



*X-Plain™*  
*Smoking – The Facts*  
**Reference Summary**

Smoking is a major public health problem. About half a million deaths per year in the United States are due to smoking. These deaths happen as a result of cancers, breathing problems, strokes, and many other smoke-related health problems.

Smoking causes an even higher number of disabilities, pain, and suffering from different diseases.

This reference summary will help you understand why smoking is addictive and unhealthy for smokers and people around them.



## **Smoking**

Cigarette smoke contains thousands of chemical agents; at least 60 of these cause cancer!

The addictive ingredient in cigarette smoke is nicotine. Nicotine is VERY addictive. Cigarette companies are aware of this and manipulate levels of nicotine in cigarettes to make sure that smokers become addicted.

Nicotine is quickly absorbed into the bloodstream; within 30 seconds of entering the body, it reaches the brain. It causes the brain to release special chemicals that create feelings of pleasure and energy. One of these chemicals is called epinephrine. The feelings that are created are usually called a “high” or a “buzz.”

Within half an hour, the “buzz” fades away and the smoker is left feeling depressed and tired. This feeling is what causes smokers to light up the next cigarette. The cycle of stimulation and depression keeps repeating, which leads to addiction.

Since the body is able to build up a high tolerance to nicotine, smokers gradually smoke more and more in order to get the same “high.”

It has been proven that the craving for nicotine increases as levels of emotional and physical stress increase. Therefore, feeling stressed out can lead to more smoking.

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When a person decides to stop smoking, the craving for nicotine leads to withdrawal symptoms. These symptoms include:

- Short temper
- Anger
- Aggression
- Negative feelings.

Besides nicotine, cigarette smoke also includes carbon monoxide, also called CO. This gas is the same gas that kills people who commit suicide by turning their car engine on and closing the garage door!

In small quantities, like the amount a smoker gets from smoking, exposure to carbon monoxide increases the risk of developing heart disease.

Tar is also found in cigarette smoke; it has been linked to different kinds of cancer, as well as damage to the lining of the lungs.

When a person smokes, it not only affects the smoker, but also the people who are exposed to the smoke. Anyone nearby when a person is smoking breathes in the smoke that is exhaled from the smoker, as well as the smoke that comes from the cigarette, cigar, or pipe. This is known as secondhand smoke.

## **Cancer**

Most of the cells that our bodies are made of continually divide and die off in a very controlled way.

Some chemicals can interfere with the cell division process, causing a cancer to develop.

Cancers in the body are given names depending on where the cancer starts. For example, cancer that starts in the lungs is called "lung cancer".

Cancer tends to leave its original location and spread through the body; this is called "metastasis." When the body cannot keep up with the growth of cancer, the patient dies.

As a cancer grows and spreads through the body, it can become very painful, especially when it spreads to the bones. Cancer can also cause the bones to become weak, resulting in fractures.

When a cancer spreads to the brain it can lead to weakness, paralysis, coma, and death.

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Smoking has been linked to at least 1/3 of all cancer related deaths in the United States. It has been shown to cause:

- Lung cancer
- Cancer of the mouth and oral cavity
- Cancer of the larynx, or breathing tube
- Cancer of the esophagus, or feeding tube.

Cigarette smoking is the #1 cause of lung cancer death in men and women.

Smoking has also been linked to cancer of the pancreas, kidney, bladder and the cervix, which is a part of the uterus.

## **The Lungs**

All of the toxic gases that are inhaled when a person smokes damage the lining of the lungs.

In healthy lungs, the lining is very smooth and delicate; it allows for the exchange of oxygen and carbon dioxide between the blood and the air.

The smooth, delicate membranes of the lungs become very thick, black, and scarred in smokers. This makes it very hard for the lungs to do their job.

Very small hairs that can be seen only under a microscope cover some of the lining of the breathing tube and lungs; these are called cilia. Their function is to get rid of dust, bugs and other harmful elements that we might breathe in.

Since smoking destroys the cilia, a smoker's lungs have very little ability to clean themselves. This leads to repeated lung infections or pneumonia, which can cause scarring and difficulty breathing.

The names of some of the lung diseases that smoking causes are:

- Bronchitis,
- COPD (Chronic Obstructive Pulmonary Disease)
- Emphysema,

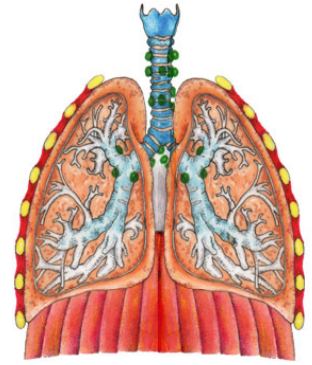
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- Bronchiectasis,
- Reactive airway disease

These lung diseases make other lung conditions, such as asthma, even worse.

Lung diseases can be very disabling. Patients suffering from lung disease may not be able to live without an extra supply of oxygen at all times. When a person cannot breathe well, they become dependent on others, as well as unable to exercise and stay in shape.



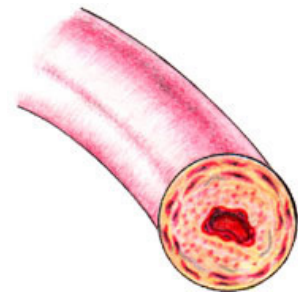
## Heart & Blood Vessels

Smoking causes the blood vessels of the body to become narrow and blocked. This happens because smoking triggers cholesterol to deposit in the blood vessels. Smoking also causes blood to clot inside the blood vessels, making them even narrower; this is called thrombosis.

The combination of cholesterol deposits and thrombosis increases the risk of heart attacks and irregular heart rate. Both conditions can lead to disability and death.

The effect of smoking on the heart is even worse in patients who have:

- A family history of heart problems
- Elevated cholesterol or
- Previous heart problems.



When the blood vessels of the brain are affected, there is a higher chance of strokes developing. Strokes are usually very disabling, affecting sensation and motor skills. Strokes also affect speech, understanding, and the ability to be independent.

When blood clots in the veins of the legs or pelvis, a condition called “deep vein thrombosis” can develop. The blood clots can get dislodged and travel to the lungs, which will kill the patient instantly. This is more common in women who take birth control pills and are older than 30.

Cholesterol deposits and blood clots can affect the small blood vessels of the skin, which can cause a person to have wrinkled skin and look a lot older than they really are.

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Cholesterol deposits and blood clots can also cause joints to fall apart. Smoking can hasten and worsen the degeneration of the joints, especially the disks of the spine. This can result in severe back and leg pain, which can be very disabling.

When blood flow to the arms or legs is compromised, major vascular operations may be needed to restore the flow. In some cases, these operations are not successful and amputation of a leg may be necessary.

## **Stomach & Intestines**

Smoking can cause heartburn to occur more often and more severely.

Smokers are at a higher risk of having ulcers and the ulcers of smokers tend to heal slower than in non-smokers.

Smoking also affects the way the liver functions. Smokers who take medication often cannot take the same amount as non-smokers because their liver cannot process it. Smoking can also make cirrhosis worse; cirrhosis is a liver disease.

People that smoke are more likely than non-smokers to be affected by Crohn's disease. Crohn's disease is a disease of the intestines; it causes severe inflammation, diarrhea, and bleeding in the stools that may require many operations.

## **Women's Health**

Men and women are both affected by the smoke related health problems that have already been mentioned. However, there are additional health risks that are specific to women.

Women smokers who take birth control pills have an increased risk of stroke, narrowing of blood vessels, and thrombosis.

Women smokers have an increased risk of cervical cancer, which is cancer that affects the cervix of the uterus.

It is more difficult for women smokers to conceive a child than it is for non-smoking women. Women smokers who do get pregnant are at a higher risk of having the baby stillborn, premature, or born weighing much less than normal.

## **Men's Health**

Just as there are risks specific to women smokers, there are additional risks that are specific to men who smoke.

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Cholesterol deposits and blood clots in men's blood vessels can cause erection problems and impotence. Healthy blood vessels are essential in order to produce an erection. When blood flow to the penis decreases, erections may become very weak or even non-existent.

Smoking can lower sperm counts and could lead to fertility problems.

## Children

Children who are exposed to smoke on a regular basis are truly the innocent victims of smoking.

The unborn children of smoking mothers are more likely to suffer from behavior disorders.

Studies have also shown that daughters of smoking mothers are more likely to smoke when they grow up than daughters of non-smoking mothers.

Children exposed to smoke are at a higher risk of sudden infant death syndrome (SIDS).

Children who are exposed to smoke are also more likely to have bronchitis, pneumonia, ear infections, and intensified asthma than children not exposed to smoke.



## Surgery Patients

There are additional possible complications for smokers when they have surgery under general anesthesia. This is why surgeons ask patients who smoke to stop smoking as early as 2 weeks before surgery, if possible.

Smokers are more likely than non-smokers to develop pneumonia after an operation.

Smokers are more likely to get infections and their healing usually takes longer.

Smokers undergoing surgery to fuse bones together have a higher chance of not healing very well.

## Conclusion

Doctors now understand that smoking cigarettes is an addiction and it needs to be treated as such. Recent research is discovering the biochemical reasons of addiction to cigarettes. Such research will result in newer, more effective treatments to overcome the addiction.

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More than ever before, people are trying to quit. There are numerous programs available to help smokers kick the habit.

When a patient quits smoking the body tends to recover and repair some of the damages caused by smoking.

For example, within 3 months of quitting, lung function improves by about 30%.

In about one year, the risk of heart problems is half what it would have been, if the patient had continued to smoke.

After 5 year of smoking cessation, the death rate from lung cancer is also cut in half. The risks of other cancers also go down, and the risk of strokes becomes similar to that of non smokers.

It is therefore NEVER too late to quit smoking.

The best way to prevent all of the problems caused by smoking is: DON'T START!

Therefore, it is VERY IMPORTANT that adults DO NOT encourage children to smoke. It is equally as important to support smokers who are trying to quit.

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