Liverpool Heart and Chest Hospital **MFS**



NHS Foundation Trust

Information for Patients & Families

LUNG SURGERY



Introduction

This booklet has been prepared to help you and your family understand more about the operation that is planned for you. It will give you general information about what to expect before coming into the Liverpool Heart and Chest Hospital. It will also provide you with information regarding your admission to your discharge home or to another care setting. This booklet will provide you with practical advice about what to do when you get home following surgery. It is not intended to replace talking with medical or nursing staff.

Patient and Family Experience

The Liverpool Heart and Chest Hospital are committed to providing patients and their families with an exceptional care experience. Patient and family centred care is at the heart of what we do. You may wish to involve your family members or carers in your care to assist and support you whilst in hospital. With your permission we are happy to share information about your care and condition with your family. Please tell us with who and how much information you would like us to share.

Your experience is very important to us. If you, your family or carers have any concerns during your admission please let us know immediately.

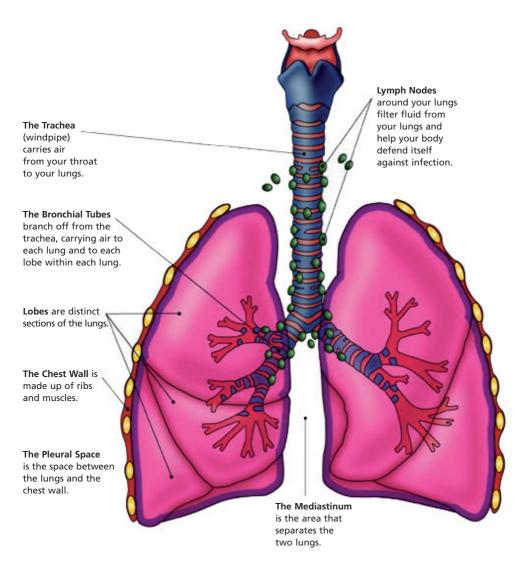
The Liverpool Heart and Chest NHS Foundation Trust Hospital is a NO SMOKING HOSPITAL.



Please refrain from smoking on site.

Your lungs and how they work

When you breathe in through your nose or mouth, the air passes down your windpipe (trachea) which then divides into two tubes (bronchus) one going into each lung. Each lung has a number of sub-divisions called lobes. The right lung has three lobes and the left lung has two.



Reason for operation

Your surgeon will have discussed with you, that the appropriate treatment for your condition is to remove the diseased part of your lung. The amount of lung to be removed will depend on the size, position, type and extent of the disease. There are various conditions which can be helped by removing the affected part of lung tissue.

If you have any questions about your particular condition and your treatment options you will be able to discuss them with your surgeon, specialist nurse or General Practitioner (GP).

What are the benefits of having lung surgery?

Your surgeon will discuss with you the perceived individual benefits of having lung surgery. In the majority of cases, an operation is recommended with a view to alleviating symptoms and in some cases improving the quality and length of your life.

What are the risks involved?

As with all surgical procedures, lung surgery carries some risks. These risks vary according to the type of operation, your overall health and your individual condition. You will have an opportunity to discuss the risks and the benefits of the proposed surgery in full with your surgeon, so that you have sufficient information to be able to sign the consent form.

Some of the risks involved with lung surgery include:-Wound infections, bleeding and inflammation of the lungs (pneumonia). There is also a risk of developing a collapsed lung (pneumothorax). If this happens you may require treatment to help reinflate the lung. Developing blood clots in the leg (deep vein thrombosis) or in the lung (pulmonary embolism) is another possible risk.

What type of operation may I need?

This depends on the extent of the disease and the amount of lung to be removed. The following types of lung surgery are performed under a general anaesthetic and usually involve staying in hospital between 1-7 days; this can vary depending on your individual condition.

Wedge resection - is the removal of part of the lung, in a wedged shaped portion.

Lobectomy - is the removal of one lobe of the lung. There are three lobes in the right lung and two in the left.

Pneumonectomy - is the removal of the whole of one lung.

Thoracotomy - is the surgical incision (wound) made in the chest wall to enable the surgeon to get to the lung.

Robotically Assisted Thoracoscopic Surgery (RATS) – is when the surgeon uses the da Vinci robot to make two to five incisions in the chest and uses robotic technology to translate their hand movements into precision action.

The surgeon uses robotic technology to

VATS (Video Assisted Thoracoscopic) Resection - is a type of keyhole surgery. The surgeon uses a camera to look at the lung through two or three small incisions (cuts) into your chest.

These cuts are generally made under your arm or just below the shoulder blade. Your surgeon will let you know if you are suitable for this procedure.

On some occasions it may be appropriate to only take a sample (biopsy) of the diseased area for further testing. Your

consultant will discuss with you what your operation will involve and how it will affect you afterwards. If you require further information please ask questions.

Following your surgery, your surgeon may discuss with you referral to another specialist, for consideration of additional treatment to get the best result from surgery for example chemotherapy or radiotherapy.

What are the alternatives to lung surgery?

This depends on your condition. Alternatives to lung surgery for cancer include radiotherapy and/or chemotherapy. Your surgeon will be happy to discuss other treatments if they are applicable to you, and make the appropriate referral to an oncologist to discuss these treatments.

Before coming into hospital

Smoking

If you smoke, giving up before the operation reduces the risk of breathing problems. The longer you can give up beforehand the better. If you would like some information and support to stop smoking, please speak to your General Practitioner (GP).

Medications

If you are taking medication you should bring a supply of them with you on admission. Please keep them in their original box/bottle.

Pre admission clinic

As part of your preparation for surgery you may be invited to be reviewed by a Clinical Nurse Practitioner, who is specially trained. This depends on the procedure or operation you may have. The assessment may take up to 2 hours and the nurse will:

- Take a full medical history
- Perform a clinical examination
- Assess whether you require any extra support following your discharge home or have any disabilities
- Explain about the procedure and your hospital stay
- Explain about the recovery period following surgery
- Repeat any investigations if necessary
- Give advice on your medication, including which tablets you should stop prior to coming into hospital
- Discuss your expected length of stay and approximate discharge date
- Arrange any additional help you may need, this may include a referral to a medical social worker or dietician.

If you have any questions whilst you are waiting to come in for your operation or about your condition, you can contact the Clinical Nurse Practitioners on telephone number 0151 600 1298. They are available 08.30 am - 5.00 pm, Monday - Friday. There is an answerphone available outside of these hours and if you leave a message, they will return your call as soon as possible.

Tests Required Before Your Surgery

Some of the following tests prior to your surgery may be carried out:

Chest x-ray – this will look at the size and shape of the heart and the general condition of your lungs.

Electrocardiogram (ECG) – this is a heart tracing which shows the electrical activity of the heart and is routine for anyone undergoing an anaesthetic.

Blood tests – a blood sample is taken from your arm and various tests are carried out including your blood group.

Pulmonary function tests – these are breathing tests which measure how well your lungs are working.

CT Scan (Computed Tomography) – this is a type of x-ray that produces detailed cross sectional images from inside the body.

PET Scan (Positron Emission Tomography) – This is a specialised scan used to evaluate and stage lung cancer.

Bronchoscopy – this is a procedure carried out under a general anaesthetic. It is a test that allows the doctor to look directly down your windpipe and into some areas of your lungs. The doctor is able to view both lungs by passing a long thin tube with a camera and a light on the end of it (bronchoscope) down your throat. During the test different procedures may be performed in order to obtain samples for further examination in the laboratory.

CT Biopsy (Computed Tomography) – is a procedure when a biopsy (sample of tissue) is taken from the body for analysis using the guidance of a CT scan.

Before the operation

Eating and drinking

You may not be allowed to eat and drink anything for a few hours prior to surgery. The nursing staff will inform you when to stop eating and drinking. It is important not to eat or drink anything after this time as it may delay your operation or cause complications with your anaesthetic resulting in cancellation of your procedure.

Bathing

It will be necessary for you to have a bath or shower before your operation. The nursing staff will advise you when the

best time is for you to do this. They will also provide you with an antiseptic skin wash to use. This will help to prevent any infection occurring in your wound. If you need assistance, please inform the nursing staff.

Shaving

Before the operation, it may be necessary to remove hair from around the operation site. The nursing staff will discuss this with you and support you to do this if necessary.

Stockings and gown

You will be given a theatre gown and a pair of support stockings to wear prior to going to theatre. The stockings are to help your circulation and blood flow, whilst your mobility is restricted.

Anaesthesia

Before your operation an anaesthetist will visit you on the ward. He or she will ask various questions concerning any previous anaesthesia you may have had, about your general health and will ask you specific questions concerning the symptoms of your lung condition. They will also discuss your care after the operation and the choices of pain relief available to you following surgery.

Pre-medication

If prescribed by your anaesthetist, you will be given medication before your operation. This is given to help reduce or relieve anxiety and will make you feel drowsy. Following the pre- medication you must stay in bed and call for a nurse should you need anything. A member of the nursing staff will accompany you to the theatre and will stay with you until you are introduced to the anaesthetic nurse.

After your operation

You will remain in the theatre recovery area and will be cared for by a nurse who will monitor your blood pressure, pulse rate and oxygen levels. Once your condition is considered stable enough you will be transferred either to the High Dependency Unit (HDU) or to the ward. On occasion patients who remain poorly following their surgery are transferred to the Intensive Care Unit (ITU) for closer monitoring.

Breathing

While you are still recovering from your anaesthetic you can expect to have an oxygen mask over your mouth and nose. It is important that you take deep breaths and cough; this will help to expand your lungs and prevent infection.

Infusions and catheters

Whilst in the HDU or Ward you will be visited by the physiotherapy team following your surgery to teach you some breathing exercises. These exercises are designed to increase your breathing function and also to make it easier to clear any secretions from your lungs.

You may also have a catheter (fine tube) in your bladder, which allows urine to drain freely. These will all be removed as soon as possible after your operation.

Pain

Effective pain relief is very important following surgery for your comfort and recovery. You may be given pain control through a fine tube in your back; this is known as an epidural or paravertebral catheter. Alternatively, a patient controlled analgesia (PCA) pump, attached to a drip in your arm, will help to keep you comfortable.

We aim to keep you as comfortable and pain free as possible. If you are experiencing pain you must inform a member of the nursing or medical staff and they will review your pain control if necessary.

The different types of pain relief available to you following surgery will be discussed with you in detail by the anaesthetist.

Chest drains

Following surgery, you may have one or two chest drains in place. These are tubes leading from your chest to a bottle, which drain air and fluid. The chest drains may be attached to 'suction' which is a mild vacuum; this will help your lung re-expand more quickly. They are designed to be portable, and should not hinder you getting out of bed and walking around the ward. It is important to keep the chest drain bottles in an upright position. If the bottle gets disconnected, please ring for the nurse immediately. The ward nurse will discuss with you how to look after your drains.

Removal of the chest drains

The chest drains will be removed when they are no longer required. This can occur after 1-3 days, although sometimes it may take longer. Should this be the case the doctor will explain the reason why the drains need to be left in place. Prior to removal of your chest drains you will be given pain relieving medication.

Once the drains are removed you will have a stitch at each drain site, which will be removed after 7-10 days. If you have been discharged before this we will arrange for a district nurse to remove these stitches.

Personal hygiene

Initially the nursing staff will help you with your personal hygiene at the bedside or you may feel able to have a strip wash in the bathroom. After a few days you will be able to go to the bathroom to have a bath or shower. If you feel you need support or assistance for this, please inform the nursing staff.

Your heart rate

After the operation, you may feel that your heart sometimes misses a beat or is racing. This is not uncommon after lung surgery and should not hinder your recovery. If you are aware of this, please inform the nursing staff or doctor. If this is detected during your hospital stay, you may be prescribed tablets that control your heart rhythm. If following discharge, you note that your heart is racing or you have a missed beats you should contact your GP.

Eating and drinking

Initially your appetite may be poor, so try to drink and eat a little when you can as this helps with wound healing. The dietician will offer nutritional support if required.

Constipation and Nausea

Indigestion and constipation are also common, as your normal functions may slow down during surgery. Some patients suffer from nausea as a result of the anaesthetic and the drugs. Do ensure that you inform the nursing staff should you experience any of these symptoms and you will be given some treatment for this.

Mobilisation

Following your surgery it is important that you mobilise and are up and about as soon as possible, although this does depend on what operation you have and your individual condition. You should be able to mobilise and walk around your bed approximately 1-3 days following surgery. The physiotherapists and nurses will help you carry out your exercises regularly.

Exercise is encouraged to help improve your lung function; this also helps to prevent muscle stiffness, constipation and pressure ulcers (bed sores).

In addition to your support stockings, you will also be given an injection of an anti-coagulant, which is medication to help the blood flow freely and prevent daily clots from forming. You will be shown how to mobilise and move without putting strain on your wound. However, if you are unable to move without assistance, the nurses will assist you and may use a lifting aid such as a hoist.

Wound

Most patients having lung surgery have a wound, or wounds; under their shoulder blade, around the side of their chest or under their armpit.

The nurses will check your wound regularly until you leave hospital. It is important to report if there is any redness, pain or leakage from the wound, so that this can be treated appropriately. You may have stitches in your wound that will need removal 7-10 days after your operation. If you are discharged beforehand the ward nurse will arrange for a district nurse to remove your stitches at home.

Breathlessness

If you find that you are experiencing breathlessness, you should inform the medical or nursing staff immediately. The physiotherapist may show you the positions that are described below, as they may ease it. In addition if you concentrate on breathing out slowly, this can help to control your breathing.

Try leaning forward whilst sitting in a chair with your forearms resting on your thighs. Try to keep upper chest and shoulders relaxed, therefore keeping the lower part of your chest free to expand.

Discharge

This section of the booklet contains discharge advice. You will be provided with a detailed discharge handout before you leave the hospital but the following will provide you with a summary of what to expect.

You should expect to remain in hospital for a number of days after your operation. This may vary according to the individual, and your progress will be assessed closely by the doctors and nurses.

Transport home

We advise that a relative or friend accompanies you home on discharge. Where possible you should try and arrange your own transport home but if this is not possible, please speak to the nursing staff who will support you making alternative arrangements.

What happens when I go home?

Before admission please give some thought to how you will manage following your discharge home. During the first few days at home you may feel quite vulnerable, so it is an advantage to have someone at home with you during that time. If you live alone please discuss this with your nurse at the pre- assessment clinic and on admission. You may require a period of further recuperation or additional support services at home. If this is the case, the nursing staff will put any necessary arrangements in place before you are discharged.

Medication

The nurse discharging you will give you a supply of tablets, which should last at least two weeks. This will give you time to get your repeat prescription to your GP. The medication you will now be taking may be different to the medication you took before your operation. Please ensure you safely dispose any medications that you were previously taking and no longer require. Please return these to your pharmacist.

Your GP will be sent a letter explaining what operation you have had, the medication you are currently taking and that you have returned home. You will also be given a copy of this letter.

Resuming activity at home

Most people find that it takes approximately 1-3 months after the operation for them to make a full recovery. Obviously there is considerable variation depending on how fit you were before your operation and the type of operation performed.

Generally people who have had part, or all of their lung removed take longer to recover than people having other types of lung surgery. Age is also relevant, older people may require a longer time to recover than younger people. Exercise is an important factor in your recovery following surgery.

- For the first few days, take it easy and restrict yourself to the house or garden. After a few days, you should take a short walk on the flat, gradually increasing the distance and gradient over a period of weeks. Initially, it is advisable to avoid going out on cold, wet or windy days.
- Your aim over the next 3 months should be to increase your activities day by day. Introduce new activities but not all at once. You should, however get into the habit of taking regular exercise. A lot will depend on the nature of your surgery and your age. Exercise within your limits.
- Activities that involve carrying or lifting heavy items (shopping bags/hoovering etc.) should be avoided for 6 weeks following your surgery.

You may experience some breathlessness whilst you are carrying out activities, which is acceptable as long as it is not distressing for you. A good way to know if you are overdoing things is to be able to talk at the same time as exercising.

Always rest between periods of exercise. If you notice yourself becoming easily tired, you are probable overdoing

things, in which case reduce the distance you are walking or the activities you are doing. The amount and type of exercise which patients are able to do in the early weeks is extremely variable. The best guidelines are to do what you can without becoming too tired or short of breath.

A guide for the first few weeks at home The following advice is for guidance only.

First week – walk around at home as you did in hospital. You should continue with the breathing exercise that the physiotherapist taught you. Do make sure you get plenty of rest and do not have too many visitors as you will tire easily. It is important to rest and ensure that you get as much sleep as you need.

Second week onwards – You should gradually introduce light tasks into your daily routine, for example, dusting, washing up and cooking light meals. Do not do anything more strenuous at this stage; particularly avoid heavy lifting, pulling or pushing as this will place a strain twisting movements of your chest. You should also avoid any twisting movements of your chest. Do not lift children or walk your dog as this could also place a strain on your chest.

Four to six weeks – You can gradually introduce more demanding tasks such as ironing, light shopping, light gardening or cleaning the car or walking the dog.

After eight weeks – Your wound should be healing well and therefore other tasks such as hoovering, raking leaves, driving the car and small jobs within the home may be undertaken.

After twelve weeks – You may wish to resume or take up other activities including cycling, fishing, walking and

swimming. At first, it is better to use a heated swimming pool and the stroke that feels most comfortable to you. If you play golf you may start practising your swing and hitting a few balls at this time. If you wish to play competitive games or contact sport you should consult you GP or surgeon.

You may feel able to do everything that you were doing before the operation. It is important to remember that each person's recovery is different and you may need to adjust your normal feeding lifestyle in line with how you are feeling.

You may continue to experience some chest discomfort or skin sensitivity for a period of time. This may be aggravated by strenuous activity especially if it has been resumed too soon after your operation. If you are experiencing any ongoing problems please discuss them with your GP, Surgeon or Lung Nurse Specialist.

Returning to Work

It is wise to allow yourself time to make a complete physical and emotional recovery before returning to work. At your follow up appointment you can discuss the timing of your return to work which will depend on the type of work that you do.

Driving

Do not drive following discharge from hospital until you have been reviewed at your outpatient appointment and advised by your surgeon that it is safe. As a result of the wound and the healing process, muscular strength and general agility is reduced and sudden movements can bring on pain. It is therefore, essential that you do not drive a motor vehicle until the healing process is sufficiently advanced. When driving a car or as a passenger, you are not exempt from wearing a seat belt. You may find it more comfortable to put a towel between your chest and the seat belt whilst travelling by car.

Outpatient Appointment

Your surgeon will see you approximately 2-6 weeks after your operation as an outpatient. This may be at The Liverpool Heart and Chest Hospital or at your local hospital. This appointment may be given to you prior to your discharge or sent through the post. Please ask a member of the nursing staff if you are unsure about the details.

Further treatment

Occasionally patients who have undergone surgery for lung cancer may need to be referred to another specialist (Oncologist) for consideration of further treatment i.e. radiotherapy/chemotherapy. If this is necessary your surgeon will discuss this with you.

Useful Information

There are a variety of different organisations working within the National Health Service who provide valuable information and support for patients. Listed below are a few contact details which may be of some use to you.

Advanced Nurse Practitioner

During your admission you will have met one of the Advanced Nurse Practitioners and you can contact them as follows:

Dot Homan - Telephone - 0151 600 1018

Mandie Walthew - Telephone - 0151 600 1548

Or you can call the hospital switchboard on 0151 600 1616 and contact them via their bleep.

Lung Nurse Specialist

If you have been diagnosed with lung cancer, the Lung Nurse Specialist is available to you and your family for support and information.

You may have already met your local nurse. However if you have not, you should be able to contact your Lung Nurse Specialist via the switchboard at your local hospital.

If you are not able to get these details, please call the Lung Nurse Specialists, at The Liverpool Heart and Chest Hospital on 0151 600 1182 and they will advise you of the details of your local nurse.

Roy Castle Lung Foundation

A nationwide lung cancer patient support and information network is available through the Roy Castle Lung Cancer Foundation. Services include:-

- A free national help line that provides information on support groups in each area. There are several across the country, telephone 0800 358 7200 to find out about your local group.
- The Liverpool lung cancer patient support group is held monthly. For further information telephone the Lung Specialist Nurses at The Liverpool Heart and Chest hospital on 0151 600 1182.
- Written information books are also available.

Useful Information

Visiting Times

Wards - All wards have open visiting between 8.00 a.m. to 8.00 p.m.

We recommend strictly a maximum of 2 visitors per bed as patients can tire easily. In consideration for other patients please keep the noise levels within the ward areas to a minimum. Visitors are asked not to eat or drink whilst on the ward and are not permitted to use the patients' toilets or sit on the beds.

Visitors are not permitted to bring in food which requires reheating. If your visitors do bring in food they must inform a member of staff to ensure this is safely stored and labeled.

Post-Operative Critical Care Unit (POCCU).

Visiting hours are 8.00 - 9.00 am for one hour only. Then open visiting from 12 noon - 8.00 p.m.

- We recommend strictly a maximum of 2 visitors per bed at all times.
- We do not recommend that children under the age of 12 are allowed to visit the unit. Arrangements for children over the age of 12 to visit may be made at the discretion of the nurse in charge.
- Visiting hours can be tailored to meet the needs of individuals upon prior arrangements with the nurse in charge.

IMPORTANT – Visitors are requested not to visit the hospital if they have any signs of infection for example, colds, flu or diarrhoea and vomiting.

Health & Safety

It is important to prevent infections when patients are in hospital. By following a couple of requests, you can help matters greatly.

- Please can all visitors use the hand gels provided when entering and leaving the ward. This will help to prevent infections.
- Please encourage your doctors and nurses to clean their hands. They will not be offended if you ask them if they have cleaned their hands before attending to your needs.
- Visitors please do not sit or lie on patients' beds. This is because you are adding to the risk of cross infection, as well as damaging the mattress.
- We do not recommend that you bring flowers into the hospital.

Relatives Accommodation

The Robert Owen House provides accommodation for the relatives of patients undergoing treatment at the hospital. The house is situated on site. The hotel style accommodation

is built to a very high standard with 17 rooms, a mixture of family, twin and single rooms. A charge is made to guests for the accommodation with the cost of maintenance and upkeep being funded through the help of volunteers and charitable fundraising.

Please telephone **0151 600 1688** for more details or to make a booking. If your relative has any special requirements please inform staff at the time of booking.

Patient & Family Support Team

Being a patient, family member or carer can be a worrying or confusing time. Sometimes you may need to turn to someone for help, and the team can:

- Provide help, advice and support
- Listen to your concerns and suggestions
- Help sort out concerns or complaints quickly on your behalf.

If you do have a concern or would like some extra support please ask a member of staff to put you in touch with the team or contact them directly on 0151 600 1517 or 1639.

Religious Beliefs

Whatever your religion, if you wish to have a visit from a minister of your faith, let the nurses know, and it will be arranged for you.

Your Comments and Feedback

Feedback from patients, their families or carers is valuable to us as we use your views to help improve the services we provide. During your stay you will be given an in-patient satisfaction survey, your views and comments are considered an important measure of the quality of services we provide. You can use this to tell us if you had a good experience or if you feel there are any improvements we need to make.

Useful Telephone Numbers

Hospital switchboard	0151 600 1616
Clinical Nurse Practitioners Helpline	0151 600 1298
Patient & Family Support Team	0151 600 1517
Robert Owen House (Relatives Accommodation)	0151 600 1688
Oak Ward	0151 600 1162 0151 600 1164
Post-Operative Critical Care Unit Reception (POCCU)	0151 600 1017
Macmillan Cancer Support	0808 808 0000

For further information visit:

www.lhch.nhs.uk www.roycastle.org www.cancerguide.org www.cancerline.uk If you require a copy of this leaflet in any other format or language please contact us quoting the leaflet code and the language or format you require.

> إذا لديك الرغبة في الحصول على نسخة من هذه المعلومات بأيّ لغة أخرى أو بشكل آخر (على سبيل المثال بخطوط كبيرة) ، الرجاءالاتصال علينا على الرقم 1257 600 0151 موضحاً الشكل او اللغة التي ترغب فيها.

> 如果您想索取一份以其他語文或形式(如大字體)編印成的資料傳單,請致電 0151 600 1257向我們查詢,並說明您所需要的形式和語文。

نهگام زانیاریانهت بهمام زمانیکی تر یاخود شیُولایِّکی تر دەریِّت (بؤ نموونه به چاپی گاموره) نهوا تکایه به ژماره تعلمفونی 1257 600 0151 پهیومندیمان پیُوه بکه و ناماژه بده بهو زمانهی یاخود شیْوهیهی که دهتمویِّت

W celu uzyskania niniejszej informacji w innym języku lub formacie (np. dużym drukiem), prosimy o kontakt z nami pod numerem 0151 600 1257 podając wymagany format lub język.

Haddii aad u baahan tahay koobiga wargelintan oo luqad ama qaab kale (sida far waaweyn) fadlan nagala soo xiriir 0151 600 1257 adiga oo noo sheegaya luqadda ama qaabka aad wax ku rabtid.

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