

# Suxamethonium Apnoea (Succinylcholine or Scoline Apnoea) (SA)

**What is it?** Suxamethonium (succinylcholine) is a drug used in anaesthesia to produce relaxation of the muscles (paralysis). It is normally broken down very rapidly in the body by a substance in the blood, an enzyme called plasma cholinesterase. The effects of suxamethonium normally wear off within a few minutes.

SA occurs when there are abnormalities in this enzyme and the body has difficulties in breaking down this drug. This means the muscles will stay relaxed (paralysed) for longer than expected.

This drug is not often used for planned surgery nowadays, but it is still commonly used in emergency surgery.

Another relaxant drug called mivacurium can also lead to these problems in affected people.

**How common is it?** SA usually runs in families. There are different types of the abnormal enzymes. 4 percent of people have a mildly abnormal enzyme, which usually only takes 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 are rare.

**Symptoms:** while you are still anaesthetised, a machine called a nerve stimulator is used to test for muscle paralysis. If it shows that the patient's muscles are still paralysed, the patient will not be able to breathe on their own when the anaesthetic is ended. The effect of the drug usually lasts three to four minutes in patients without the condition. In patients who have SA, the effect can last for anything up to four hours.

**Treatment:** all anaesthetists have training to recognise SA. This means that in the unlikely event that a patient develops SA, the anaesthetist will use a machine (a ventilator) to help the

patient's breathing until the drug wears off. The patient is sedated during this time to keep them comfortable. 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 of cases of SA in their family 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 can then avoid using the drugs that cause SA if you have it. You should also let other family members know if you have been shown to have SA.

**Anaesthetic management:** if you are found to have or to be at risk of SA, your anaesthetist will only use suxamethonium if they consider it to be essential (and will make plans to keep you anaesthetised until it wears off). Usually they will choose an alternative 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 through illness.

Further information is also available in the following article: <http://bit.ly/2BUfLQw>

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If you have any comments that you would like to make, please email them to:

[patientinformation@rcoa.ac.uk](mailto:patientinformation@rcoa.ac.uk)

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