



Great Ormond Street Hospital for Children NHS Foundation Trust: Information for Families

Your child is having a heart operation: about the anaesthetic

This leaflet explains what the anaesthetic team will be doing during a heart operation at Great Ormond Street Hospital (GOSH). The anaesthetic team consists of a consultant (or specialist) anaesthetist, sometimes assisted by a junior anaesthetist, and an anaesthetic assistant, usually a nurse. An anaesthetist is a doctor who makes your child go to sleep and stay pain-free during an operation. They will stay with your child for the whole operation. As well as making children sleepy, the anaesthetist also has a number of things to do to make sure the operation is as safe as possible, such as monitoring the heart, blood pressure and breathing and giving medicines. These will be explained here. Finally, the anaesthetist give medications so that children are as comfortable as possible when they wake up.

Before the operation

Before the operation, the consultant or junior anaesthetist will come to see your child. This is to assess general health, to find out more about the condition that requires an operation, and to explain what is going to happen with the anaesthetic. They will also ask if your child has had any previous operations or anaesthetics and whether there were any problems with these. Very rarely, serious problems with anaesthetics can run in families. The anaesthetist will also ask about any medicines which your

child is taking and any allergies, or any medicines that he or she has to avoid. Some children are allergic to sticky plasters or foods and it is important to mention these.

The anaesthetist will also ask when your child last ate or drank. It is safe to have water until two hours before an anaesthetic, breast milk until four hours before and solid food or formula milk until six hours before. This is because if there is food or milk in the stomach there is a very small chance of inhaling this during the anaesthetic which can be very dangerous. Even small babies do not come to any harm from this amount of time without food or drink, although they can get upset because they are hungry.

Some heart operations are very likely to require a transfusion of blood or blood products and the anaesthetist needs to know if there are any objections to this. If the anaesthetist thinks it is necessary they will ask the nurses to give your child a 'premed' which is a medicine to help with relaxing before an operation. This can be a syrup in small children or tablets in older children. It is usually given about 30 minutes before the operation starts. All children will have a bracelet put on their wrist or ankle which has their full name, birthday and hospital identity number on it.



Going to sleep

At GOSH, parents and relatives are allowed into the room where the anaesthetic is given. (No-one will mind if you prefer not to as there will be a nurse from the ward with your child as well as the anaesthetic team.) Before we start giving the anaesthetic it is important to check the identity bracelet and to confirm that consent has been given for the operation. Sometimes, in older children, some of the equipment we use to monitor the anaesthetic is attached before going to sleep, such as a light on a sticky plaster which goes on a finger or toe. Younger children can wriggle a bit too much so this monitoring is put on as soon as they are asleep.

Children can go to sleep in one of two ways; using an anaesthetic gas with a clear plastic mask, or using a liquid which goes into a drip, which is a tube in the back of the hand or foot. If children have a drip put in, this involves a needle. Before the operation the nurses on the ward will put some cream on to the site for the needle to numb the area first. In small babies and children, finding a site for the needle can be difficult and anaesthetic gas is often preferred. Sometimes older children also request the gas and this is fine. Sometimes a particular anaesthetic is chosen for safety reasons but this would be explained beforehand.

If the liquid is used then your child will go to sleep quite quickly. With the gas it can be a bit slower but it is not unpleasant. The play specialists on the ward can show older children a similar mask and tubes on the ward beforehand. It is quite normal for children to wriggle, have

noisy breathing and not close their eyes immediately, especially when anaesthetic gas is used, so please do not worry about these things if they happen.

Once asleep parents can give their child a kiss and the nurse from the ward will take you back. Heart operations can take many hours but this will be explained to you by the surgical team beforehand.

What happens next?

The anaesthetist has a few things which they need to do so that the operation is as safe as it can be. These will be explained here. Remember, your child is asleep for all of these things.

The monitoring equipment will be attached, if not already. This will be an electrocardiogram (ECG) which consists of sticky dots stuck to the chest wall to monitor the heart, a blood pressure cuff which goes tight when measuring the blood pressure and a light which measures oxygen levels in the blood by shining through a finger or toe. Most children having a heart operation will have seen these monitors before while they were awake.

Secondly a drip is put in, if one has not been put in previously. Some more anaesthetic medicine is given using this drip and a 'breathing tube' is inserted so that the anaesthetist can take over the breathing for the operation. In small children this tube goes into one of the nostrils and in older children it goes into the mouth. A narrow tube is also put into the stomach through the nostril. This keeps the stomach empty.



At least two more 'drips' are needed for most heart operations. One of these goes into an artery (large blood vessel where you may have noticed a pulse) and this is called an arterial line. This provides a very accurate blood pressure measurement which is very important during heart operations. This usually goes in the wrist or at the top of the leg. The other drip goes into a large vein in the side of the neck or the top of the leg. This drip will have several narrow tubes coming from it. This is also used to measure blood pressure and for giving special heart medicines that cannot be given into small veins safely. These drips are routine for heart operations but they do have some small risks such as bleeding or infection. We usually use an ultrasound machine to help us minimise the risk of inserting them.

Finally a tube will be inserted into the bladder so that the function of the kidneys can be monitored.

Once all of these jobs are done the operation can start.

What else?

Some operations on the heart benefit from using an echocardiogram (Echo) machine during the surgery. This is similar to the machine used in clinic where cold jelly is put on the chest, but it has a much smaller end which goes into the oesophagus (food pipe). This lets the anaesthetic and surgical team see what is happening during the operation and whether the surgery is successful. If it is used, it is inserted after the patient is asleep. It carries a very small risk of damage to the oesophagus. A sore throat afterwards is the most common side-effect.

After the operation

After heart operations, children are cared for on the cardiac intensive care unit (CICU) which you may have visited beforehand. The anaesthetic and surgical team move your child up to the CICU. You may see your child being taken in but do not be alarmed if you are not allowed to see him or her as the equipment is running on batteries and it is important to get quickly and safely to CICU. You will be spoken to and allowed in as soon as the operating theatre team have handed over all the details to the CICU doctors and nurses. This can sometimes take half an hour or more.

Usually your child stays asleep after a heart operation for some time to allow the heart and lungs to rest. This can be for a few hours, or for several days, depending on the type of operation. Some children need to be kept very asleep, like an anaesthetic, but this will be explained at the time. Usually children are just a bit sleepy and have a pain killer (morphine) as a drip. The drips and tubes which were explained earlier will still be in and attached to a monitor that looks like a TV screen and shows all the important measurements as numbers and wavy lines. The breathing will be helped by a machine called a ventilator.

In the old days, all children stayed asleep after heart operations, but these days some operations are suitable for waking children up early. This is called 'fast-tracking'. If an operation is suitable for fast-tracking then a nurse will usually visit your child on the ward before the operation to explain the process and the anaesthetist will be aware. In fast-



tracking the breathing tube will be removed straight after the operation in the operating theatre, or early on in the CICU. Your child will breathe for themselves but they might still be quite sleepy as a result of a long operation. For pain relief the anaesthetic team will have started morphine either as a continuous drip, or with a button that older children can press to administer their own pain relief. Other medicines may have been given for sickness and pain too. For more information about fast-track cardiac surgery, please ask for a copy of our information sheet.

**If you have any questions,
please ask the anaesthetist
when he or she visits.**

Notes

Compiled by the Anaesthetics department
in collaboration with the Child and Family Information Group

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