



Side-effects and complications of heart surgery



After heart surgery, you may have side-effects or complications that make your recovery progress less fast than you and your medical team had hoped. Here, Simon Kendall (heart surgeon) and Chrissie Bannister (heart surgery nurse) talk about some of the possible side-effects and complications that may happen after heart surgery.

Re-opening for bleeding (post-operative bleeding)

It's normal for there to be a certain amount of bleeding after the operation and your doctors and nurses will monitor this carefully.

Having heart surgery involves a lot of surgical cuts and careful suturing (stitching) which can leave raw areas inside your chest. Before your chest is closed in the operating theatre, your surgical team take great care to check there are no remaining areas of bleeding. They'll leave two drains (the size of a large pen or biro) behind your breastbone. When you've been taken back to intensive care, the amount of blood coming down these drains to the collection bottle is carefully observed and measured.

If the bleeding continues for several hours, the anaesthetist and surgeon may make the decision to take you back to theatre and re-open the chest wound. All the places where you could be bleeding will be inspected and any bleeding points stopped. This operation takes about one to two hours.

If the bleeding is excessive and your blood pressure is unstable, it may be necessary to re-open your wound on the intensive care unit. This is because it would not be safe to return you to theatre.

Sometimes, blood clots in the drains and can't escape from your chest. Blood then collects around your heart causing your blood pressure to fall (cardiac tamponade). If this happens, your surgeon will reopen your chest to release the pressure of blood on the heart and remove all the clots around the heart.

Reopening of the chest happens in fewer than one in 20 patients.

Stroke

A stroke is when the blood supply to your brain is disrupted. There's a risk of stroke after having heart surgery.

A stroke may affect up to two to three in every 100 people who have a coronary artery bypass graft (CABG). It may affect up to five in every 100 people who have aortic valve replacements. Your risk may increase to ten in 100 people (one in 10) if you have a previous history of heart problems such as coronary artery disease or if you've had combined surgery.

A stroke happens when the blood supply to your brain is temporarily cut off. If your brain can't get the oxygen and nutrients it needs, your brain cells become damaged or die. A stroke can cause temporary or long-lasting problems that affect how you move, speak and swallow. It can sometimes be fatal.

If you have a stroke, it'll have a big impact on your recovery and you'll need specialist care.

Reduced kidney function

Your kidneys may stop working properly after heart surgery. This affects between five and 20 in every 100 people who have surgery. One in every 100 people may need to have dialysis until their kidneys start working normally again. Dialysis involves being attached to a machine that does the work of your kidneys - it removes waste products from your blood.

Fewer than one in 20 people who have a coronary artery bypass graft (CABG) will experience reduced kidney function after surgery. In most cases, this is only temporary and the kidneys begin working normally after a few days or weeks.

Blood clots

Blood clots - or thromboembolism - can happen after any type of surgery. However, the risk is higher if you're a smoker, very obese, or unable to move much (immobile). These clots usually form in your legs and are known as deep vein thrombosis or DVT. Sometimes, clots can move to your lungs where they cause more serious problems and can be life-threatening.

Signs that a clot may be moving from your leg to your lungs include swelling in your leg and pain in your calf. You might also have shortness of breath and chest pain.

Your doctor will talk to you about your medical history and assess whether or not you may be at high risk of clots. This is so he or she can plan preventative treatment before you have your operation. This will usually happen at your pre-operative assessment.

Compression (support) stockings

You may be advised to wear compression stockings after your operation. Compression stockings can help stop

swelling in your legs and help prevent a clot forming. If you do develop a blood clot, your doctor will prescribe anticoagulant medicines to help thin your blood and dissolve the clot.

Your nurse will measure the circumference of your thigh and calf and the length of your leg to make sure you have stockings that fit you correctly. It's very important that these don't become wrinkled or cause tight constriction on your legs or ankles. For some people, the dangers of too much constriction outweigh the benefits. Talk to your nurse about whether you should wear them or not.

If you do have compression stockings, you'll need to wear them for several weeks after surgery. Your nurse will let you know exactly for how long. They can be difficult to put on, so your nurse will show you how to do it.

Chest infection

After anaesthesia and an operation, there's a risk that you may develop a chest infection. This is caused by bacteria or virus developing in your phlegm. After a heart operation, it can be difficult to take a deep breath or cough, so phlegm builds up in your lungs. The risk is one in 10 and this increases to two in 10 for people who smoke.

Your physiotherapist will show you how to cough and breathe deeply so you can help prevent a chest infection.

If you do develop a post-operative chest infection, you may need to have oxygen. This will be given to you via a face mask or through small plastic tubes that sit inside your nostrils.

Chest infections are also treated with antibiotics and pain-killers. Depending on how severe the infection is, these might be given as tablets or an intravenous drip inserted into a vein in your arm. You might also have fluids intravenously to help stop dehydration.

Recovering from a chest infection is likely to delay your discharge from hospital by several days or sometimes weeks.

Heart rhythm problems

Disorders that affect your heart rhythm are common after cardiac surgery. They affect about three in 10 people who've been through heart surgery. Pacing wires are often put in place by your surgeon during your operation. Afterwards they can be attached to a machine called a pacing box that can help restore your heartbeat back to normal. Pacing may be temporary or permanent depending on the procedure you've had. Talk to your surgeon and nurse for more information about this.

Atrial fibrillation

Atrial fibrillation is a rapid or irregular heartbeat after having surgery. It affects around three in 10 people after coronary artery bypass graft (CABG), four in 10 people after valve surgeries, and about 5 in 10 people after combined surgery.

This isn't a dangerous complication and it's not a sign of any problem with your operation. However, it means you have less energy and also a sense of palpitations (more noticeable heartbeat). This irregular heartbeat may well go away with

rest and medication which slows your heart rate down and helps it return to a stable rhythm.

If atrial fibrillation continues for more than a couple of days, you may need to have a procedure to correct it. The procedure takes about five minutes and is carried out under general anaesthesia (so you'll be asleep). During this time, you'll receive a very short electric shock, to restore your heartbeat to normal. This procedure is called cardioversion.

Muffled hearing or thumping sensations in your chest, head or ears

You may feel more aware of your heartbeat because, during your operation, your surgeon opened the sac around your heart. This sac is called the pericardium. Opening the pericardium is part of the operation; it's left open and is nothing to worry about. Because the pericardium is about as thick as three sheets of paper, leaving it open means you may be able to hear your heartbeat more clearly than before. This will go away in time.

Urinary retention (for men – this rarely happens in women)

You'll have a catheter passed into your bladder through your penis while you're under general anaesthesia for your operation. Usually, this is removed two days after the operation and then you can either walk to the toilet or use a bottle in your bed.


Occasionally, some men are not able to pass a good stream of urine no matter how they try, and urine builds up in the bladder. If this happens, you'll need a new catheter. This will be put into your bladder under local anaesthesia. You shouldn't feel any pain, though it may be a bit uncomfortable.

The catheter will stay in your bladder until you're more mobile and you've opened your bowels. The catheter will then be removed again. By this time, most men will pass urine normally. If it happens again, your doctor may refer you to see a urologist (a doctor who specialises in identifying and treating conditions that affect the urinary system).

Delirium

It's usual to feel a bit groggy and woolly when you first wake up after your operation. As the anaesthetic wears off, you'll start to feel clearer. Sometimes though, people may get what is called post-op delirium. Delirium means you're in a confused state. It's common after having an anaesthetic and affects about one in four people who've had heart surgery.

It usually happens a few days after surgery and can make you feel confused and emotional. You may feel irritable, angry or tearful. It can affect your sleep too; for example, you might have vivid dreams. Your memory may also be affected; for example, you may not know your name or the names of your family. It can be very upsetting for both you and your loved ones.

Delirium can be caused by factors such as infection, low oxygen level, dehydration and the effects of surgery on your brain. Once the causes are treated, you'll start to feel much 

better and the delirium will go away. However, you may need to stay in hospital for longer (by days or weeks) than those who don't get delirium. For some people, the effect of delirium can be long-lasting and ongoing support may be needed.

Post-operative cognitive dysfunction (POCD)

Post-operative cognitive dysfunction (POCD) is linked to delirium, but tends to happen later than delirium. POCD can cause memory problems and you may find it hard to think clearly or concentrate. You may find daily tasks have become difficult. For example, you might go to the shops but then forget what you wanted to buy when you get there. Or you might find it hard to make decisions. It's often things that you had no problem doing before the operation that become difficult in the weeks and months following your operation.

If POCD doesn't resolve in time, there are lots of coping strategies that you can put in place. These include, for example, using lists and calendars to help you with your everyday tasks.

POCD will almost always get better over the first few months. On rare occasions, it can last longer, even permanently.

Sickness and nausea

It's quite common to feel sick after having an operation. It doesn't happen to everyone – about one in three people will probably have some kind of sickness or nausea after surgery. The feeling can be the result of factors such as the type of operation, the medicines used, how anxious you are, and the anaesthetic you had. It's also more likely to affect women, non-smokers, and people who get travel sick or have had post-operative sickness before.

Don't worry – it won't last for long (usually a couple of hours) and your doctor or nurse can give you anti-sickness medicines to help.

Constipation

It's possible you might get constipation after heart surgery. This may be because of your tablets (especially the stronger pain medicines) or because you're less active than normal. Keeping hydrated by drinking enough fluids and eating plenty of foods high in fibre (like fruit, vegetables and grains) may help. Your nurse may also recommend you take laxatives, which soften your stools.

Constipation can be a problem following heart surgery. Straining to go to the toilet can put stress on your surgical cuts and cause them to open up.

Blurred vision

Some people find they have blurry vision after the operation and see dots or flashing lights. This is only temporary. However, it's best not to have an eye test for three months after your surgery, so your eyes have time to settle. Otherwise, there's a chance your test results might not be accurate.

Sleeping problems

It may take a few weeks to get back into your normal sleep pattern. You may wake up in the early hours and find it hard to get back to sleep. You might wake up very sweaty, but this will get better as your body recovers. Getting in to a comfortable position can also be difficult. It may be uncomfortable lying on your side, but don't sleep on your front during the first six weeks while your chest wound is healing. All these things should settle down, but if you're worrying about anything, speak to your nurse.

Pain

It's normal to feel discomfort and pain after having heart surgery. You might have discomfort and stiffness in your chest and surrounding areas such as your neck, back and arms. Don't worry about this – it's normal and should ease within three to four weeks. Your chest pain and discomfort will also go away, though it may take a bit longer – within six months.

There are some important things that you can do to help your recovery and ease discomfort.

Chrissie Bannister, Lead Nurse from the Society for Cardiothoracic Surgery recommends the following.

- Hold a clean pillow or towel to your chest when you cough.
- Do the exercises that the physiotherapist has shown you.
- Apply a heat or cold pack if your chest feels uncomfortable.
- If you're a woman, wear a soft and lightweight bra. This should be supportive and not underwired. It's also a good idea to wear one that fastens at the front.
- Take painkillers as instructed by your nurse. They will help to control pain and, for them to work properly, they need to be taken before the pain becomes too bad.

Poor appetite

It's normal to not have much of an appetite to begin with. You might not feel hungry, and you might find that food doesn't taste of anything, or that the smell of food makes you feel sick. Again, don't worry – this will get better within several weeks. Try to eat little and often, and keep hydrated. It's important to eat well as you recover so that your body gets the nutrients it needs to repair and heal itself.

Sore throat and hoarse voice

Your throat may feel sore from bruising caused by the tube in your throat during the operation. Medicines used during your operation can also dry your throat, which can cause soreness too. This should go away within a few days. If it doesn't, you can take painkillers, such as paracetamol and soluble aspirin to ease your discomfort.

Tiredness

Having an operation means your body then needs to work hard to recover and repair itself, so it's likely you're going to feel tired. It might surprise you how tired you feel and it can come on very suddenly. It won't last forever though. As your body heals and you get back to being more active, your energy will return.

Build up your activities gradually and rest when you need to. Keeping to a routine can help, so try to get up at the same time each morning and get dressed. You can always have a rest a bit later on in the day. Set some realistic goals to help motivate you, and don't take on too much. Little and often is a good idea.

If you're caring for a loved one who has been through surgery - remember to look after yourself too and get plenty of rest.

Tingling and numbness

You might get some tingling in your fingers or numbness. This can happen if a nerve gets stretched by an instrument your surgeon used during your operation. Your symptoms will usually get better quickly - within a few days. But sometimes they may last a few weeks to three months.

Your healing wounds

Wound site of mammary artery

If your mammary artery was used during coronary artery bypass graft (CABG), you might feel some numbness on the left side of your chest afterwards. This is normal and will go away.

Your skin in this area may feel very sensitive - this is also normal and means that the nerves in your chest are recovering from the surgery.

Leg wounds

When a leg vein is used in coronary artery bypass surgery, it's common to feel numbness or prickling along the wound and around the ankle. This is because a nerve is recovering. It may take several months to settle down.

It is also normal for your leg and ankle to become swollen. Often this causes oozing of fluid from the wound. This usually gets better after about three months when other blood vessels take over the work of the missing vein. In the meantime, try keeping your leg up when you're sitting. Being active helps the circulation.

Your chest wound

As your chest wound heals, it will change in appearance and go through several stages. It's normal for the wound to look sore and raw as it heals. It can take about four weeks to heal but everyone heals at a different rate. Eventually, your wound will become a scar which will be a pink or white slightly raised line. It's normal to have a lump at the top of where your skin was opened - this will go down in time.

If your wound becomes more painful and you notice more redness, swelling and tenderness, this might be a sign of infection. It's important to speak to your doctor if you notice this because you'll need medicines to treat it.

Clicking mobile breastbone

If you've had open-heart surgery and your breastbone was opened up, then you may get a popping, clicking or grinding feeling in the area. This is because your breastbone is being held together with wire or bands until it heals. It is movement of your breastbone that causes these sensations.

If you're getting clicking, contact your cardiac surgical unit so they can have a look and see what's going on. They may give you a chest support to wear, which should help. There are a number of different types of chest support and the hospital will provide one for you if you need it. The clicking should slowly get better by itself as your breastbone heals. Often, it goes away within the first couple of weeks. Your cardiac team will monitor you closely.

You may experience issues with the wires holding your breastbone together. They may cause pain or you may notice the wire under the skin. If this happens, contact your hospital. You may need another operation to sort it out.

Normally, it takes four weeks for the breastbone to heal. During this time, there are some things that you need to be careful about. Try to avoid the following.

- **Using your arms too much to lift things up.** But do follow the exercises your physiotherapist has shown you - these are safe and designed to help your recovery.
- **Coughing and sneezing excessively.** It's very difficult to suppress a cough or sneeze but try holding a pillow or towel to your chest when you cough.
- **Straining to go to the toilet.** If you have constipation, speak to your nurse - taking a laxative and eating plenty of fibre and staying hydrated should help.