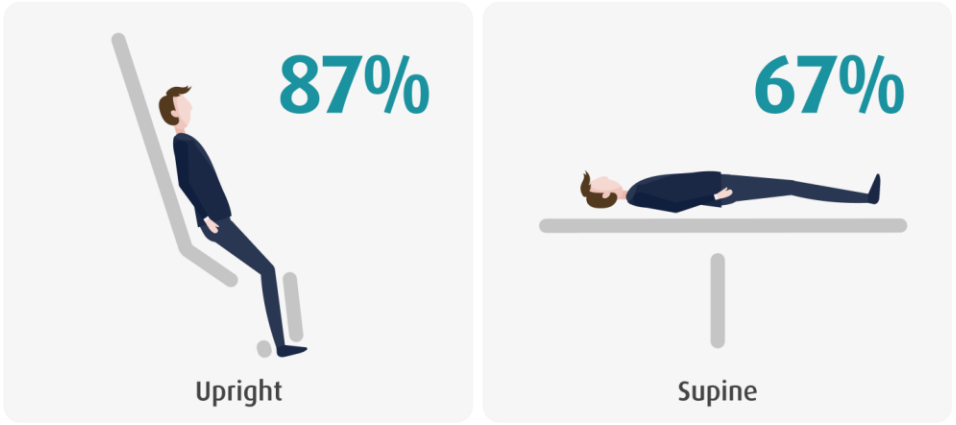
Patients found it comfortable to breathe



Patients felt it easy to get out of the system



Patients felt stable



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Summary

- The opportunity to provide research and product development to the technology.
- The advantages of the upright patient workflow increase efficiency.
- Potential for reduced manual handling.
- Empowering patients & meeting them eye to eye.

Thank you for attending this presentation

If you have any questions, please let us know

For more information follow us on:

Online: https://www.leocancercare.com

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Contact us at:

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