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Risks in Foot and Ankle surgery associated with smoking

Patient Information

Effects of smoking

If you are due to undergo Foot and Ankle surgery it is very important that you stop smoking for at least **8 weeks** before your operation and up to 4 months afterwards (especially for operations such as joint/bone fusions).

This is due to the fact that there are toxic chemicals in cigarette smoke, such as: nicotine, carbon monoxide, and hydrogen cyanide.

- Nicotine induces sustained narrowing of the blood vessels, which in turn leads to reduction in blood supply which carries oxygen and essential nutrients to your healing tissues at the operation site.
- Carbon monoxide reduces your blood cells ability to transport oxygen to the tissues.
- Hydrogen cyanide inhibits the system necessary for your cells to produce energy and heal.
- Cigarette smoke also generates huge amounts of oxygen free radicals (molecules that attack the body's natural defenses, including how well the bones and soft tissues heal) damaging the healing tissues. It also triggers other bone-damaging changes, such as increased levels of the hormone Cortisol.

  All of these factors lead to bone breakdown and impaired healing.

Evidence shows that people who smoke take significantly longer time for their bone to re-grow and are **four times** more likely to develop non union of bone (the bone not healing).

It is well known that cigarettes and tobacco also have bad effects on your heart and lungs. Smokers have an increased need for intensive care admissions after operations, and require longer periods of hospitalisation. Smoking has also been implicated in a need for increased anaesthetic dosage and increased experience of ongoing pain after your operation.

Benefits of quitting smoking

It is well known that quitting smoking successfully will benefit your long term health, but there is also evidence that quitting smoking before surgery may have more **immediate** benefits by **reducing the risk** of post operative complications.

- Overall non smokers have been shown to spend less time in hospital after their operation.
- They have a **reduced risk** of pulmonary complications such as respiratory failure meaning there is a reduced need for admission to intensive care after the operation and less need for respiratory therapy after the operation.
- Non smokers also have decreased wound related complications such as wound breakdown and infection.
- Specifically for people who are undergoing foot and ankle surgery, compared to smokers: those people that **do not smoke** or who have **given up smoking** have an **increased rate of bone healing**.

Stopping smoking at any time in the lead up to your operation will be very beneficial in preventing acute effects of smoking on the body. However, for the positive effect on bone healing the rule of **8 weeks** preceding the operation and up to four months afterwards must be the aim.

Summary

- Smoking decreases blood flow and has a negative effect on bone cells, red blood cells and white blood cells that help healing and prevent infection.
- Smokers have more complications with surgical wounds, as they typically **take longer to heal** and have an **increased risk of infection** 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 basic cuts and bruises)

Due to these reasons surgery and bone repair is **less successful** and has an **increased risk of complications** in people who smoke**.** You also will not be able to use nicotine patches or gum as an alternative to smoking, as nicotine is one of the chemicals that causes the damage.

For help to give up smoking you can : contact your GP directly, or the Coventry smoking cessation service on 02476 246760. Alternatively you can visit www.**nhs**.uk/**smoke**free.