

# 2. Tobacco

(2021 version)

	Page No.
Contents	
Introduction	2
How It Is Taken	2
Health	3
The Law	8
Tobacco statistics	9

# Introduction

Tobacco is the name given to the dried leaves of the tobacco plant. It belongs to a family of plants called Nicotiana. The tobacco plant originally grew wild in America where the native Indians smoked the dried leaves for religious reasons, as well as for pleasure, from as early as 1BC. For American Indians smoking a pipe of tobacco with former enemies was a sign of peace.

The first Europeans to encounter tobacco were the Spanish explorers following the discovery of America by Christopher Columbus in 1492. They introduced tobacco and the habit of smoking to Europe by taking tobacco seeds back to Spain. The habit then became popular in Portugal and finally spread throughout Europe. Britons were introduced to tobacco when Sir Francis Drake returned from the Americas in 1572 and introduced pipe smoking. Sir Walter Raleigh is known to have made smoking popular in the UK.

At the beginning of the 19th century cigars became popular in Britain but it wasn't until the 1850s that British soldiers in the Crimean war met French and Turkish armies smoking cigarettes. Introduced to Britain, cigarettes became more popular than cigars because they were cheaper.

Today tobacco is the most widely grown non-food crop in 120 countries. Less developed countries account for 72% of the total land area under tobacco cultivation. Growing tobacco means that less land is available for food crops and it has been estimated that 10 to 20 million people could be fed by food crops grown instead of tobacco.

## How It Is Taken

Throughout history tobacco leaves have been chewed, 'sniffed' or smoked. The following describe these various methods:

Cigarettes:

People smoke cigarettes by inhaling the smoke into their lungs where it is absorbed into the bloodstream. Some people smoke 'roll-ups', where the smoker rolls his own cigarette with paper and loose tobacco, or 'low tar' cigarettes, which come ready-made with a filter which is meant to reduce the amount of tar, and also nicotine, inhaled. A smoker may turn to low tar cigarettes as a 'healthier' option, but may compensate for the fact that he is getting less nicotine by inhaling more deeply or smoking more. Street names include cigs, fags, ciggies, rollies, smokes.

E-cigarettes:

Electronic cigarettes were developed in 2007 and are increasingly popular as they are presented as a risk-free, smoke-free and cheaper alternative to tobacco cigarettes. It has two parts – one with liquid nicotine, a heating element and mouthpiece and another with a battery and an LED light. When the user sucks the cigarette, the nicotine is vapourised and inhaled through the mouth. This way, the smoker is not inhaling tar or carbon monoxide like smokers of regular cigarettes.

Research on effects of electronic cigarettes - both short-term and long-term - is extremely limited, and there are currently no legal restrictions in place for purchasing them in shops or online.

Pipes and cigars:

Pipe and cigar smoke is much stronger than cigarette smoke. By inhaling the smoke, a smoker will be getting more tar in the lungs too. Many cigar smokers do not actually inhale the smoke into their lungs. Water pipes, also called 'shisha', hookah, hubble-bubble or nargile, have become popular around the UK in recent years. These are mistakenly thought by many users as a safer option to cigarettes, due to its fruit flavours and a milder, sweeter smell. However, smoking shisha involves similar risks to smoking cigarettes, and in an hour-long shisha-smoking session, the user can inhale the equivalent of 100 tobacco cigarettes!



Smokeless tobacco:

Dry snuff is tobacco that is dried and finely powdered. It is sniffed through the nose and the drug is absorbed into the bloodstream via the mucous membranes in the nose. Moist snuff or tobacco bags are small sachets of tobacco that are put in the mouth and sucked.

Tobacco was originally smoked in pipes but Charles II discovered 'snuff' in France and it became an 'in-thing' to do.

Chewing tobacco is tobacco that is coarsely cut and chewed in the mouth.

By chewing, the chemicals in the tobacco are passed on into the bloodstream through the mouth and stomach. The level of effects is the same but it takes longer to be absorbed into the body this way.



## Health

### Tobacco and the body

Tobacco products contain about 4000 different chemicals. Four of them are:

#### 1. Carbon Monoxide

This is a gas which readily combines with the haemoglobin in the blood. This means that when it is breathed in the haemoglobin can no longer carry the oxygen to all parts of the body in order for it to work properly, in particular the brain and heart. In regular smokers, 10% or more of the oxygen-carrying capacity of the blood may be lost, resulting in poor muscle action and hardening of the arteries. This in turn may lead to high blood pressure, strokes or heart attacks.

#### 2. Tar

This substance can cause changes in the lung cells and may lead to lung cancer. The risk for smokers to get lung cancer is much higher than for non-smokers, and despite modern methods of treatment, it is still a major cause of death. Tar may also clog up the airways.

### 3. Nicotine

Nicotine is an alkaloid (a nitrogen-containing chemical made by plants). Other drugs that are also alkaloids are cocaine, caffeine and morphine. Nicotine is an extremely powerful drug. It is found in the tobacco leaf and when the cigarette is lit it evaporates, attaching itself to minute droplets in the tobacco smoke inhaled by the smoker and reaching the brain within 10-19 seconds.

Nicotine is a stimulant. It speeds up the activity of the brain and central nervous system. It also speeds up the heart rate, raises the blood pressure and narrows the blood vessels. It is a poison to the body. The amount of tar and nicotine taken into the body does not just depend on the number of cigarettes smoked but also the way cigarettes are smoked. There is a big difference between 'puffing' a cigarette and inhaling the smoke deeply into the lungs.

Many smokers say that smoking lifts them up when they are low, brings them down when they are fired up, makes them behave in a relaxed, friendly, communicative manner and it gets them going. This is probably true for many people. The effects of nicotine are dependent on what mood the person is in and what expectations they have, just the same as with other drugs. When a smoker is in need of a cigarette, they can often behave in an irritable manner, due to the reduced levels of nicotine in their body creating withdrawal symptoms quite quickly.

Tobacco is the only legally available consumer product which kills people when it is used entirely as intended.

### 4. Additives

Additives are used to make tobacco products more acceptable to the consumer. There can be up to 600 permitted additives in a cigarette. (ASH, 2004) These include humectants (moisturisers) to prolong shelf life, sugars to make the smoke seem milder and easier to inhale, and flavourings such as chocolate and vanilla. While some of these may appear to be quite harmless in their natural form they may be toxic in combination with other substances. Also, when additives are burned, new products of combustion are formed and these may also be toxic.

## Smoking and its effects

A lot of people smoke, whether they are aware of the effects of it on their body or not. Smoking has been glorified in various ways over the generations, and for a lot of people it creates the opportunity to socialise or 'fit in' with a particular group. Tobacco smoking involves the inhalation of tar, nicotine, carbon monoxide and other gases.

Some of the possible short-term positive and negative effects from smoking are:

- relief from stress and anxiety
- helps concentration and alleviates boredom
- suppresses appetite
- increases pulse rate and blood pressure
- bad breath

- cough and sore throat
- first time users often feel sick, dizzy and suffer headache

However, just as for all other drugs, smoking does not only affect the person who smokes. There are financial issues, health issues for people around the smoker and other community issues. Smoking has been shown to be a contributory factor in cancers of the bladder, pancreas and kidney. (ASH, 2004)

### Tobacco vs alcohol addiction

Tobacco use does not produce the same immediate social problems as alcohol or illegal drugs but it causes far more deaths throughout the world.

### Smoking and pregnancy

Women who smoke will find it takes longer to conceive than women that don't smoke. During pregnancy, every cigarette smoked passes nicotine and carbon monoxide into the baby's bloodstream. There is also a higher rate of miscarriages in pregnant smokers.

### Long-term health risks from smoking:

· Osteoporosis	· Type 2 diabetes	· Crohn's disease
· Angina	· Duodenal ulcer	· Lung diseases (cancer, bronchitis, emphysema)
· Gum disease	· Heart disease	· Rheumatoid arthritis (heavy smokers)
· Hearing loss	· Influenza	· Peripheral Vascular Disease
· Stroke	· Neck and back pain	· Tooth loss
· Psoriasis	· Skin wrinkling	· Tobacco Amblyopia (loss of vision)
· Cataracts	· Tuberculosis	· Pneumonia

### Effects on others

Passive smoking (involuntary or second-hand smoking) occurs because a smoker inhales only 25% of the cigarette smoke, thus releasing the other 75% into the atmosphere. This 75% is known as 'sidestream' smoke or environmental smoke and there are many toxins present in higher concentrations in this than in mainstream smoke. This unfiltered smoke also contains a high proportion of nicotine, tar and carbon monoxide, which can affect non-smokers who are continually living or working in such an atmosphere.

Passive smoking causes annoyance by making hair and clothes smell unpleasant. It can cause symptoms such as eye irritation, headache, cough, sore throat, dizziness and nausea. (Fielding, 1985) It also aggravates existing conditions such as asthma.

Findings from a national confidential inquiry into stillbirths and deaths in infancy provided the strongest evidence to date that Sudden Infant Death Syndrome

(SIDS) is associated with smoking. Infants of mothers who smoke have almost five times the risk of dying from SIDS compared to those whose mothers do not smoke.

Smoking among workers results in lost productivity due to sick absences, impaired productivity due to poor health, and interruption of production from time given to smoking.

## Influencing factors

Young people can be rebellious and are prone to risky behaviour. These tendencies are accentuated in people with a poor self-image, and those with poor self-image are also likely to succumb to peer pressure, which is especially powerful among young people. To go against the flow is difficult, to say 'No' has to be learnt and the reasons for saying no need to be understood.

Children will also be influenced by what they experience at home and the parents' attitude towards smoking is an important influence on whether their child will smoke. So although they may have rebellious tendencies, children are less likely to smoke if they perceive a strong disapproval from their parents.

Advertising is less of an influencing factor since heavier regulations have been introduced, see 'The law'.

## Dependence

The physically addictive part of tobacco is the stimulant drug nicotine. Nicotine excites the central and autonomic nervous systems. The reason many smokers say that cigarettes keep them calm is that as the level of nicotine reduces in the blood, tense feelings return to the smoker, and having another cigarette restores the levels the smoker requires, which brings with it a feeling of relief, hence the calmness. As with alcohol dependence, it is the need to keep up the level of the drug in the blood that has the smoker going back to tobacco products over and over again.

It is also common to develop a psychological dependence to smoking. This occurs with people who inhale the smoke and those who do not. Someone who smokes but does not inhale might not be physically dependent on nicotine but might develop a psychological dependence on having a cigarette or cigar in various situations.

## Tolerance

The tolerance to a drug that can build occurs with nicotine, but due to the complex nature of the effects of nicotine on the body, a smoker won't necessarily need to keep increasing the 'dose' of nicotine they take. A smoker will eventually find an amount per day that suits them and keep to that, and this amount differs dramatically between smokers.

## Withdrawal symptoms

There are a variety of withdrawal symptoms a smoker can expect should they decide to quit smoking. Not all of them affect everybody, but the most common are:

- irritability/aggression

- restlessness
- poor concentration
- increased appetite
- light-headedness
- night-time awakenings
- craving
- possible weight gain

It is only the increased appetite and craving that goes on for longer than a month. The rest of the symptoms last for anything from a week up to a month.

## Nicotine Replacement Therapy (NRT)

A 'cure' for smoking can be to control nicotine intake by giving it to the body in ways other than through cigarettes, cigars etc. Nicotine patches, inhalers and chewing gum can help people to quit smoking without experiencing serious withdrawal symptoms.

NRT can be very useful during the first few weeks because it can help people to control their body's withdrawal symptoms. Once they get used to being a non-smoker they can wean themselves off the NRT altogether. This therapy is much less addictive and much safer than smoking cigarettes (no tar, no carbon monoxide etc.) but it's not a magic cure; people need to be committed to quitting. Research has shown that if people are ready to quit, NRT patches, gum and inhalers can double their chances of quitting smoking successfully. These methods do not get rid of the withdrawal symptoms completely and they do not work equally well for everyone. That said, they boost confidence and give room to concentrate on kicking the psychological part of the smoking addiction before dealing with the physical nicotine addiction.

## Nicotine patch

Nicotine patches, available over the counter in the UK, are stuck to a part of the upper body for 16-24 hours and are a particularly unobtrusive form of nicotine replacement therapy because people don't have to do anything (no chewing, no inhaling). Nicotine from the patch is slowly absorbed into the bloodstream throughout the day.

There are different strengths of patch. Heavy smokers need to start on the strongest strength, and work down to the lowest strength. There are a large number of possible side effects, but in general terms people should be less likely to get side effects with these than if they continued smoking.

## Nicotine gum

If people are dependent on cigarettes as an integral part of their routine then the gum is probably the right choice. The gum is chewed slowly and then rested between the gum and the cheek while the nicotine is absorbed through the cheek into the bloodstream. A fixed schedule of 10 – 12 pieces a day for 1 – 3 months may give the best results. Chemists are able to advise people as to the length of treatment and the strength of gum that would suit them best.





## Nicotine inhaler

This is the first NRT product to deal with both elements of the smoking addiction – physical (nicotine dependency) and psychological (habit). People suck on the end of the inhaler and air is pulled through the cartridge creating a nicotine vapour, which is then absorbed through the mouth and throat into the bloodstream.

## The Law

Selling any tobacco products to children under 18 is prohibited.

The Tobacco and Promotion Act (2002) banned tobacco advertising and promotion in the UK. As is inevitable with any advertising, the billions spent globally by the tobacco industry on promotion, sponsorship and advertising lead to increased tobacco use, and this is confirmed by economic studies. More smoking leads to more addiction, more illness and more early death. Tobacco advertising kills people by increasing tobacco consumption, so banning it will save lives.

The bill to ban tobacco advertising and promotion is one part of a comprehensive package of measures to tackle smoking. It sits alongside media campaigns, the NHS Smoking Help-line (0800 022 4 332), smoking cessation programmes, NRT, Zyban<sup>®</sup> (bupropion) and Champix<sup>®</sup> (varenicline), prescription only medicines that reduce cravings for nicotine, and actions to tackle smuggling.

Since 1 July 2007, smoking is banned in public places in England. Northern Ireland, Scotland and Wales already had similar rules, which means that pubs, train stations, work places and any other public space will have to be smoke free with the only possibility of designated areas for smoking being outside.

In May 2016, regulations on plain packaging of tobacco products will come into force. Companies will have to remove the attractive and promotional aspects of packaging, and the appearance of all tobacco products (including the colour of the pack) will be standardised (ASH 2015).



# Tobacco Statistics

Last updated December 2020

## Smoking and death

Every year smoking causes around 77,800 deaths in the UK from smoking-related illnesses. Smoking is the leading cause of preventable death and disease in the UK.

## How much do people smoke?

There are around 7.2 million adults who smoke in the UK. This number has more than halved since 1974, so smoking is much less prevalent than it used to be. In 2010, 21% of men and 20% of women smoked. These days 16.5% of men and 13% of women smoke.

## Smoking and money

It has been calculated that the cost to society (in England) from smoking is £12.9 billion a year. This includes the cost to the NHS of treating diseases caused by smoking and lost productivity due to premature deaths, smoking breaks and absenteeism.

In 2015/16 the government earned £9.5 billion in revenue from tobacco duties (excluding VAT).

## Smoking and cancer

27% of all cancer deaths can be attributed to smoking. It causes around 87% of all deaths from lung cancer in men and 84% in women. Non-smokers are also at risk of contracting lung cancer from exposure to other people's smoke. 19% of all cancers are linked to exposure to tobacco smoke.

## Smoking and pregnancy

Babies born to mothers who smoke are lighter by between 162 and 226 grams. 10.6% of mothers are smokers at the time of delivery of their baby.

## Young people and smoking

The proportion of children who have ever smoked continues to decline. In 2018, 16% of 11-15-year-olds had smoked at least once, the lowest proportion since the survey began in 1982 when 53% had tried smoking. In 2008, 32% of young people had ever smoked. The figures show that girls and boys are as likely to smoke as each other. The percentage of 14-year-old regular smokers has declined from 9% in 2008 to 3% in 2018.

(Action on Smoking and Health, 2020)