

Smoking and IBD

Introduction

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.

Research also 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. Another study found that smokers were twice as likely to have a flare up of Crohn's when compared to non-smokers.

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. Smokers tend to have Crohn's Disease in the small intestine (small bowel) rather than the colon (large bowel). Fundamental differences in the functions of the small and large bowel may explain this.

How does smoking make you susceptible to Crohn's?

We do not know, although there are lots of theories. 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.

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?

Research strongly supports the notion that giving up smoking is beneficial for people with Crohn's Disease.

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. Another study 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. This suggests that completely stopping 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. However, one 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

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 our Information Line. They are also downloadable from our website: www.crohnsandcolitis.org.uk

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Crohn's and Colitis UK is the working name for the National Association for Colitis and Crohn's Disease (NACC). NACC is a voluntary Association, established in 1979, which has 30,000 members and 70 Groups throughout the United Kingdom.

Membership of the Association costs £12 a year. New members who are on lower incomes due to their health or employment circumstances may join at a lower rate. Additional donations to help our work are always welcomed.