

Supplementary Materials: A Retrospective Dosimetric Study of Radiotherapy Patients with Left-Sided Breast Cancer; Patient Selection Criteria for Deep Inspiration Breath Hold Technique

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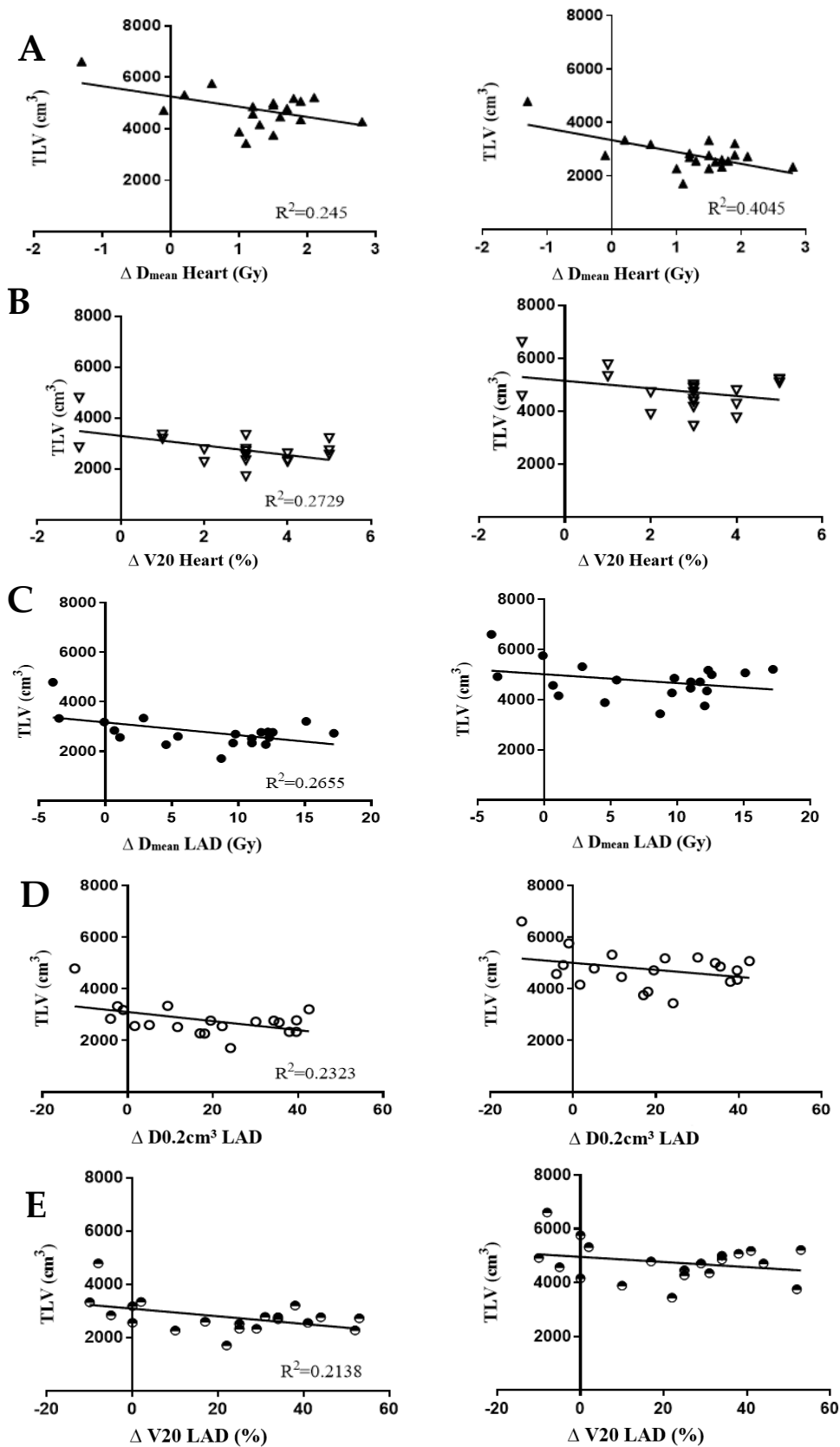


Figure S1. Reduction in dosimetric parameters correlated with patient anatomical parameters. (A) Correlation between the mean heart dose difference (ΔD_{mean}) and total lung volume (TLV) for CT_{DIBH} (left) and CT_{FB} (right) plans. (B) Correlation between the difference in volume of the heart receiving 20 Gy (ΔV_{20}) and total lung volume (TLV) for CT_{FB} (left) and CT_{DIBH} (right) plans. (C) Correlation between the mean LAD dose difference (ΔD_{mean}) and total lung volume (TLV) for CT_{FB} (left) and

CT_{DIBH} (right) plans. (D) Correlation between the difference in dose received by 0.2 cm³ of the LAD ($\Delta D_{0.2cm^3}$) and total lung volume (TLV) for CT_{FB} (left) and CT_{DIBH} (right) plans. (E) Correlation between the difference in the LAD volume receiving 20 Gy (ΔV_{20}) and total lung volume (TLV) for CT_{FB} (left) and CT_{DIBH} (right) plans.

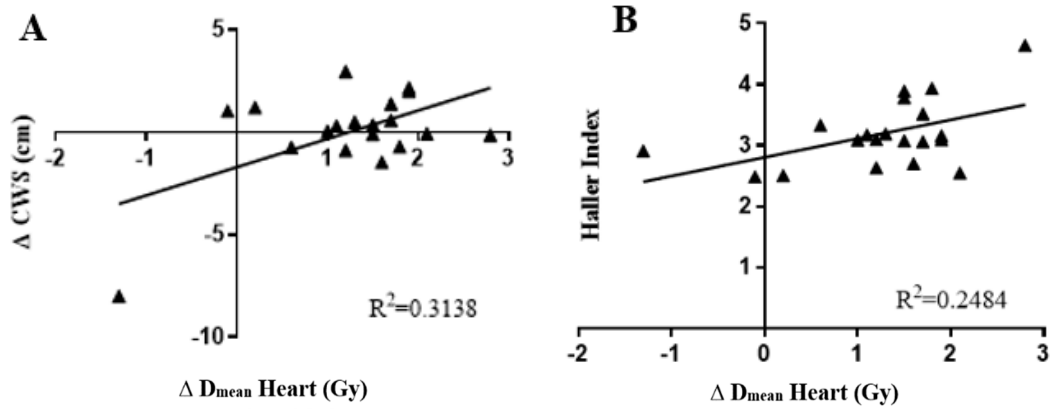


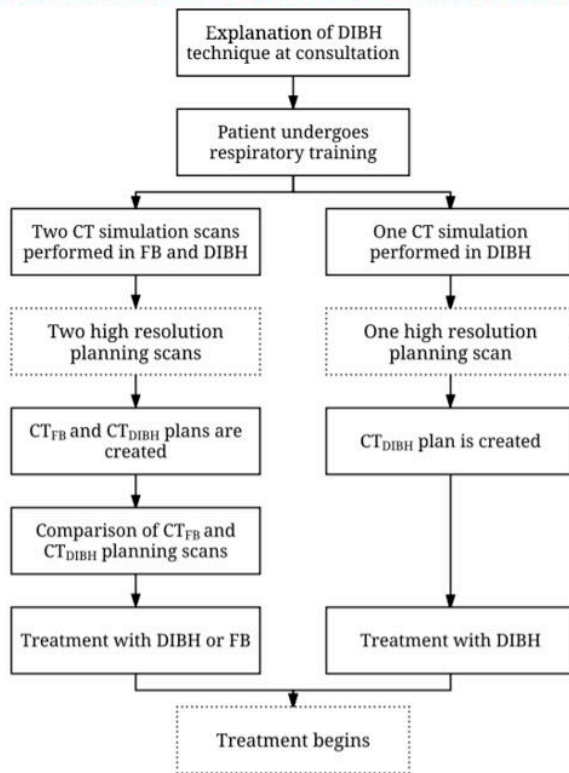
Figure S2. (A) Linear regression of the mean heart dose difference (ΔD_{mean}) and chest wall separation difference (ΔCWS) between CT_{FB} and CT_{DIBH} plans. (B) Linear regression of the mean heart dose difference (ΔD_{mean}) and Haller Index.

Table S1. Summary of reduction in dosimetric parameters correlated with patient anatomical parameters.

		Δ CLD	CWS in CT _{FB} Plan	Δ CWS	MHD in CT _{FB} Plan	Haller Index	TLV in CT _{DIBH} Plan	TLV in CT _{FB} Plan
Heart	ΔD_{mean}			0.3138*	0.397*	0.2484*	0.245*	0.4045*
	ΔV_{10}	0.2906*						
	ΔV_{20}		0.2047*					0.2729*
	ΔV_{25}							
	ΔV_{30}							
LAD	ΔD_{mean}		0.2799*					0.2655*
	$\Delta D_{0.2\text{cm}^3}$							0.2323*
	ΔV_{20}		0.3146*					0.2138*

Key: *Significant difference irrespective of magnitude. Abbreviations: Δ : relative reduction; CLD: central lung distance; MHD: maximum heart distance; CWS: chest wall separation; TLV; total lung volume.

Treatment scheme in South Australia at the time of this study



Potential treatment scheme

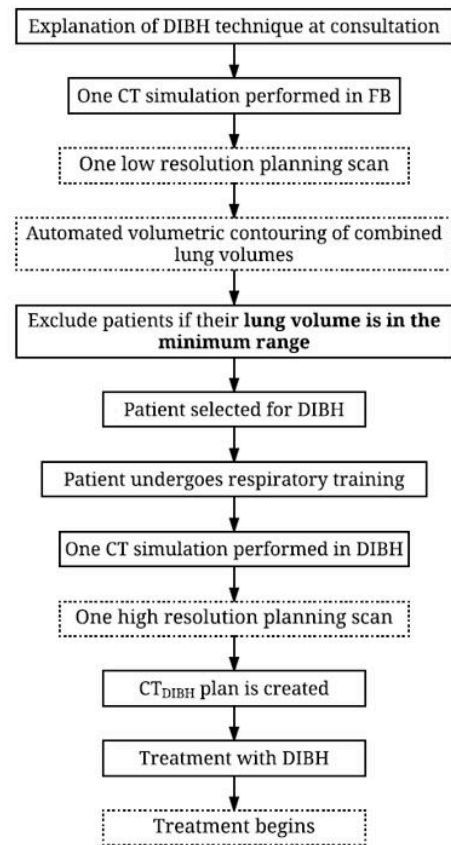


Figure S3. Potential treatment scheme compared the treatment scheme in South Australia at the time of this study.