The Neo Pectus Surgery- Crane Powered Entire Chest Wall Remodeling

Objective

The Nuss procedure has been the standard method for treating pectus abnormalities for the past 25 years. However, it has intrinsic limitations, such as using the pectus bar leverage to lift the chest wall, which causes intercostal muscle stripping and incomplete chest wall correction. This technique focuses on reducing cardiac compression and uses a single-bar method, ignoring the essential repair of the underlying chest wall deformity. In contrast, NeoPectus Surgery, our unique surgical technique, is intended to transform the deformity to restore the chest wall to normal. This video demonstrates a pectus excavatum repair scenario where 100% crane power was used to reconstruct the entire front chest wall, accomplishing functional and anatomical integrity.

Case video summary

The patient was 13-year-old male. His deformity was pectus excavatum Park Tyoe 1A, with Haller Index of xx, and Depression Index of xx. The reparative approach, termed Crane-Powered Entire Chest Wall Remodeling, consist of following operative steps. First, Crane lifting. The depressed sternum was fully lifted on crane machinery beyond its proposed normal height. Sternal screws attached to the Easy Crane table mount system were utilized for sternal elevation. Second, pectus bar introduction. Customized pectus bars are strategically placed without resistance or damage to the chest wall or internal organs, using a multiple bar configuration in the cross-plus-horizontal patterns (the XI). Since the chest wall is already lifted way up high, pectus bars are accurately positioned without pushing up the chest wall. The third step was pectus bar stabilization. All three pectus bars were simply fastened to the bridge plates bilaterally. The procedure is easy and effortless to create a rock-solid fortress, avoiding additional intrathoracic procedures. Fourth, chest wall ironing. Flared lower costal cartilages and remnant protrusions are addressed with the flare-buster and magic string procedure, which employs the sandwich principle between the pectus bar and a heavy string.

Conclusions

NeoPectus Surgery, which used full crane power and a multi-bar with bridge connections, successfully remodeled the chest wall so that there were no more depressions or protrusions in a pectus excavatum case. This novel technique improves procedural simplicity and security and attains long-term patient well-being by constructing

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