

Information for patients and families: risks associated with prone positioning during general anaesthesia.

This document is intended as an organisational framework to prepare and inform patients and their relatives. It is not intended as a substitute for informed discussion and consent between the patient and their clinical team.

Introduction

The prone position is required to allow surgical access for many neurosurgical procedures on the brain and spine. However, there are some risks specifically involved with being prone. During a general anaesthetic you are unaware of your surroundings and are unable to move your body or change position. Surgeons, anaesthetists, and nurses work together as a team. We are very experienced in safe and careful positioning of patients and take great care to choose the best position for you for your surgery. This includes using a suitable operating table with supports and protective padding. However, there remains a chance that you may feel uncomfortable after your surgery and complications may occur, even with the most careful positioning.

Stiffness and joint pain

Being immobile in one position for a long time may result in some stiffness or discomfort in your joints. Neck and shoulders are the most commonly affected, but symptoms may occur in other joints, particularly if you have had problems with these in the past. Please let us know beforehand if there are any areas that we need to pay special attention to while you are asleep. We also need to know about previous major joint surgery or any limitations to movement, particularly your shoulders. Symptoms should get better quickly after surgery, but sometimes it might take longer, or you might require physiotherapy to help you get better.

Skin damage

After surgery you may notice some red marks in areas where your body was supported such as the forehead, tip of the nose, cheeks, chin, chest, breasts, hips and knees. Occasionally these might develop into pressure sores or bruising. Very occasionally you may notice some minor skin abrasions. Redness usually goes away within 24 hours, but pressure sores and bruising will take longer. Large breasts are more vulnerable to direct pressure and patients with breast implants are more at risk. Please let the anaesthetic or surgical team know if you have breast implants.

Nerve damage

Prolonged pressure on or close to nerves can result in damage. The nerves that control sensation and movement can both be affected. This may result in symptoms in your arms or legs. You may develop weakness, strange sensations, numbness or even pain. The area affected will vary according to the nerve damaged. Most reported injuries involve the nerves around the armpit and elbow. Although symptoms usually begin immediately, sometimes they may be delayed. Symptoms usually settle by themselves but please let your anaesthetist or surgeon know so that we can address them as soon as possible.

Eyes and face

A common side effect after prone positioning is swelling of the face, particularly around the eyes and mouth which usually goes within few hours. We take special care to protect your eyes and keep them free from any pressure. However, there have been very rare cases of visual loss or even blindness after surgery. Some patients are at greater risk. This includes those who are overweight, who smoke and those with other major health problems, such as high blood pressure, diabetes, pre-existing eye conditions, previous heart attack or stroke. The risk is also increased with longer operations and where there is a lot of blood loss. The risk of loss of vision following prone spinal surgery varies but is most frequently quoted at 1 in 5000 patients. However, this will vary depending on the presence or absence of the risk factors discussed above. The risk will be minimal for most patients having a straightforward operation of less than a few hours duration. Your surgical team will be able to discuss your individual risk with you before your operation.

Other complications

Prone positioning can increase the risk of heart and lung complications, particularly in those who already have severe breathing or heart problems. It is difficult to know how each individual will respond to being positioned prone and, rarely, it may not be possible to continue with surgery. If this happened, you would be woken up and your operation postponed or even cancelled. In very rare cases, and usually where there are other major risk factors, severe harm can occur from a heart attack or stroke. In patients with reduced liver function there have been reports of worsening liver function after prolonged surgery in the prone position.

What is done to prevent any complications during surgery?

You will be carefully assessed by the anaesthetic and surgical teams to assess and limit these risks. The whole theatre team is specially trained and share the responsibility to safely position you. We minimise the risks by:

- careful padding of vulnerable areas
- positioning you in a way which avoids stretching nerves as much as possible
- avoiding any pressure on the eyes
- making sure that your breathing and blood pressure are always satisfactory

Who to contact if you experience any problems after your operation?

If you notice any problems after your operation speak to your surgical team or anaesthetist in the first instance. You may need to be referred for other investigations or to another specialist, depending on the problem. If you have already been sent home please contact your GP or the contact details given on discharge.

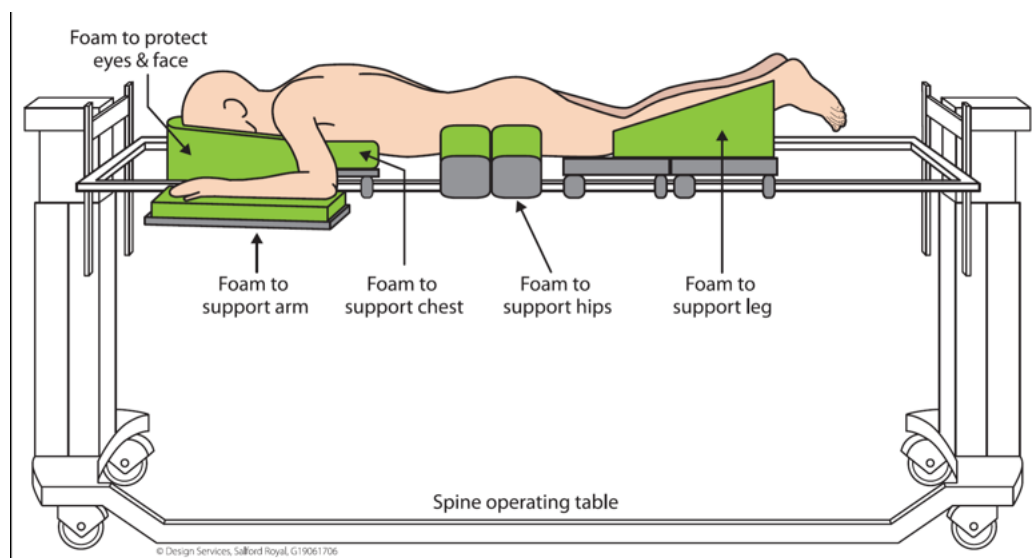


Diagram used with kind permission of Dr Ming Wilson, Consultant Anaesthetist, Salford Royal NHS Foundation Trust

Where can I find more information?

If you would like to discuss any of these risks you should speak to your anaesthetist and surgeon before your surgery. They will be able to advise you which, if any, risks relate to you and the surgery you are having. You can also learn more about risk related to general anaesthesia from a series of leaflets on the Royal College of Anaesthetists website, in particular:

Section 5: Damage to the eye during general anaesthesia

<https://www.rcoa.ac.uk/system/files/05-DamageEye2017.pdf>

Section 11: Nerve damage associated with an operation under general anaesthetic

<https://www.rcoa.ac.uk/system/files/11-NerveDamageGA2017.pdf>

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