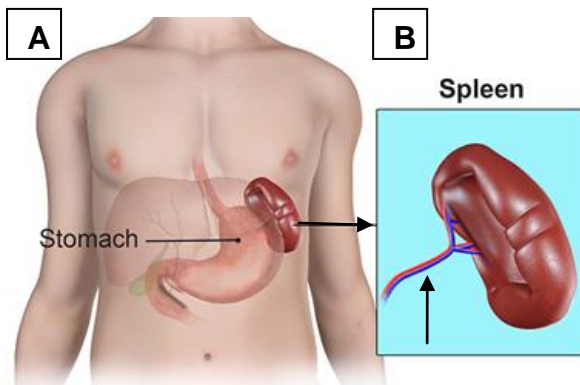


## Discharge advice for adult patients who have undergone a spleen removal secondary to trauma

\*this discharge advice is also valid for adult patients who have undergone a complete occlusion of the main splenic artery and who has a confirmed diagnosis of a non-functioning spleen

### What is the spleen and where is it?

The spleen is a multifunctional organ that sits in the upper left part of your abdomen under your lower ribs and left diaphragm (figure below).



**A. Location of the spleen, B. The main splenic vessels (artery and vein)**

The spleen weighs only 150 g, however, it has a huge amount of blood running through it (200 mL blood per minute, i.e. one full glass). The spleen's role include

- removing old red blood cells from the blood stream,
- blood reserve storage,
- the clearance of blood-borne microbes.

The last point on the above list is a key role in your bodies defence system against infections.

### How was the spleen injured?

In general, injuries to the spleen can be as a result of intentional or unintentional, blunt

or penetrating trauma resulting from sudden external energy following fall, road traffic crash, assault, blast, or other traumatic event.

Much less often a spleen rupture occurs in the apparent absence of blunt trauma. Such ruptures never occur in normal spleens.

Injury to the spleen causes a bleeding. For some patients it becomes a life-threatening problem requiring an immediate life-saving surgery.

### Why did you undergo removal of the spleen?

Due to massive blood loss from the injured spleen, shock, and critical condition, your Trauma Surgeon made the decision to open your tummy and to remove your spleen in order to stop the life threatening bleeding from the spleen, and save your life.

The medical term of this procedure is a splenectomy. The term 'total splenectomy' embodies the same meaning.

The surgeon temporarily (for a day, or two, or even longer sometimes) placed one or two drains in the abdomen.

This is a normal procedure to assist in draining any fluid or blood that may have collected or may collect in your stomach after a spleen removal.

You will likely need to stay in the hospital for, at least, five days following the splenectomy. However, 10-14 days duration of stay is normal following a splenectomy.

Full surgical recovery from a splenectomy usually takes six weeks,

However, this operation has one serious downside.

## The downside of a spleen removal

You may be more susceptible to catching infections, for you no longer have a spleen as your bodies natural defence against infections.

Common cold is just one example of common infections in adulthood. Chest, blood, and meninges of the brain are other sites of potential infection for asplenic patients.

That is why you are regarded to be as a vulnerable individual and additional protection is required for you. The same protection has to be applied to a pregnant patient.

There are four groups of the specific and non-specific precautionary measures against infections for asplenic (no spleen) patients. They include:

- Alert and awareness,
- Immunisation and vaccination programme,
- Antibiotics (antibacterial drugs),
- Non-specific long-term measures aimed to enhance the defence system of your body.

## What should I do in future now?

A medical alert card 'I have no functioning spleen' ([www.dh.gov.uk](http://www.dh.gov.uk)) is given to every patient after removal of the spleen.

We advise you to carry a card on your person which will alert a doctor in an emergency situation when you cannot speak up about yourself as not having the spleen.

IMPORTANT HEALTH INFORMATION 

### I have no functioning spleen

I am susceptible to overwhelming infection, particularly pneumococcal. Please show this card to the nurse or doctor if I am taken ill.

Always carry this card with you

If due to some reasons you have not received this card, be proactive, open the website, download the card, and print it out yourself:

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_130751.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_130751.pdf)

An alert bracelet or pendant would be also a good choice however it would be your responsibility to invest in and wear it. Your GP will be informed that you have undergone a splenectomy.

It is also important that you inform any medical professional e.g. a dentist, that you see that you have undergone a splenectomy.

You have to remember that you have increased susceptibility to infection following animal (particularly dog) and insect (particularly tick) bites. That is why an asplenic patient must seek urgent medical attention if bitten.

If this would happen, you have to take a course of broad-spectrum antibiotics after a bite, no matter how trivial it is.

You have to know that you may be at risk from a rare disease called babesiosis which is transmitted by ticks and can be mistaken for malaria.

Wearing clothing to cover exposed skin, especially long trousers to cover the legs is being advised for trekking or camping fans.

All that is especially important if you plan foreign travel to sub-Saharan Africa, India, Nepal, Bangladesh, Saudi Arabia (especially for Haji or Umrah), and other countries of Asia, Africa, or equatorial America.

Prior to travelling abroad, you should seek advice from the travel medicine or tropical medicine service. The options include:

- Well Travelled Clinics Limited, Pembroke Place, Liverpool, L3 5QA; Liverpool School of Tropical Medicine

- Well Travelled Clinics, 10 Watergate Row North, Chester, CH1 2LD; Liverpool School of Tropical Medicine.
- Travel Clinic at Hospital for Tropical Disease, 2nd Floor, Mortimer Market Centre Capper Street London WC1E 6JB; University College London

## You have to be compliant to immunisation and vaccination programme

Immunisations and vaccinations will reduce the risks for chest infection, meningitis, and influenza (flu).

You will receive your immunisations approximately 14 days after splenectomy. These are normally undertaken by your GP, unless you are still in hospital at this time.

However, there will be times when the trauma team and clinical pharmacists will decide to give you the immunisations prior to the 14 days post operation, for some patients may be seen as a higher risk of infection.

Immunisations you will receive include:

- Pneumococcal vaccine; a booster is usually advised every five years. – or more frequently if there is underlying disease causing immunosuppression,
- Haemophilus influenza type b, so called combined Hib/MenC vaccine (single dose only),
- Meningococcal ACWY conjugate vaccine against meningitis C.
- Influenza (yearly, each autumn).

Pneumococcus and Haemophilus influenza are the bacterial pathogens which may cause chest infection.

A booster against pneumococcal infection is usually advised every five years. As there are many strains of meningococcal

infection, two vaccines are used for complete immunisation against meningococcus.

These are combined Hib/MenC vaccine and meningococcal ACWY conjugate vaccine.

Influenza (i.e. flu) is seasonal viral infection and therefore it is recommended to receive a jab against the flu yearly.

As mentioned above, prior to travelling to some countries which are regarded as being at risk all year round, you should seek advice in the travel medicine centre. The advice will definitely include

- malaria prophylaxis (taking tablets, using mosquito nets, insect repellents, wearing clothing to cover exposed skin),
- a revision of your immunisation history especially against Group A meningococcus,
- a suggestion to take a course of broad-spectrum antibiotics with you.

## Antibiotics (antibacterial drugs)

Antibiotics will be prescribed for you after your operation and you should continue taking these on discharge.

The antibiotics will normally continue for two years after your operation, However patients considered at continued high risk of pneumococcal infection will have to continue on lifelong antibiotics.

A doctor will recommend to continue lifelong antibiotics if you have any of these four conditions:

- aged greater than 50 years (and, by the way, less than 16 years),
- inadequate response of your body vaccination,
- a history of previous pneumococcal sepsis,
- haematological malignancy.

Either low dose Penicillin V (phenoxymethylpenicillin) 500mg twice or

once a day or, if penicillin allergic, a low dose of clarithromycin, usually 500mg once a day, will be prescribed for you.

The doses used are much lower than those used when treating an infection and are termed a 'preventative or prophylactic' dose.

Most people do not have any side-effects from the daily low dose of antibiotics. And the last advice regarding antibiotics:

- You should carry another supply of appropriate antibiotics for emergency use prescribed by the pharmacist or GP.
- If you develop symptoms and signs of infection, despite the above prophylactic measures, you have to take a dose of antibiotics given to you and come urgently to your GP surgery or to the hospital.

Otherwise you have to finish up a course of your antibiotics.

## **How can I enhance the defence system of my body?**

### **Eat healthy food**

Unless your doctor tells you otherwise, there are no special dietary requirements following surgical removal of a spleen.

However, eating a healthy diet will help to ensure that your body has all the nutrients it needs to heal, recover, and keep the defence systems of your body well.

### **Drink enough fluids**

Drink at least 2 litres of clear fluids a day. You possibly know that still water is the best drink.

### **Stop smoking**

By not smoking – even if it is just for the time that you are recovering – you immediately start to improve your circulation and your breathing – not to mention a whole list of other benefits to the heart and lungs.

## **Stop drinking alcohol**

As to alcohol, drinking will tax the immune system and it will never enhance it.

## **Never take any street drugs**

Seek information and comments independently.

## **Be physically active**

It is advised to avoid strenuous physical activities for about 6 weeks following a splenectomy. This is because your all body systems have to adapt themselves to a new asplenic condition.

After a such period of time, you should aim to spend at least 40 minutes in the parks or the fields for intensive walking (you may or may not use scandinavian walking sticks), or classical jogging, or running, or biking, or cycling.

Active swimming for about 20-25 minutes a day would be an even better choice for you.

Choose one of them, start it gradually and slowly, practise it daily or at least three times a week, and you will insensibly become much more protected against various infections including common cold and flu.

Dynamic (physical) yoga would be a very good choice for you, as well.

And remember, it is not about the speed and records; it is all about the time (25-40 minutes) in physical activity.

## **The general advice for surgical patient for the time being**

### **Discharge**

Discharge summary, medical advice, patient information leaflet, medical alert card, sick note, and medicines will be given to you on the day of discharge from the hospital.

### **The first 24 hours post discharge**

You should be accompanied by a responsible adult on returning home from the hospital that can stay with you for at least 24 hours.

## **Dressings**

A doctor or nurse will give you advice about how your wounds were closed and how to care for them.

If dressings are required for your wounds after discharge, they will be provided and explained to you.

You need to keep the scar / scars covered after your emergency surgery.

You do not need to worry about getting the wound wet. Dressing acts as a barrier against water.

Many patients have concerns that standing up straight will pull at the stitches.

Don't worry about this. Getting out of bed and standing up straight will actually help you to recover more quickly.

## **Skin staplers or stitches**

If you have skin staplers or stitches which need to be removed, this can usually be done by the practice nurse at your GP surgery or walk-in centre 14 days after your operation.

## **Discomfort**

You may experience pain and discomfort around the scar, below the left ribs, and inside the tummy, especially for the first few days or week.

## **Painkillers**

Painkillers will be prescribed for you for about 7 – 14 days. They may well cause constipation, so it's important to get plenty of fibre in your diet while you are recovering.

## **Tiredness**

Your body is using a lot of energy to heal itself, so you will feel more tired than normal – sometimes it can come upon you suddenly.

Keep a routine, get up at your normal time in the morning, get dressed, and move about the house. If you get tired, you can rest later.

## **Feeling emotional**

If you feel upset or emotional in the days and weeks after your operation, don't worry - this is a perfectly normal reaction which many people experience.

## **Family and friends**

Family and friends can give you practical help with the tasks you might be temporarily unable to do while you recover – such as driving, the weekly shop, or lifting heavier items. They will keep your spirits up.

If you live alone, and you do not have family or friends close by, organise support in advance - have family or friends come to stay with you for the first few days after surgery if possible.

## **Build up gradually**

Have a go at doing some of the things you'd normally do, but build up gradually.

Everyone recovers at a different speed, so not all of the suggestions will be suitable for everybody.

## **Returning to work**

Getting back to your normal work routine sooner rather than later can actually help you to recover more quickly. So work can be part of your recovery.

## **Getting back to work**

How quickly you return to work depends on a number of things. People whose work involves a lot of heavy lifting, or standing up or walking for long periods of time, will not be able to return to work as quickly as those who have office jobs which are less demanding physically.

In most cases it's usually safe to return to work 6 weeks after the emergency laparotomy.

If your employer has an occupational health nurse or doctor they will advise you on this. Alternatively your GP can give you advice.

Ultimately, it's your decision when you want to go back, and there's no insurance risk to

your employer if you choose to do so.

You do not need your GP's permission to go back to work - this is ultimately your decision.

Depending on the nature of your job, you might want to ask your employer about returning to work on lighter duties at first. This means:

- Spending more time sitting rather than standing or walking
- Doing work that is mostly paperwork, using a computer or telephone
- Not carrying more than around 5 kg any significant distance
- Avoiding tasks such as prolonged loading or unloading, packing or unpacking.

If you have an HR Department at work, they will be able to advise you on how your absence might affect any benefits you may be receiving during your time off.

## Driving

You should inform your insurance company about your operation.

Some companies will not insure drivers for a number of weeks after surgery, so it's important to check what your policy says.

Before resuming driving, you should be free from the sedative effects of any painkillers you may be taking.

You should be comfortable in the driving position and able to safely control your car, including freely performing an emergency stop.

## Driving exercise

It is advisable not to restart driving for about 4 weeks after an emergency laparotomy. After about four weeks, you might want to test your fitness to drive.

Do this in a safe place without putting the keys in the ignition: simply sit in the driving seat and practise putting your feet down on the pedals.

Again, build up gradually. If you feel pain, stop immediately. If you feel sore afterwards, you may need to wait a day or two and try again.

Only when you can put enough pressure on the pedals to do an emergency stop - without feeling any pain or soreness afterwards - should you think about driving again.

It is advisable not to restart driving with a long journey.

## Key activities, in summary

Until informed otherwise we advise:

1. No removal of skin staplers or stitches for two weeks.
2. No work for, at least, two weeks
3. No school, college, or university for, at least, two weeks.
4. No driving for four weeks; you must inform the DVLA of your injury who may also advise you in regards to when you can drive.
5. No physical activity for six weeks (including physical education).
6. No strenuous physical activities for, at least, 12 weeks (three months).

These activities include skiing, skating, mountain biking, diving, skydiving, contact sports, military combat, rigorous sexual intercourse, and lifting of heavy objects.

For very specific groups of patients the interval of limited activity can range from six weeks to six months (this will be discussed with you prior to your discharge)

## When should you return to hospital?

We know that most people recover well from a splenectomy and they do not experience complications.

However, you should bear in mind that there always is a risk of developing complications after every operation.

Call your doctor or attend the Accident & Emergency Department, if you have:

- Increased or persistent pain not relieved with pain relief medications
- Redness or swelling around the Wound
- Discharge of pus or blood from the Wound
- Increased pain in the abdomen
- Persistent fever
- Temperature above 38.5°C
- Shakes, swelling, chills, rigors
- Uncontrolled vomiting
- Persistent bloating of the stomach
- Inability to have a bowel movement after four days
- Dizziness/feelings of faintness
- Blood in your vomit, urine, or cough
- Swollen leg or both legs

## Follow up appointments

It is important that you do not miss any of your follow up appointments.

Your surgeon will inform you prior to discharge if you will require a follow up in our Major Trauma or Emergency General Surgery Clinic to ensure that your wound and tummy are healing and for us to also monitor how you as a whole are recovering from your injury.

## Who do I contact if I have questions or concerns?

- Major Trauma Nurse Coordinators: Contact Hospital switch board on 0151 525 5980 and ask switchboard to bleep 5428.

This service is available 7 days a week from the hours of 8 am to 8 pm.

- Nursing staff on Major Trauma Ward: Telephone number: 0151 529 6255
- During working hours 8am - 5pm Monday to Friday you can Contact the secretary and leave a message for the surgical team.
- If you think that your condition is serious then it is best to come straight to Aintree Accident & Emergency department\*.

Please seek advice from your GP.

**\*When you come to the hospital please bring this and any other relevant discharge documents that you may have been given at the time of discharge to help the A&E doctors to decide your management.**

## Are there any other sources of information?

Here is a list of websites that offer safe, sensible, useful information:

<http://www.nhs.uk>  
<http://www.patient.co.uk/doctor/splenectomy-hyposplenism-and-asplenia>  
<http://www.welltravelledclinics.co.uk/>  
<https://www.uclh.nhs.uk>  
<http://www.patient.co.uk>  
[www.dh.gov.uk](http://www.dh.gov.uk)  
<https://www.rcseng.ac.uk>



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**Tel No: 0151 529 2906**

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