



Smoking and IBD- Patient Information Sheet

The relationship between smoking and IBD is complex. In many studies, Crohn's Disease is associated with smoking and the research suggests that smoking increases the severity of the disease. In contrast, smoking appears to decrease the severity of Ulcerative Colitis (UC), although it still carries many other health risks. This information sheet looks at the evidence for the different effects of smoking on these two conditions and what it means for people with IBD. It also looks at ways to help you give up smoking.

Smoking and Crohn's Disease

How does smoking affect Crohn's Disease?

In numerous studies, half or more of adults diagnosed with Crohn's Disease smoked at diagnosis. This suggests that people who smoke are more likely to get Crohn's than those who do not smoke. Franceschi et al 1987 and Silverstein 1989 both demonstrate a greater risk of developing Crohn's with smoking. The research shows that smoking can make Crohn's Disease worse. Smokers with Crohn's in their small bowel are more likely to have more severe symptoms, to require stronger immunosuppressant drugs, and have a poorer quality of life. This effect appears to be greater in women with Crohn's who smoke. Other studies found that smokers were twice as likely to have a flare up of Crohn's when compared to non-smokers. Cottone et al 1994's research shows that smoking changes the disease course in smokers and that those who continue to smoke suffer more bowel symptoms.

Other studies have suggested that smoking also reduces the effectiveness of certain treatments for Crohn's, including the biological drug, Infliximab. Smokers with Crohn's in the small bowel have a greater chance of needing surgery than non-smokers. Also, for those who have already had surgery for Crohn's, the chances of needing another operation over the following few years is over twice as high in smokers.

Smoking has also been shown to have an association with disease location. "In patients who smoke, Crohn's disease tends to appear more frequently in the small intestine, rather than the colon," says study author Dr. Marian Aldhous. "Our data shows that when Crohn's disease is located here, it tends to cause more penetrating or obstructive damage, which would have to be treated by surgery."

How does smoking make you susceptible to Crohn's?

Sommerville made the first initial observation in 1984 that smoking provokes Crohn's disease. Tobacco smoke contains hundreds of chemicals, including nicotine, carbon monoxide and free radicals. It is thought that nicotine plays the most important part. It may be that nicotine acts as an immunosuppressant on macrophages (blood cells which attack and engulf bacteria), meaning that some harmful bacteria cannot be cleared from the gut. Another theory is that certain

chemicals produced by smoking may alter the way the blood flows through the gut, possibly leading to a restriction of blood flow inside the gut walls._

What about the risk of passive smoking?

A study in the USA found that people with Crohn's Disease were more likely to have had mothers who smoked during pregnancy, or to have been exposed to smoking at home during childhood. Another study in Scotland of children with IBD had similar findings regarding mothers smoking during pregnancy, or around the time of birth, although it did not find such a risk from passive smoking during childhood. Researchers in this study believed that it was the early exposure that was significant, smoking by either parent having a similar effect on their unborn baby.² These studies suggest that there may be a risk of developing Crohn's Disease when children and unborn babies are exposed to passive smoking.

If I am a smoker now, is it worth giving up?

In the non-smoker, Crohn's seems milder. Once you have stopped smoking for one year, the chances of a flare up are probably as low as someone with Crohn's who has never smoked. Lindberg et al 1992 showed that people who continued to smoke were over twice as likely to have a flare compared to people who had stopped smoking. Smokers also appear to have a greater need for some of the stronger forms of medical treatment such as immunosuppressant drugs. You are less likely to need repeat surgery if you stop smoking. There is no significant difference in surgery rates between ex-smokers and non-smokers after ten years.

It may be tempting just to reduce the amount you smoke. However, research has found that even light smokers with Crohn's Disease have a more active disease and greater hospitalisation rate. To completely stop smoking has the most benefit.

Smoking and Ulcerative Colitis

How does smoking affect Ulcerative Colitis?

Research studies have shown that the majority of people with UC do not smoke at diagnosis. Some people have been found to develop UC when they gave up smoking. This suggests that smoking may delay or prevent UC, as well as reducing its severity. However, health professionals consider the risks of smoking heavily outweigh any benefits seen in UC, and strongly discourage smoking in everyone, whether or not they have IBD.

There are many studies that show that smokers with Ulcerative Colitis appear to suffer a milder form of the condition. Flare-ups, hospitalisation rates, the need for oral steroids, and colostomy rates are all reported to be lower in patients who smoke. Sanborn WJ, et al 2009 discovered that it is the nicotine in tobacco cigarettes that has a positive influence on symptoms of UC. It is theorized that the nicotine in cigarettes affects the smooth muscle inside the colon. This effect

may alter gut motility (the rate at which food material moves through the GI tract). However, another small study in 2010 failed to find a beneficial effect of smoking for UC.

Why may smoking have a protective effect against Ulcerative Colitis?

There are several possible explanations for this apparent 'protective' effect of smoking on UC. Again, it is thought that of the many chemicals in tobacco, nicotine is the most likely to have an impact. It has been found that people who have UC have a thinner mucus layer in the left colon and rectum when compared to healthy people. It is possible that nicotine may increase the production of this mucus. Nicotine may also suppress the immune system and prevent inflammation in the colon. Another theory is that nitric oxide, released by nicotine, may reduce muscle activity in the colon and reduce the need to go to the toilet urgently.

Should I give up smoking?

It may be tempting to continue or even take up smoking to help your UC. However, smoking increases your risk of chronic bronchitis, lung cancer, other cancers and heart diseases, and is not recommended by health professionals even for people with UC. Also, not all research has come to a similar conclusion. There are many treatments much safer than smoking which could be explored. For more information on drug therapies, see our booklet: *Drugs used in IBD*.

Can nicotine treatment help UC?

There have been a number of studies on the effects of nicotine patches or chewing gum in treating Ulcerative Colitis. The results have been fairly consistent. For mild or moderately active UC, nicotine 3 patches or gum do seem to help. In one UK study over half of the people who were given nicotine improved markedly over six weeks, compared with less than a quarter of those given a dummy preparation.

However, not everybody can tolerate nicotine. In one study, over half the people who tried nicotine treatment for IBD suffered side effects such as dermatitis, nausea, headaches or sleep disturbance. Also, although nicotine appeared to help with active disease, it did not seem to be as beneficial when given as maintenance therapy (taking it continuously) to prevent flare-ups. Research has also indicated that nicotine is less effective than several more conventional IBD drug treatments, such as 5ASAs and steroids.

If you wish to try nicotine treatment, discuss it with your specialist doctor or IBD team.

Can I get help to give up smoking?

The NHS has set up a programme to help people stop smoking (see www.smokefree.nhs.uk). Your doctor should be able to help you.

The NHS can help with Nicotine Replacement Therapy (NRT) which includes patches, gum, lozenges and inhalers. NRT gets nicotine into the blood stream without smoking and its side effects. Medicines, such as bupropion or varenicline, can be used to manage withdrawal symptoms.

You may like to consider including counselling as part of your 'stop smoking' programme. Research has found that a combination of medication and counselling can be more effective than a single approach.

Further help

NHS 'Smoke Free' helpline:

0800 022 4 332

Website: www.smokefree.nhs.uk

You can speak to an advisor online using the smoke free online chat tool.

QUIT

Website: www.quit.org.uk

Quitline: 0800 00 22 00

A charity to help people stop smoking.

Crohn's and Colitis UK Information Line: 0845 130 2233, open Monday to Friday 10am - 1pm. There is an answerphone service outside these hours, or you may email info@crohnsandcolitis.org.uk.

Information staff will help with any IBD related queries.

Crohn's and Colitis Support:

0845 130 3344, open Monday to Friday 1pm - 3.30pm and 6.30pm - 9pm.

This is a supportive listening service staffed by trained volunteers with experience of IBD.

Crohn's and Colitis UK produces a wide range of information sheets and booklets. You can get a copy of any these from their Information Line. They are also downloadable from the website: www.crohnsandcolitis.org.uk