

Technical data of Pectus UP Surgery Kit

Table of contents

| | | |
|----------------------------------|-------|----------|
| Introduction | | 1 |
| What is Pectus Excavatum? | | 2 |
| The solution: Pectus Up | | 3 |
| Why Pectus Up? | | 4 |
| Technical Information | | 5 |
| Surgical procedure | | 6 |

Introduction

Innovative surgical instruments and a revolutionary method that provide a minimally invasive solution for the treatment of the congenital deformation, named **Pectus Excavatum**.

What is Pectus Excavatum?

Pectus Excavatum is,

- A congenital deformity of the chest cavity, characterised by the concave or “funnel-like” shape of the chest (figure 1).
- The sternum is turned inwards, putting pressure on the vital organs within the thorax, restricting their capacity for growth and provoking shortness of breath and respiratory problems.
- It affects 1 in 500 children and is the most common congenital abnormality of the chest wall (90%).
- The ailment is slight at birth, becoming more pronounced during infancy and adolescence.
- There are only two surgical methods for correcting it:
 - **the Ravitch method and,**
 - **the Nuss method.**
- Both techniques are highly invasive for the patient.



Figure 1. Pectus Excavatum

The solution: Pectus UP

From the collaboration between **Ventura Medical Technologies, S.L.** and **Dr. Bardaji**, from the Corporació Sanitària Parc Taulí, **Pectus UP Surgery Kit** is born, to find a new, less invasive technique for treating patients with **Pectus Excavatum**.

Pectus UP is a set of implants and tools (figure 2) manufactured with the aim of treating this pathology with a new surgical method called **Taulinoplastia**, which is less painful and entails a shorter convalescence period than other methods.

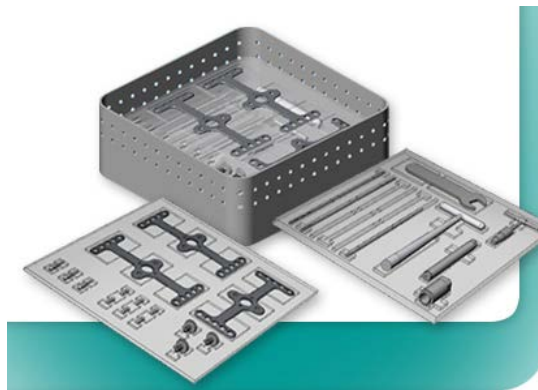


Figure 2. Pectus Up surgery kit

Why Pectus UP?

Pectus Up and Taulinoplastia form a technological revolution within the world of chest surgery for the treatment of Pectus Excavatum, due to their minimal invasiveness and a notable reduction in the convalescence period required for the patient.

Taulinoplastia Technique

Advantages with respect to other techniques:

- Minimally invasive
- External device in the subcutaneous tissue
- Minimal blood loss
- Much shorter recovery period
- There is no risk of affecting internal organs
- Shorter surgical intervention
- Small incisions
- Does not require intensive treatment
- Does not require post-operational tubes

Technical information

Pectus UP Surgery Kit

Pectus UP is a kit developed by **Ventura Medical Technologies** from a joint project with the **Corporació Sanitària Parc Taulí** and based on **Dr. Bardají's** original idea.

The **Pectus UP Surgery Kit** is made up of a plate with a functional design, diverse bone fixtures and a set of tools for the **Taulinoplastia** process.

Current regulations regarding materials and treatments have been taken into account in the creation of each of the elements of the **Pectus UP Surgery Kit** so that the implant is completely bioinert within the human body. Furthermore, all necessary research has been carried out to ensure that the product fulfils its function.

Surgical procedure

The surgical procedure (figure 3) follows the next steps:

1. Minimally invasive and necessary incision for the placement of the plate. Create a hole in the patient's sternum (step 1).
2. Place the plate in the desired position, ensuring that the central hole coincides with the hole made in the bone (step 2).
3. Add the elevating system (step 3).
4. Elevate the sternum to the ideal position and fix the plate to the sternum with the screws (step 4). Extract the elevator and close the incision.

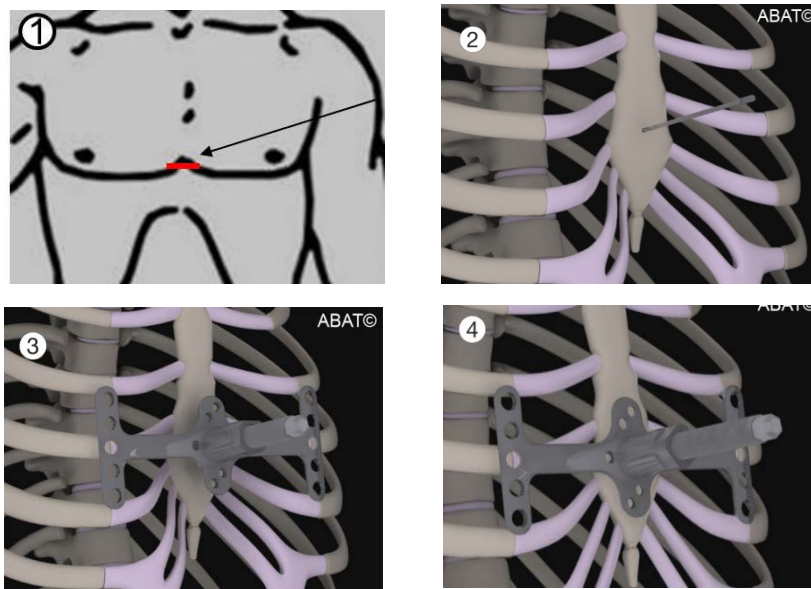


Figure 3. Surgical procedure.