

# SUXAMETHONIUM APNOEA

Suxamethonium (also called succinylcholine) is a drug used in anaesthesia to produce relaxation of a patient's muscles for a short time. It is normally broken down very rapidly in the body by an enzyme called plasma cholinesterase. The effects of suxamethonium normally wear off within a few minutes.

Suxamethonium apnoea (SA), also called succinylcholine or scoline apnoea, occurs when there are abnormalities in plasma cholinesterase and the body has difficulties in breaking down suxamethonium. This means that all the muscles will stay relaxed for longer than expected, including the muscles that are used in breathing. All anaesthetists are trained to recognise if this happens and will keep you safe and asleep until the drug wears off. There should be no lasting effects.

Suxamethonium is not often used for planned surgery nowadays, but it is still commonly used in emergency surgery. Problems with another relaxant drug called mivacurium can also lead to similar difficulties in people who have SA.

## How common is SA?

SA (sometimes also known as sux apnoea) usually runs in families. There are different types of the abnormal enzymes. One in every 25 people (4 per cent of people) have a mildly abnormal enzyme. This usually takes only a little longer than normal to break down the drug. Other types can take up to four hours to stop the drug working, but these types are rare. Muscle relaxants are used to relax muscles to help with control of the airway and lung ventilation, and to enable surgeons to perform some types of operation. They are not needed for all operations.



## Symptoms

If a patient is given drugs to relax muscles, a machine called a nerve stimulator is used to test how relaxed their muscles are. If it shows that the patient's muscles are relaxed, the patient will not be able to breathe on their own if the anaesthetic is ended. The effect of the relaxant usually lasts three to four minutes in patients who do not have SA. In patients who have SA, the effect can last for anything up to four hours.

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## Treatment

All anaesthetists have training to recognise SA. If a patient develops SA, the anaesthetist will just continue using the machine (a ventilator) to help the patient's breathing until the relaxant wears off. The patient is kept unconscious with anaesthetic drugs during this time. Sometimes they may be looked after in the intensive care unit until it is safe to wake them up. There should be no long-lasting effects once the patient has fully recovered.

## Testing

Anyone who knows that someone in their family has SA should have a blood test to check their enzyme levels. GPs can organise this test and it usually takes just a few weeks to get the results. It is important to test for the condition so that the anaesthetist does not use the drugs that can cause SA. You should also let other family members know if you have been shown to have SA.

## Anaesthetic management

If you have SA or are at risk of SA, your anaesthetist will only use suxamethonium if they believe it is essential (and will make plans to keep you anaesthetised until it wears off). Usually they will choose a different drug to relax your muscles during surgery. It is important that you tell your anaesthetist if you or anyone in your family is at risk of SA before any operation. We advise that you keep an SA warning card in your wallet or purse (an example can be found on our website: [rcoa.ac.uk/patientinfo/factsheets](http://rcoa.ac.uk/patientinfo/factsheets)) and wear a warning disc or bracelet in case you are brought into hospital unconscious after an accident, or because of serious illness.

Further information is available in the following article: [bit.ly/2BUfLQw](http://bit.ly/2BUfLQw)

## Suxamethonium Apnoea Identification Card (Scoline Apnoea)

**WARNING – ALERT ANAESTHETIST**  
Prolonged action of muscle relaxant drugs  
Suxamethonium and Mivacurium

Patient name: .....  
Address: .....  
..... DOB: .....  
GP Name: .....  
Address: .....  
This patient was tested on: .....  
Dibucaine No: ..... Fluoride No: .....

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