

Table E-1. Patient presentation

Pt #	Sex	Age at Surgery (Yrs)	Curve Progress. (Deg)	Curve Progress. (Deg/Yr)	Cobb Angle (Deg)	Cobb Angle Curve	Rigid Portion of Curve	Concave Side	Type of Concave Anomalies	Location of Concave Anomalies	Convex Anomalies Hemivert.	Vert. Anomalies (% of No. of Thoracic Spine Vertebrae)	Fused Ribs (No.) Location	Comments	Length of F/U (Yrs)
1	M	5.7	60	11	140	T2-L2	T2-12	RT	Unilat. Bar	T6-9; T10-11	4	83	(8) T5-12	2nd thoracostomy	9.0
2	F	2.4	5	2	55	T1-12	T1-10	RT	Unilat. Bar	T1-2; T3-5; T6-9	3	83	(9) T1-9	VATER, 2nd thoracostomy, teth. spinal cord	9.8
3	F	1.4	10	7	55	T6-L2	T6-11	LT	Unilat. Bar	T7-9; T10-11	2	75	(8) T2-9		7.4
4	M	0.8	30	45	95	T3-L1	T4-11	RT	Unilat. Bar	T7-9	4	75	(9) T4-12		7.8
5	M	3.2	5	2	35	T1-9	T1-9	LT	Wedge Vert.	T2-7	n/a	50	(6) T2-7		8.0
6	M	2.4	14	12	83	T1-13	T6-10	RT	Unilat. Bar	T7-9; T9-10; T10-11	4	75	(8) T2-9	Torticollis	5.5
7	M	4.2	15	13	60	T4-12	T4-9	RT	Unilat. Bar	T6-9; T12-13	2	100	(8) T3-10	Renal ectopy, imper. anus	8.6
8	M	4.1	20	40	70	T1-L3	T1-4	RT	Unilat. Bar	T1-6	3	100	(9) T1-6, T11-13	Teth. spinal cord, 2nd thoracostomy	4.0
9	M	1.6	43	30	86	T3-11	T3-8	RT	Unilat. Bar	T6-10	1	60	(7) T3-6; T7-9	Spina bifida occulta	6.5
10	F	1.9	10	13	50	T2-7	T2-5	LT	Unilat. Bar	T3-5	2	33	(3) T2-4	Myelomeningocele	6.8
11	M	0.6	30	50	60	T1-12	T2-7	LT	Wedge Vert.	T3-6	n/a	50	(6) T3-8	2nd thoracostomy	12.0
12	F	1.4	10	10	54	T1-9	T1-9	RT	Unilat. Bar	T4-7, 8	5	50	(6) T1-6		7.3
13	M	1.4	24	17	101	T4-13	T5-10	LT	Unilat. Bar	T6-9; T10-12	4	75	(10) T1-2; T5-12	VATER, 2nd thoracostomy	8.5
14	F	1.6	16	11	67	T1-10	T1-7	LT	Unilat. Bar	T3-4; T5-6	4	50	(5) T3-7		5.2
15	M	1.7	5	3	65	T4-11	T4-11	LT	Unilat. Bar	T7-8	3	75	(5) T5-9	CPAP dependent	6.3
16	F	2.9	37	14	99	T1-14	T7-12	RT	Unilat. Bar	T8-10	1	100	(12) T1-12		7.6
17	M	2.1	40	18	70	T3-11	T3-11	RT	Unilat. Bar	T1-3; T5-8	8	66	(6) T4-9		3.3
18	F	1.1	8	8	60	T1-11	T5-7	LT	Unilat. Bar	T5-7	3	25	(6) T3-4; T5-8	LT lung aplasia	2.0
19	M	9.8	9	5	65	T1-L1	T1-T7	RT	Unilat. Bar	T1-8	7	58	(9) T1-9	RT lung aplasia	2.5
20	M	8.5	10	15	104	T1-12	T1-5	LT	Unilat. Bar	T3-9	8	67	(7) T1-7	Post. spine fusion	3.3
21	M	2.2	6	10	70	T3-12	T3-6	LT	Unilat. Bar	T3-8	6	50	(4) T6-10	Myelomeningocele	2.3
22	M	12.5	8	2	80	T1-11	T1-10	RT	Unilat. Bar	T2-6	6	43	(9) T1-9	Post. spine fusion	3.3
23	M	2.2	9	6	52	T9-14	T9-14	LT	Unilat. Bar	T1-4; T11-13	5	36	(6) T1-4; T8-9	Rib absence, T5-7	3.8
24	M	0.7	32	43	80	T1-12	T1-10	RT	Unilat. Bar	T1-9; T10-12	12	92	(9) T1-9		2.8
25	F	4.3	7	4	85	T3-13	T3-13	LT	Unilat. Bar	T4-8; T10-12	9	75	(9) T4-12	Post. spine fusion	4.3
26	F	3.8	10	4	60	T1-12	T3-7	RT	Unilat. Bar	T5-6; T10-12	9	75	(8) T3-7; T10-12	Myelomeningocele	3.7
27	F	3.3	20	20	86	T3-L3	T3-5	RT	Unilat. Bar	T1-3; T5-6	3	67	(5) T3-7	Myelomeningocele, teth. spinal cord	3.2
Mean		3.3	18	15	74						4.7	66.2	7.3		5.7

Table E-2. Coronal Plane Thoracic Deformity

Pt. No.	Pre-Op				F/U				Length of F/U (Yrs)
	Cobb Angle	Rigid (Deg)	IPLR Ratio	SAL Ratio	Cobb (Deg)	Rigid (Deg)	IPLR Ratio	SAL Ratio	
1	140	130	6.88	0.58	84	78	2.50	1.00	9.0
2	55	55	2.00	0.57	25	54	1.85	0.68	9.8
3	55	45	1.76	0.79	60	65	1.48	0.86	7.4
4	95	86	3.22	0.44	66	79	2.47	0.92	7.8
5	35	35	1.39	0.79	4	4	1.00	0.96	8.0
6	83	46	2.87	0.68	43	18	2.39	0.81	5.5
7	60	60	1.56	0.70	33	30	1.46	0.79	8.6
8	70	5	2.37	0.43	56	0	2.00	0.48	4.0
9	86	82	2.20	0.50	60	65	1.94	0.61	6.5
10	50	45	1.53	0.76	46	62	1.53	0.96	6.8
11	60	36	1.88	0.70	11	3	1.00	0.90	12.0
12	54	54	1.61	0.65	41	41	1.56	0.75	7.3
13	101	60	2.67	0.55	80	49	2.13	0.80	8.5
14	67	67	1.63	0.76	60	60	1.44	0.87	5.2
15	65	65	2.00	0.76	70	70	1.69	0.62	6.3
16	99	70	2.73	0.69	65	51	1.75	0.78	7.6
17	70	70	1.80	0.49	45	45	1.70	0.75	3.3
18	60	25	2.07	0.43	55	20	1.54	0.53	2.0
19	65	30	1.65	0.60	25	22	1.00	0.88	2.5
20	104	50	2.91	0.53	65	35	1.90	0.70	3.3
21	70	55	1.38	0.62	46	48	1.26	0.76	2.3
22	80	72	2.67	0.74	68	73	2.28	0.78	3.3
23	52	52	2.00	0.83	45	45	1.59	0.88	3.8
24	80	62	2.27	0.45	35	21	1.00	0.80	2.8
25	85	85	2.58	0.54	48	48	1.95	0.88	4.3
26	60	55	1.60	0.60	45	44	1.31	0.85	3.7
27	86	10	3.44	0.75	38	8	2.32	0.92	3.2
mean	74	56	2.32	0.63	49	42	1.71	0.80	5.7

IPLR = interpedicular line ratio, SAL = space available for the lung.

Table E-3. Complications	# of Pts	%	Comment
Asymptomatic proximal migration of superior cradle			
Hybrid device*	7	26	3 pts: two migrations
Thoracic device	1		
Inferior migration of spinal hook**	4	15	
Device breakage			
Techmedica device (obsolete)	5	19	1 pt had three breakages
Synthes device	1		
Device malrotation (obsolete device)	2	7	
Spinal hook disassembly (obsolete device)	1		
Skin slough	4	15	1 pt had two episodes
Device infection***	3	11	1 pt had two infections
Brachioplexopathy	2	7	
Spinal cord injury/dural tear	1		
Pneumonia	3	11	
Pneumothorax	1		
Transient low back pain	3	11	
Scapula bursitis	3	11	
ARDS	2	7	
Anaphylactic reaction	1		
Intraop hypotension	1		
Postop hemodynamic instability	1		
Postop UGI bleed	1		
Upper airway congenital stenosis	1		
Drain tract infection	1		
Elevated intraop temperature	1		
Contusion median nerve secondary to IV infiltration	1		
Chronic renal failure, transplant performed	1		
Congenital T-L kyphosis, pedicle subtraction osteotomy	1		
Septic shock due to UTI in myelomeningocele patient; recovered	1		
Death from postop pneumonia	1		

*average time to complete migration 2.95 years. **average time to complete migration 2 years.

***infection rate per procedure 1.9%.