

## Trauma and Orthopaedics

# Smoking risk - foot and ankle surgery

### Effects of smoking

If you are going to have foot and ankle surgery, it is **very important** that you give up smoking for:

- at least 8 weeks before surgery
- up to 4 months after surgery

**This is especially important for surgeries such as joint or bone fusions.**

There are toxic chemicals in cigarette smoke such as nicotine, carbon monoxide and hydrogen cyanide.

- Blood carries oxygen and essential nutrients around the body. Nicotine causes sustained narrowing of the blood vessels. This leads to less blood reaching the healing tissues at your surgery site.
- Carbon monoxide reduces your red blood cell's ability to bring oxygen to healing tissues.
- Hydrogen cyanide slows down your cells ability to produce energy and heal.

Cigarette smoke generates large amounts of molecules called "oxygen free radicals".

Oxygen free radicals attack your body's natural defences. They also reduce how well the bones and soft tissues heal and damage the healing tissues.



## Patient Information

Cigarette smoke also triggers other bone-damaging changes. Cigarette smoke increases levels of the hormone cortisol. This can lead to bone breakdown and poor healing.

People who smoke take longer for their bone to re-grow. They are 4 times more likely to develop non-union of bone (the bone not healing).

Cigarettes and tobacco also harm your heart and lungs.

### **Smokers:**

- have an increased need for intensive care
- need longer periods in hospital
- need increased anaesthetic dosage

Smokers also report an increased experience of on-going pain after an operation.

## **Benefits of quitting smoking**

Quitting smoking will have instant benefits. It will reduce your risk of complications after surgery. Quitting smoking will also benefit your long-term health.

- It has been shown non-smokers spend less time in hospital after their operation.
- Non-smokers have a reduced risk of complications such as lung failure. This means there is less need for admission to intensive care. There is also less need for respiratory therapy after surgery.
- Non-smokers have decreased wound related complications such as wound breakdown and infection.
- People that do not smoke, or who have given up smoking, have faster bone healing in people who are undergoing foot and ankle surgery.

Stopping smoking at any time before your operation will benefit you when compared to the acute effects of smoking on your body.

**However, for the positive effect on your bone healing, give up smoking for 8 weeks before and up to 4 months after surgery.**

### Summary

- Smoking decreases blood flow. Smoking also has bad effects on bone cells, red blood cells, and white blood cells. These cells help healing and prevent infection.
- **Surgical wounds take longer to heal and have an increased risk of infection in smokers compared to non-smokers.**
- **Smokers have an increased risk of incomplete or non-healing of the bone.** These issues are not related to how well you usually heal from cuts and bruises.
- Surgery and bone repair is less successful in people who smoke. There is also an increased risk of complications.
- **Remember**, you may not be able to use nicotine patches or gum as nicotine is one of the chemicals that causes damage.

### For help to give up smoking

Contact your GP directly or the Coventry smoking cessation service on 024 7624 6760. Alternatively visit [www.nhs.uk/smokefree](http://www.nhs.uk/smokefree).

Further information on smoking can be found at [www.nhs.uk](http://www.nhs.uk)

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact 024 7696 5225 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

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