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Outcomes following Dynamic Compression Bracing for Pectus Carinatum

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Background

Children with pectus carinatum (PC) are particularly vulnerable to the psychosocial effects of poor body image, even though they may not experience physical symptoms. Non-operative treatment with orthotic bracing is effective in PC correction.

We describe our experience with dynamic compression bracing (DCB) for PC patients and their satisfaction with bracing.



Methods

Prospective institutional data of patients undergoing DCB from July 2011- June 2018 were reviewed and analyzed for those who entered retainer mode after correction, defined by a correction pressure of < 1 psi. A telephone survey was conducted regarding their bracing experience and satisfaction with the outcome on a scale of 1-10.

Results

	Frequency or Median [IQR]
Male Gender	91%
Age (years)	14 [13,15]
Carinatum Height (cm)	2 [1.5,3]
PIC (psi)	3.7 [2.9,4.6]
Time to retainer (months)	5.5 [3,10]
Compliance	57%
Recurrence	40%

	Compliant	Non-compliant	p-value
PIC	3.7 [2.8,4.5]	3.8 [3.1,4.6]	0.52
Carinatum Height	2 [1.5,3]	2 [1.5,3]	0.58
Time to retainer	3.5 [2,6]	10 [6,13]	<0.01*

	Recurrence	No Recurrence	p-value
PIC	4 [3.2,4.6]	3.5 [2.8,4.4]	0.04*
Carinatum Height	2.5 [2,3]	2 [1.5,3]	0.58
Compliance	57%	43%	0.35

Frequency or Median [IQR] (n=76)

Time to survey (months)	13 [3,33]
Recurrence	24%
Limiting factors	
Discomfort	38%
Psychosocial	14%
Mechanical	1%
Motivating Factors	
Appearance	59%
Symptoms	21%
Mechanical	6.9%
Satisfaction score	9 [8,10]

Conclusion

DCB is effective in achieving early correction in compliant patients. Regardless of time to retainer and duration of treatment, patients reported high satisfaction with their outcome.

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