



Installation status of CAREWAY in Korea

Selectable Vest

| Disposable Vest |



- It has low risk of infection because it is disposable.
- It is affordable and economical.
- Cleanliness can be maintained at all times after treatment.

| Full Vest for home care |



- It has high treatment effect by simultaneously vibrating the chest and back.
- It is wearable and comfortable during treatment.
- It is washable separately.
- Customized treatment is available in a variety of sizes.

| Universal Vest / Multiple Vest |



Universal Vest



Multiple Vest

- It is easy to wear and easy to use.
- It is durable and can be used for a long time.
- Because it is a velcro type, it can be used according to the patient's body type.

| Chest Vest |

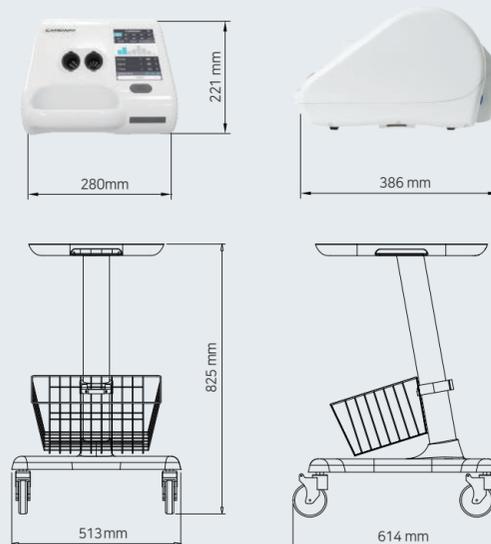


- By attaching a hard board to the chest, the effect of transmitting vibration energy to the chest wall is high.
- Because it is dual velcro type, it is convenient to wear.
- It is washable separately.
- Customized treatment is available in a variety of sizes.

| Specification |

Rated voltage	AC 100 - 240V~, 50/60Hz
Rated capacity	Less than 500 VA
Protection system for Electrical shock	Class I, BF-type device
Vibration frequency	5~25Hz
Vibration pressure	10 step
Operating time	1~99min
Vest size	XS~XXL

| Dimension |



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CAREWAY

High Frequency Chest Wall Oscillator



KORUST Co., Ltd.



What is CAREWAY (High Frequency Chest Wall Oscillator)?

CAREWAY is High Frequency Chest Wall Oscillator (HFCWO) that helps to remove secretions accumulated in the bronchial tubes by patting the patient's chest wall lightly. CAREWAY is designed with the heart of parents who pat their sick children on the back. Therefore, it can be used safely by children, the elderly, and adults. It has been used mainly in intensive care unit(ICU), respiratory internal medicine, rehabilitation center, and for home care.

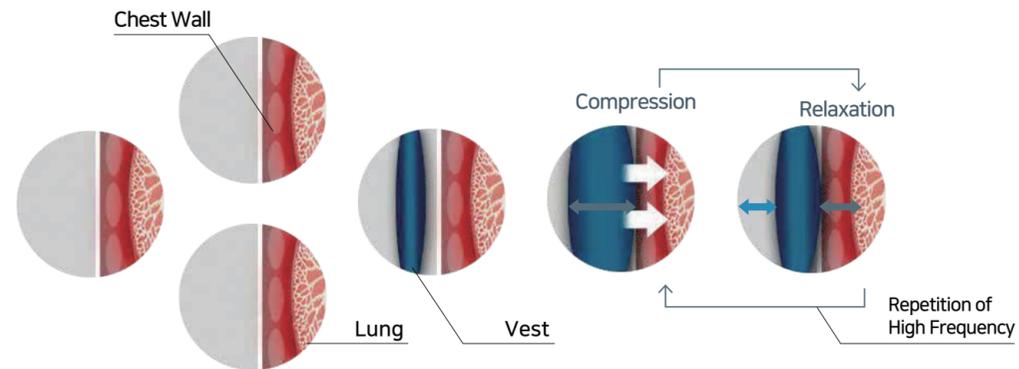
What is the mechanism of CAREWAY (High Frequency Chest Wall Oscillator)?

CAREWAY helps keep the airway clean by causing rapid, repetitive vibrations on the patient's chest wall, separating airway secretions (e.g., sputum) located deep in the bronchial tubes and causing them to be discharged through coughing.

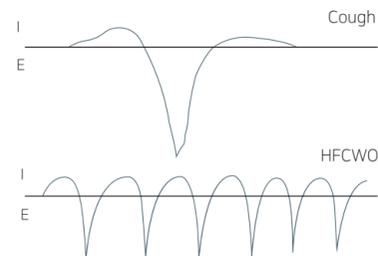
- 1) High frequency air pulse is generated from the cylinder in the equipment.
- 2) Air pulse is transmitted to the vest worn by the patient through hoses.
- 3) The chest wall of the patient wearing a vest experiences rapid and repetitive vibrations.
- 4) Pulmonary secretions located deep in the bronchioles are separated and pushed to the upper respiratory system and discharged through spontaneous coughing.

*For patients who have difficulty coughing voluntarily, suction procedure can be performed.

| The mechanism of CAREWAY |



| Separation force of lung secretions generated by HFCWO |



High Frequency Chest Wall Oscillator (HFCWO) is an excellent treatment approach that increases lung capacity compared to other methods such as normal breathing and traditional Chest physical therapy (CPT). Separation of bronchial wall secretions occurs more effectively through HFCWO than coughing in general. Thus, it is very effective in discharging lung secretions.



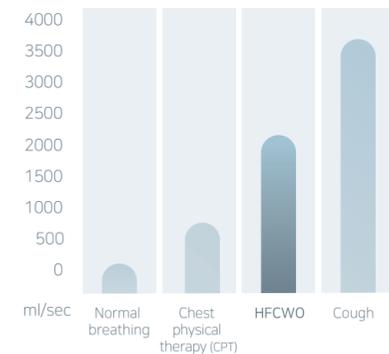
Why should High Frequency Chest Wall Oscillator be used?

When mucus accumulates in the lungs, the function of the lungs degrades, making it difficult to discharge secretions properly. In addition, if the thoracic muscle or diaphragm does not function properly due to chest muscle damage, nervous system disorders, lung resection, and thoracic resection, it becomes difficult or impossible to breathe. Even in these cases, it will be difficult to discharge the secretions produced in the bronchial tubes normally.

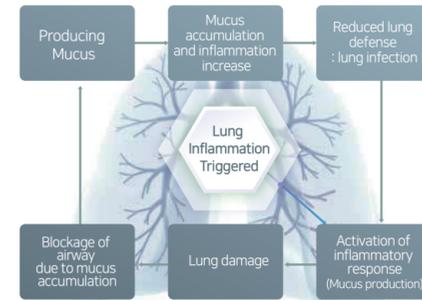
If the lung secretions are not constantly discharged, they accumulate in the lung and airway, which in turn causes inflammation or intensifies inflammation. If this inflammation reduces lung defense, it is likely to worsen the side effects of diseases such as pneumonia. This in turn activates the inflammatory response of the lung, reducing the lung cell's ability to defend against external chemicals and inducing the accumulation of lung secretions, causing a vicious cycle of airway disorders.

Therefore, a treatment must be done so that the flow of air can reach the lung tissues from the upper respiratory tract and remove the secretions deposited in the airway in order to breathe smoothly. These treatments are commonly referred to as "Airway Clearance Technique(ACT)". And among the various ACTs, the High Frequency Chest Wall Oscillator is known to be the most effective treatment.

| Flow Rate During Oscillation Cycle |



| Side effect of circulation structure by inflammation of the lungs |



Effective to patients who have...

- Common cold
- Pneumonia
- Difficulty in voluntary cough
- Asthma
- Chronic respiratory diseases
- CF (Cystic Fibrosis)
- COPD (Chronic Obstructive Pulmonary Disease)
- Bronchiectasis
- MD (Muscular dystrophy)
- SMA (Spinal muscular atrophy)
- ALS (Lou Gehrig's disease)
- Other neuromuscular diseases
- Difficulty in discharging secretions naturally
- > Intensive Care Unit (ICU) patients
- > After thoracic surgery

Treatment time: 10~20 minutes



Efficacy and Advantages



01

Most effective among Chest physical therapy (CPT)

- The amount of sputum secretion increased by more than 3 times
- No need for special skills or breathing methods
- No need for posture change

02

Economical

- Reduced treatment cost and treatment time
- Reduced physical therapy time
- Reduced number of hospitalizations and reduced use of drugs such as venous antibiotics
- Saving manpower due to automatic operation

03

Treatment method with safety and convenience

- Constant and independent treatment
- Available during daily life and activities
- Low side effects
- High satisfaction for patient and high compliance with regulations
- Available for outpatient use

04

Excellent therapeutic effect

- Improvement of FVC and FEV₁ : FVC (Forced Vital Capacity) and FEV₁ (Forced Expiration Vital per second) are improved to show a positive effect of mucus discharge and improve lung function.
- Reduced N₂ ratio during exhalation : A study in the United States showed a decrease in N₂ ratio during exhalation, indicating an increase in pulmonary gas exchange ratio.

[References] Physiologic Evidence for High Frequency Chest Wall Oscillation and Positive Expiratory Pressure Breathing in Hospitalized Subjects With Cystic Fibrosis