



INTRODUCTION

Chest tubes are commonly used in the management of conditions such as pneumothorax, pleural effusion, and empyema by facilitating the drainage of air, fluid, or purulent material from the pleural space. However, current chest tube drainage systems are heavy, bulky, and restrict patient movement, leading to discomfort and skin irritation. Additionally, there is a high risk of accidental chest tube dislodgement during movement. This often leads patients to remain confined to bed during their hospital stay.



METHODOLOGY

The Portable Drainage Stand (PoDS) is a new medical device that are portable and versatile. This invention enhances the designs of a drip stand which includes new elements such as a urine bag hanger, urine tube holder, and underwater seal drainage holder, making it particularly suitable for patients receiving chest tube treatment, as well as a wide range of other patients. The PoDS was design to promote early patient ambulation, which is crucial for faster recovery. While encouraging patients with chest tube to ambulate safely, PoDS also helps to prevent risk of fall or chest tube dislodgement. The design involved empathy-driven insights to ensure the ease of use and stability during mobilization. Thus, able to shortens hospital stays, lowers treatment costs, and reduce the workload on healthcare staff.



Before

After



RESULTS

The implementation of PoDS has been shown to reduce hospital stays for chest tube patients from 14 to 7 days by enabling patients to walk around freely. Early ambulation promotes lung expansion, reduces risk of pneumonia, and speeds up recovery. Early mobility decreases the risk of developing pressure injuries (PI), deep vein thrombosis (DVT) and pulmonary embolism (PE).

Patients using the PoDS reported higher levels of satisfaction with their mobility and comfort, experienced a faster recovery and was able to return home sooner.

DISCUSSION

The PoDS offers numerous advantages, promoting early ambulation, enhancing patient outcomes, and improving overall healthcare efficiency. Early ambulation enhances patient comfort and well-being, leading to a quicker return to normal life. Another benefit of PoDS is the significant reduction in the risk of tube dislodgement and trip-and-fall associated with tubes. It's time to embrace this innovative technology and revolutionize chest tube management.

