



Physiotherapy

and recovery from intensive care

Introduction

This information sheet provides information and exercises that could help you after intensive care treatment. It looks at two main areas, which are chest management and general rehabilitation.

How physiotherapy can help you

The physiotherapist has a very important role to help you recover from your time in intensive care. They will help with many aspects of your treatment while in the intensive care unit (ICU), and will continue working with you when you transfer to a general ward until you leave hospital to go home.

Chest Management

Intensive care patients often need help to get their lungs working properly. The physiotherapists will look at your breathing pattern, depth of breath and whether or not you have any phlegm to clear.

You may be encouraged to participate in some exercises to help with your breathing whilst you're not so active. The aim of these will be to:

- increase the amount of air moving around your lungs
- maintain your lung muscle strength
- enable you to have an effective cough (which will help you clear any phlegm/mucus on your chest)

Your physiotherapist will talk to you about these exercises. Some of these exercises are included at the back of this information sheet as a reminder of what your physiotherapist has taught you.

If you have required a tracheostomy (see below) your physiotherapist will have an active role in its management and its weaning process (coming off the breathing support).

Having a tracheostomy and coming off breathing support

What is a tracheostomy?

A tracheostomy is a small hole which is made at the front of your neck between the ends of your collar bones. This opening is called a stoma. A small plastic tube (called a trache) is inserted into this opening to allow you to breathe without the use of your mouth or nose. Sometimes your swallowing can be affected by this tube and it may feel a little awkward or strange. Most of these tracheostomy tubes will have a plastic cuff around the lower third of it and this can be inflated to support the tube inside your windpipe and to stop your saliva travelling from your mouth and entering your lungs. It also allows air to be blown into your chest to help your breathing.

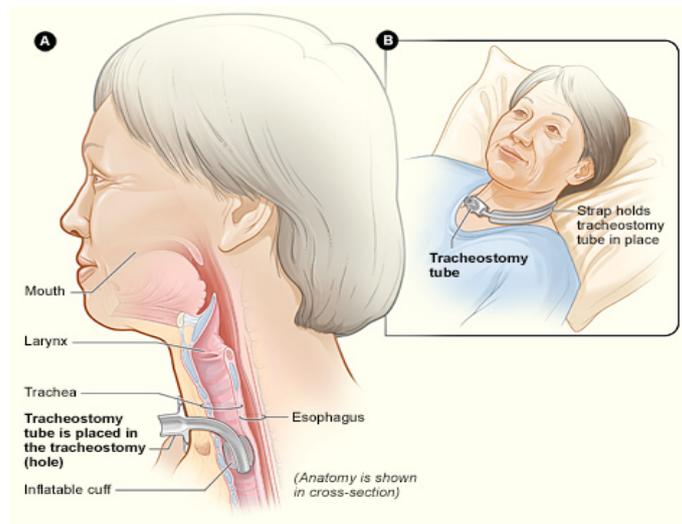


Image from: www.daviddarling.info/encyclopedia/T/tracheostomy.html

Why do I need a tracheostomy?

If you require support with your breathing whilst on the critical care unit, there are two ways to do this. The ventilator (breathing machine) can give you extra air by a tube going into your mouth (called an endotracheal tube) or by the tracheostomy (a tube in the front of your neck). Both methods enable medical staff to clear any phlegm from your chest using suction, until you are strong enough to cough and clear phlegm yourself.

A tube in your mouth can be used for a short time, but it is uncomfortable, especially when patients are no longer sedated and are fully awake. This tube can also cause damage to your voice box and mouth if kept in for too

long, so if you still need breathing support after a certain amount of time, your medical team will decide to put in a tracheostomy tube.

How is a tracheostomy performed?

A tracheostomy is performed under general anaesthetic. It is normally performed in the intensive care unit but is sometimes done in the operating theatre.

Benefits of a tracheostomy

A tracheostomy has many benefits compared to a mouth tube:

- It is more comfortable
- It is easier for nursing staff to keep your mouth clean
- You will be able to move your mouth which may help you communicate, but you won't be able to make any noise unless a speaking valve is fitted
- A tracheostomy is inserted below your voice box so there is less chance of damage
- Recovery can be quicker as it is easier to come off breathing support
- It is easier to come off any sedation and to wake you more fully because a tracheostomy is more comfortable than a mouth tube

Communication

Communication with the tracheostomy in place can be difficult if the balloon like cuff on the tracheostomy tube is inflated. This is because air is prevented from passing over your vocal cords. As your breathing improves, the cuff will be deflated for short periods of time. The length of time it's deflated for will be increased as you get used to it.

When the cuff on the tube can be deflated for longer periods and you find this comfortable, you will be able to start using a speaking valve. This can be attached to the end of the tube and helps you to speak by pushing air up through your vocal cords. You may find that your voice is very weak to start with but with practice you will strengthen and begin to make sound that is more clear.

Nursing staff will encourage you to mouth words and write things down to help you to communicate until your voice is strong enough to be heard clearly.

Coming off the breathing support (the weaning process)

There are different sized tracheostomy tubes. Part of the weaning process may involve having the size of your tracheostomy reduced. When you are ready your tracheostomy tube may be replaced for a mini-trache. A mini-

trache is a narrow tube much smaller than the original trache and is used for patients who still need some help with clearing phlegm.

A tracheostomy tube can be removed when:

- The lungs are working efficiently and breathing is controlled
- Your cough is strong enough to remove the phlegm on your own
- The swallow is safe and there is no risk of your saliva travelling down to your lungs (ie – you are able to swallow any saliva to your stomach as is normal)
- You can tolerate the balloon like cuff on your trache being deflated for 24 hours. You must be able to cope with the cuff being deflated for this time before progressing with weaning to make sure that your saliva doesn't go into your lungs.
- You may be receiving oxygen via your trache tube. Part of the weaning process will also be reducing the amount of oxygen you receive.
- You have air flow through the nose and mouth (this is a later stage in the weaning process). This involves covering the end of the trache tube either with a finger or speaking valve. This will enable air to travel up and out of the upper airways via the vocal cords therefore enabling you to speak. If vocal sounds can be heard then you have passed the test for upper airway flow.
- If your chest is clear of phlegm and there are no concerns regarding your breathing.

The tracheostomy tube will be removed at your bedside on the ward and is a quick and painless procedure. A small dressing will be placed over the opening and this will close over a period of about 5 days. You will be left with a scar here, but it will fade over time and become less obvious. Occasionally this opening takes a little longer to heal, and the nurses will keep an eye on it to make sure it stays clean, but invariably there are no problems.

If you are not ready to have your tracheostomy tube taken out, then the process of downsizing it and making it smaller will begin. In this case the following steps will be taken:

- Your original trache tube maybe changed to a mini-trache if you're still requiring some help clearing phlegm from your chest but are not requiring any assistance with your breathing.
- Once your cough is strong enough to clear phlegm, the mini-trache will be removed. This will also be performed on the ward by your bedside and is a quick and painless procedure. A small dressing will be placed over the wound and the original opening will close within a few days.
- In a small number of cases some patients are discharged home with their tracheostomy still in place. This is rare but patients would then be under the care of Ear Nose and Throat specialists in the community and they would be followed up and closely monitored by their team.



General Rehabilitation

Rehabilitation means helping you recover from your time in intensive care and helping you get back to normal life. It is a process involving both the physiotherapist and the patient. The physiotherapist will work with you to develop a personal exercise programme to work on your areas of weakness and to improve your balance and strength. The physiotherapist will also arrange further help if your joints are getting stiff or at risk of tightening (such as giving you splints to use).

You can discuss any concerns you have at any point, and work with the physiotherapist to ensure that the exercise and treatment programme meets your needs.

When you have been very ill, physiotherapy exercises and treatment can feel like hard work, but if you can do the exercises, it will be a great help to your later recovery.

Your physiotherapist will also provide you with an exercise programme to maintain or regain strength lost during your intensive care stay. These exercises are grouped into 2 categories: **Bed Exercises & Chair Exercises**.

The physiotherapist will tell you how many times you need to repeat these exercises depending on your ability and needs. They will also work with you to help your sitting and mobility (moving around) practice during scheduled physiotherapy sessions.

There may be several reasons for giving you the bed and chair exercises, such as:

- to aid circulation
- to maintain/increase joint range of movement
- to maintain/increase muscle power
- to improve cardiovascular (heart) fitness
- to improve balance
- to improve core stability (the strength of the muscles which helps you to sit and stand).
- to reduce the feeling of shortness of breath
- to move phlegm, to help to keep your chest clear

Summary

Recovering from a critical illness can be a long, gradual process. The physiotherapist will help this process by building up your strength through treatment and the exercises that they give you. If you have any worries, or are not sure about your treatment, please talk to them about your concerns.



Exercises

Most intensive care patients receive physiotherapy treatment and the physiotherapists will show you what exercises to do. These sections are to help remind you what they showed you. If you have not received physiotherapy support, these exercises will help give you an idea of what may be useful. But in both cases, build them up gradually and rest if you find them too tiring or painful.

Physiotherapists will show you what exercises to do, but these sections are to help remind you what they showed you.

Chest Management Exercises

These chest management exercises use the Active Cycle of Breathing Technique (ACBT). This is a simple pattern of breathing designed to:

- loosen and clear phlegm
- improve your breathing

ACBT is made up of a number of different components and is a flexible technique and can be varied to suit you:

Breathing control

This is normal gentle breathing using the lower chest, with relaxation of the upper chest and shoulders. It helps you to relax between the deep breathing and huffing.

Deep breathing

These are slow deep breaths in that can be followed by a three second breath hold if you can, with a relaxed breath out. 3 – 4 deep breaths are enough.

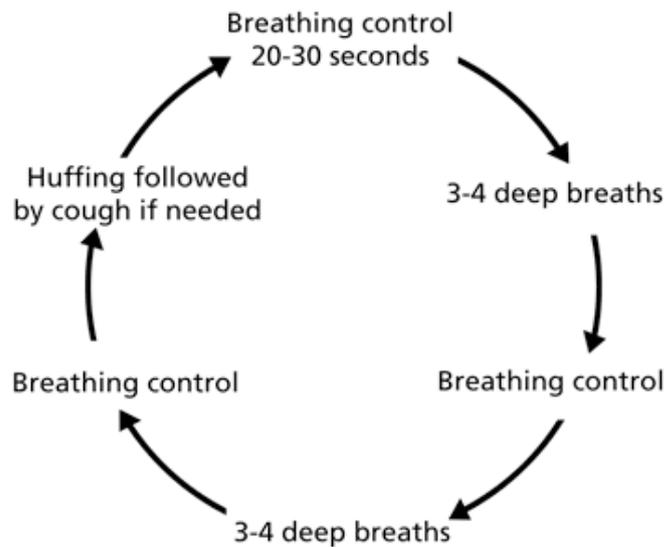
Huffing

This is a medium sized breath in, followed by a fast breath out through an open mouth, using the muscles of the chest and stomach to force the breath out. (Imagine you are steaming up your glasses to clean them) This will move phlegm along the airways to a point where you can cough them up. Huffing is a less tiring way of clearing your secretions than coughing.

Coughing

This should follow 2 – 3 huffs OR do a deep breathe in. Don't cough unless secretions are ready to be cleared.

Active cycle of breathing



In what position should I practice this breathing technique?

You can use this method of breathing in whatever position you find is most comfortable, or seems to clear most phlegm, for example, sitting in a chair, lying on your side, or tilted slightly with your head down on the bed, which means that gravity can help with clearing your phlegm.

What other techniques can I use with ACBT?

It is often beneficial to 'hold' for three seconds at the end of one or all of the deep breaths. If your physiotherapist advises, you (or a helper) can gently provide some vibrations with their hands to your chest while you breathe out.

How often should I spend doing these exercises?

- If you have a chronic respiratory condition but you are otherwise very well, 10 minutes will be long enough to ventilate your lungs and clear any phlegm. You will be encouraged to repeat this 4-5 times a day.
- You can do it as long as you are clearing any secretions but 20 minutes is usually long enough for any one treatment.
- If you have an infection and you have more phlegm than usual, you will need to practise the cycle more often during the day.

You may find these exercises difficult at the beginning, but if you keep practising them, they should become easier as your muscles become stronger.

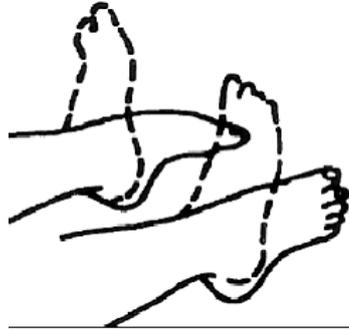
These are general guidelines. If your physiotherapist suggests changes to the Active Cycle of Breathing, please follow their advice as this will be tailored to your individual needs.

Bed exercises

These exercises can be done when lying down. The number of times you repeat these exercises are just general guidelines and you can ask your physiotherapist for specific advice.

Ankle Pumps

Point your toes down and bring them back up towards you. Repeat ____ times on the right & left side.



Hip and Knee Flexion

Slide your heel towards your bottom bending your knee and hip. Repeat ____ times on the right and left side.



Pelvic Tilts

With your knees bent rock your pelvis back to flatten your back into the bed and then forwards. Repeat ____ times.



Bridging

With your knees bent slowly tilt your pelvis as in the exercise above and continue to lift your bottom up off of the bed and slowly lower back down. Repeat ____ times



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Chair exercises

These exercises are to be done sitting down.

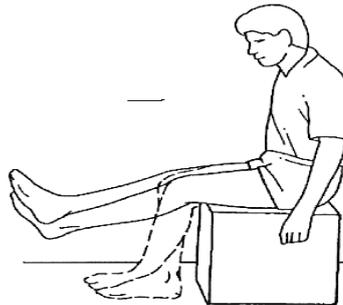
Toe Taps and Heel Lifts

Alternatively lift your heels and your toes off of the floor. Repeat on the right and the left ____ times



Knee Extension

Straighten out one of your legs as much as you can and hold for ____ seconds. Repeat on the right and the left side ____ times



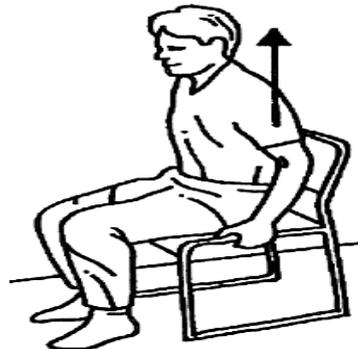
Knee Marching

Sitting in the chair lift your knees alternatively up towards the ceiling as if you are marching on the spot. Repeat ____ times



Push Ups

Bring your upper body forward slightly and place your hands on the arms of your chair. Push through your arms and try to lift your bottom up off of the chair and slowly lower back to the start point. Repeat ____ times



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