

Figure S1 CONSORT diagram of the study design. CONSORT, Consolidated Standards of Reporting Trials.

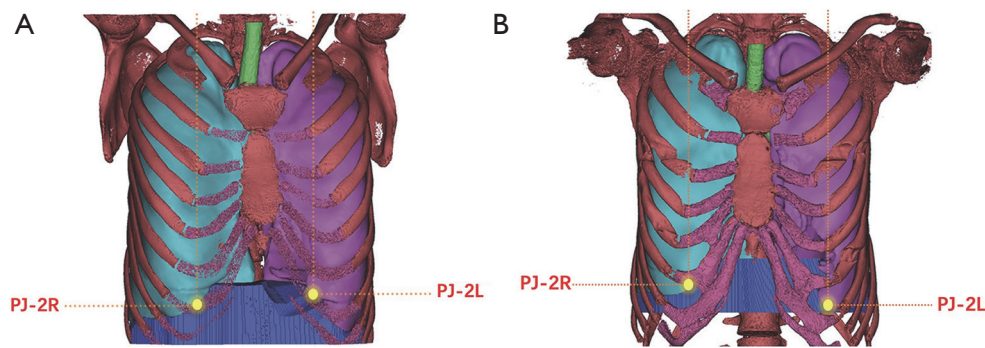


Figure S2 Reconstruction and comparison of the pre- and postoperative sternum. (A) Reconstruction of the preoperative sternum. (B) Reconstruction of the postoperative sternum. PJ, projection.

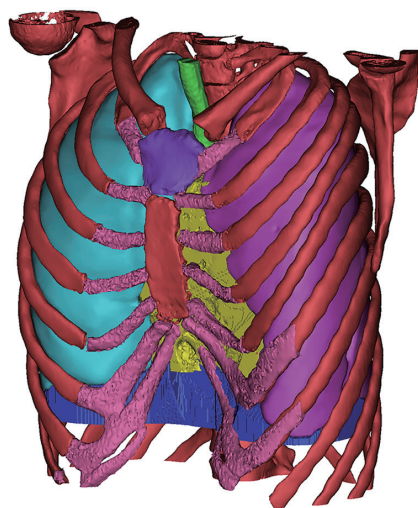


Figure S3 Reconstruction of 3D thorax model. 3D, three-dimensional.

Table S1 Comparison of lung volumes between the two HI groups (HI <3.0 vs. HI ≥3.0)

Variables	Mean ± SD		P value	95% CI
	HI <3.0 (n=6)	HI ≥3.0 (n=41)		
ΔLLV	41.59±551.64	−339.19±337.92	0.022*	56.94 to 704.62
ΔRLV	130.63±699.72	−392.81±333.16	0.128	−209.01 to 1,255.90
ΔTLV	172.23±1,250.36	−732.00±654.10	0.008**	248.95 to 1559.51

*, P<0.05; **, P<0.001. HI, Haller index; SD, standard deviation; CI, confidence interval; LLV, left lung volume; RLV, right lung volume; TLV, total lung volume.

Table S2 Association between HI and alterations in lung volumes and functions

Variables	HI subgroups		c ² -statistic [df]	P value
	<3.0, n (% within variable)	≥3.0, n (% within variable)		
LLV (cm ³)			5.64 [1]	0.018*
Increase	4 (40.0)	6 (60.0)		
Decrease	2 (5.4)	35 (94.6)		
RLV (cm ³)			8.31 [1]	0.004**
Increase	4 (50.0)	4 (50.0)		
Decrease	2 (5.1)	37 (94.9)		
TLV (cm ³)			6.82 [1]	0.009**
Increase	4 (44.4)	5 (55.6)		
Decrease	2 (5.3)	36 (94.7)		
FEV1 (%)			0.101 [1]	0.75
Increase	2 (22.2)	7 (77.8)		
Decrease	3 (10.7)	25 (89.3)		
FVC (%)			0.101 [1]	0.75
Increase	2 (22.2)	7 (77.8)		
Decrease	3 (10.7)	25 (89.3)		
PEF (%)			0.151 [1]	0.698
Increase	2 (12.0)	10 (88.0)		
Decrease	3 (16.7)	22 (83.3)		

*, P<0.05; **, P<0.001. HI, Haller index; LLV, left lung volume; RLV, right lung volume; TLV, total lung volume; FEV1, forced expiratory volume in 1 second; FVC, forced vital capacity; PEF, peak expiratory flow.