

# High Frequency Chest Wall Oscillation “The Vest”

## What is “The Vest” or High Frequency Chest Wall Oscillation, HFCWO?

HFCWO is a treatment technique that uses a machine to dislodge mucus from the lining of your lungs.

The machine helps to move mucus from your small to large airways where it can be more easily coughed and cleared from your lungs.

“The Vest” is the product name for the HFCWO machine that we use here.



## How does it work?

The HFCWO machine/ Vest has a wearable vest or wrap that fastens around your chest, this is connected to two air hoses which are then connected to a machine.

When switched on and started the machine pumps the vest or wrap with air and then pulses the air to produce a squeezing and releasing sensation.

Each squeeze acts as a mini cough which helps to loosen mucus from the lining of the lungs and to move it up the airways where it can then be easily coughed out.

## Who should use it?

- This is designed for use by people who conventional methods of clearing secretions are not working.
- In hospital it may be helpful for people with injuries to their chest wall that make coughing and other physiotherapy techniques difficult to cope with.
- It may be helpful for people with very thick secretions with conditions such as bronchiectasis and cystic fibrosis.
- It may be helpful for people that are severely unwell and cannot follow instructions to cough, or with people that have conditions that make it hard for them to follow instructions.
- It can also help people who have neuromuscular conditions that mean their cough is weak and ineffective.

## How will I use it?

**If you are a patient in hospital:** you will be assessed by a physiotherapist who may try methods such as breathing exercises, hands on treatments such as shaking your chest wall and deep breathing exercises or machines.

If these treatments do not work well to clear your mucus or cannot be used with your condition they may then try the vest with you.

Your physiotherapist will explain how the machine works and how it will feel. They will position you to make it easier for you to cough and breathe and place a wrap

around your chest wall and fasten it with Velcro.

The machine will be set and switched on. You will feel the wrap fill with air and tighten around your chest and then quickly squeeze and release repeatedly.

Your physiotherapist will stay close by and monitor you carefully. It is likely you will wear the Vest for 10-15 minutes and then it will be removed.

Your physiotherapist will advise you how often they will repeat this treatment.

### **If you are to use the machine at home:**

You will be assessed by your physiotherapist as an outpatient and shown how to use the machine yourself.

The physiotherapist will want to know about your cough and symptoms and may give you a questionnaire to fill out over the next few weeks.

You will practise using the machine with the physiotherapist until you feel confident to use the machine by yourself.

You will then be loaned the machine for a period of time to see if it helps you to clear your chest.

Your physiotherapist will then talk you through the next steps if you and they feel it has been helpful.

### **When to use it?**

The Vest should be used as prescribed by your physiotherapist. This may be on a once or twice daily basis whilst you are unwell in hospital or at home.

You should use the vest more often when you have more mucus or an infection. If you have any questions about how often to use it please ask your physiotherapist.

### **When should I not use it?**

You should not use it if you have an unstable or new head, neck or spinal injury or if you have new or active haemorrhage (major bleeding).

If you have any concerns about a change in your medical condition please refrain from use and speak to your physiotherapist.

Do not use if the machine or any of its parts look damaged.

### **Are there any risks?**

Side effects are minimal if used correctly. Some people may feel an itching sensation after use; this will wear off after a few minutes.

Some people may feel a tightening feeling in their throat; this will stop when the machine stops.

Only use in accordance with the advice of your physiotherapist and do not use if you have not read the manual and been trained by your physiotherapist.

Do not eat or drink whilst using the vest, this could cause choking.

It is advisable to leave using the device for at least 2 hours after eating or drinking to avoid the feeling of an upset stomach.

### **Are there any alternatives?**

Conventional physiotherapy techniques may help such as breathing exercises, hands on techniques such as shaking and assist cough techniques.

For some patients other aids such as a lung volume recruitment bag or mechanical cough machine may help, it is likely these will have been discussed or tried before trying the vest.

### **Further information and useful links?**

[www.respiratorycare.hill-rom.com](http://www.respiratorycare.hill-rom.com)

<https://www.cff.org/Living-with-CF/Treatments-and-Therapies/Airway-Clearance/High-Frequency-Chest-Wall-Oscillation-the-Vest/>

[www.blf.org.uk](http://www.blf.org.uk)

## For home use ONLY:

### What equipment will I be given?

You will be given a wrap or vest, two air hoses, an air pulse generator, power cable and manual.

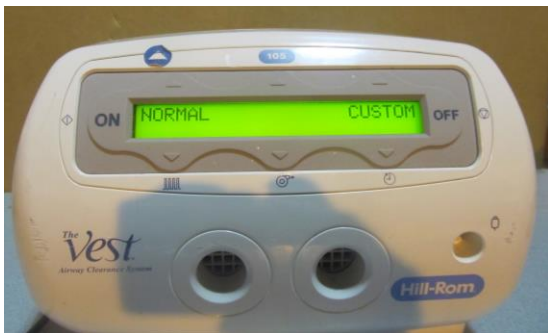
**If using the device at home please read the manual and use the device in accordance with the manual and the advice given by your physiotherapist.**

### How to use the machine

Fasten the garment (wrap or vest) around your chest, if you have any invasive tubes or lines be careful not to trap them under the vest.

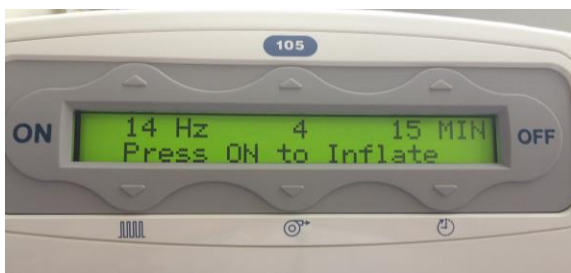
With the machine on a firm flat surface and plugged into the mains power check the settings are as prescribed by your physiotherapist.

You can check settings by pressing the arrow under the "normal" message on the screen.



The settings will then show left to right as frequency in Hz, pressure and time.

Use the arrows directly above and below the settings to adjust to match your prescription.



Attach the air hoses from the front of the machine into the connectors on your garment.



To start the treatment press the ON button once to inflate the garment, a second press will start the pulsing.

The treatment will stop automatically when the time has elapsed. You can then remove the garment.

If you need to pause or stop the treatment at any point press the OFF button.

### Information about my equipment

**Air Pulse Generator (the main machine):** It is important that your machine is placed on a firm, flat surface and it should be kept clean and dust-free. Wipe over periodically with a damp cloth.

**Air Hoses:** Please periodically wipe the air hose with warm soapy water (mild detergent), and ensure the tubing is dry before reconnecting to the air pulse generator.

**Taking care of your Garment:** It is very important that you take care of the wrap or vest you have been given.

Please wash the garment according to the manufacturer's instructions. Wraps and air bladders are wiped with warm soapy water periodically.

The washable vest can be machine or hand washed in a cold wash (max 30 degrees) and air dried.

**Oxygen:** If you use oxygen you can continue to use oxygen as normal whilst using the Vest.

## Contact numbers:

**For a breakdown or fault with the machine,** please contact a Deva Medical engineer:

**24hr emergency number 0772 088 3276**  
**Office hours 01928 565 836**

**Your vest should be serviced yearly by Deva Medical.** They will contact you when the service is due, to arrange a convenient time to carry out the service.

**For any queries/advice about the machine,** e.g. if you are unsure about the use of your machine please contact one of the physiotherapists at Aintree Hospital:

**Telephone: 0151 525 5980 BLEEP 3334**  
Karen Ward / Helen Ashcroft / Verity Ford  
Available: Mon – Fri, 9 am - 4 pm.

## Feeling Unwell?

If you are feeling unwell and need medical advice please contact your own G.P. who will be able to assess and advise you.

If you are taken acutely unwell and require admission to your local hospital please tell the hospital if you regularly use the vest, they may ask you to bring the device to use during your admission.

## Travelling abroad with your Vest

Most machines can be used abroad if using a plug adaptor. You must ensure that your machine is taken as hand luggage.

You may need to ask your doctor for a letter to allow the machine to be carried on the flight.

If you are unsure about travelling please contact your physiotherapists for advice and check with your Travel Company/ airline.

## Insurance

We recommend that you tell your household insurance company that you now have this machine and we can tell you the value of the machine on request.

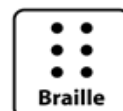
## Equipment and Machine settings

### Vest Model 105

**Serial no:**

**Machine settings:**

<b>DATE:</b>		
<b>Frequency</b>		
<b>Pressure</b>		
<b>Time</b>		
<b>Recommended use:</b>		



### **If you require a special edition of this leaflet**

This leaflet is available in large print, Braille, on audio tape or disk and in other languages on request. Please contact:

**Tel No: 0151 529 2906**

**Email: [interpretationandtranslation@liverpoolft.nhs.uk](mailto:interpretationandtranslation@liverpoolft.nhs.uk)**