Frequently Asked Questions: Smoking, second hand smoking, nicalert, health effects of smoking and more:

What is secondhand smoke?
Secondhand smoke is a combination of the smoke produced from a burning cigarette and the smoke exhaled by the smoker. Second-hand smoke is also known as passive smoke or environmental tobacco smoke (ETS). Such environmental tobacco smoke (ETS) can be easily recognized by its distinctive odor as it contaminates the air and gets retained in clothing, curtains and furniture, etc. Many people, who are not into smoking, find ETS unpleasant, annoying, and irritating to the eyes and nose.

What chemicals are present in secondhand smoke?
More than 4,000 chemicals have been identified in mainstream tobacco smoke; however, the actual number may be more than 100,000. Secondhand smoke contains a number of poisonous gases and chemicals, including hydrogen cyanide (used in chemical weapons), carbon monoxide (found in car exhaust), butane (used in lighter fluid), ammonia (used in household cleaners), and toluene (found in paint thinners). Some of the toxic metals contained in secondhand smoke include arsenic (used in pesticides), lead (formerly found in paint), chromium (used to make steel), and cadmium (used to make batteries).

Does nicotine present in the smoke causes cancer?
Many people believe that nicotine causes cancer but the fact is that it only leads to addiction. Whenever a person inhales cigarette smoke, the nicotine present in the smoke is rapidly absorbed into the blood and its affect on the brain is shown within 7 seconds. In the brain, nicotine activates the same reward system as do other drugs of abuse such as cocaine or amphetamine, but to a lesser extent. Nicotine acts on this reward system and is believed to be responsible for drug-induced feelings of pleasure and, over time, addiction. It also increases alertness and enhances mental performance. Studies indicate that nicotine by itself may not be harmful but, when it is combined with other harmful substances such as areca nut, cancer causing catechu substitutes like gambier & magnesium carbonate, it may show damaging effects.

What are the health effects of exposure to secondhand smoke?
Secondhand smoke exposure is a known risk factor for lung cancer. Approximately 3,000 lung cancer deaths occur each year among adult nonsmokers in the United States as a result of exposure to secondhand smoke. Secondhand smoke is also linked to nasal sinus cancer. Some research suggests an association between secondhand smoke and cancers of the cervix, breast, and bladder. Breathing second-hand smoke can be more dangerous than inhaling smoke through a cigarette. It has twice as much nicotine and tar as the smoke that people smoking inhale and five times more carbon monoxide, a deadly gas that starves your body of oxygen.

I have been married to a Chain smoker for 10 years now. What are the health risks of chronic inhalation of second hand smoke?
People who do not smoke, and who are exposed to the toxic chemicals in second-hand smoke on a regular basis, can suffer serious and life-threatening health problems. In the long term, people exposed
to second-hand smoke have a greater risk of suffering from lung cancer, nasal sinus cancer, heart disease, stroke, and breathing problems, including increased coughing, wheezing, pneumonia, bronchitis, and asthma. People who live with someone who smokes and are exposed to tobacco smoke on a regular basis have around 30 per cent increased risk of developing lung cancer and heart disease. Even as little as 8 to 20 minutes of passive smoking can cause physical reactions linked to heart disease and stroke, such as increased heart rate, less oxygen to the heart, and constricted blood vessels that increases blood pressure and makes the heart work harder.

What is Sudden Infant Death Syndrome?

Infants who breathe second-hand smoke have a greater chance of dying from Sudden Infant Death Syndrome (SIDS), also known as crib death. More than three times as many infants die from second-hand smoke-related SIDS as from child abuse or homicide. Children who are exposed to second-hand smoke have double the risk of getting bronchitis and pneumonia. They also get more ear infections and suffer more from chronic coughing, wheezing and breathlessness.

How does second-hand smoke harm in Pregnancy?

Smoking makes it harder to conceive, irrespective of which partner smokes. Both female and male smokers have lower fertility levels, while adults who were born to mothers who smoked have less chance of becoming a parent themselves. Pregnant women exposed to second-hand smoke are in a great danger of miscarriages and babies with low birth weight. Smoking also reduces the chances of IVF succeeding. It's thought nicotine reduces a woman's fertility by affecting the production of hormones that are necessary for pregnancy. Smoking also impedes the transportation of the egg through the Fallopian tubes to the womb.

How can the cigarette-induced fetal damage be prevented?

Cigarette smoking is not only harmful to an individual, but it is particularly detrimental during the reproductive period, when it may not only harm the unborn child, but may also damage the reproductive capacity of the next generation. The most important point that can be made about cigarette-induced fetal damage is that it is totally preventable and only by informing both prospective parents about the potential dangers of tobacco smoking before conception, and particularly the dangers of maternal smoking whilst pregnant, can we hope to reduce these ever increasing statistics of pre-term births, low birth weight infants and children presently suffering from various neuro-developmental disorders and general ill-health.

How is secondhand smoke exposure measured?

Secondhand smoke can be easily measured by testing indoor air for nicotine or other smoke constituents. Exposure to secondhand smoke can be tested by measuring the levels of cotinine (a nicotine by-product in the body) in the nonsmoker's blood, saliva, or urine. Nicotine, cotinine, carbon monoxide, and other evidence of secondhand smoke exposure have been found in the body fluids of nonsmokers exposed to secondhand smoke.

Do all smokers get cancer?
Many years of research has proven that smoking causes cancer but this does not mean that all those who smoke will definitely get cancer or also it does not mean that that all those who do not smoke won't. Rather, as a matter of fact, it means that smoking greatly increases the risk of suffering from cancer & smokers are, on an average, much more likely to get cancer as compared to the non-smokers.

**What is the impact of second hand smoke on children with asthma?**

Irritants in tobacco smoke can cause the lining of the airways to swell making it difficult for a child to breathe. Tobacco smoke or even the stale odor of old smoke in a car can trigger an asthma attack in a child. Also exposing children with asthma to second-hand smoke in the home increases the number of emergency room visits and hospital stays. Exposure to second-hand smoke can cause children without asthma to develop it.

**What is a safe level of secondhand smoke?**

There is no safe level of exposure to secondhand smoke. Studies have shown that even low levels of secondhand smoke exposure can be harmful. The only way to fully protect nonsmokers from secondhand smoke exposure is to completely eliminate smoking in indoor spaces. Separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot completely eliminate secondhand smoke exposure but it can certainly reduce it.

**How to protect the passive smoker?**

Passive smoker can be protected by duly recognizing that everyone has the right to breathe air not contaminated with tobacco smoke, that all workers have the right to work in places where they are not exposed to the harmful effects of SHS, by increasing consciousness that smoking harms not only the person who smokes but also those around him/her. This is especially important to protect people from exposure to SHS at home, where legislation has no effect and Legislature in favor of an individual’s right to a smoke-free environment. Governments can legislate to protect people from involuntary exposure to tobacco smoke by establishing smoke-free public places and workplaces.

**What are the benefits of timely quitting smoking?**

For an addict, quitting smoking is one of the most important things he/she will ever do. If you are an addict, quitting smoking will certainly lower your chance of having a heart attack, stroke, or cancer. If the addict is pregnant, quitting smoking will improve his/her chances of having a healthy baby. The people you live with, especially the children, will be healthier, not to mention your own health.

**What is the first thing I need to do once I’ve decided to quit?**

You should set a quit date-the day when you will break free of your tobacco addiction. Then, consider visiting your doctor or other health care provider before the quit date. She or he can help by providing practical advice and information on the medication that is best for you. Strong will power and motivation is a major factor if you wish to succeed.

**What medication for smoking would work best for me?**

Different people do better with different methods. Some medications are currently approved by the U.S. Food and Drug Administration to help in quitting smoking: A non-nicotine pill (bupropion SR), Nicotine
gum, A nicotine inhaler, A nicotine nasal spray and Nicotine patch. The gum, lozenge and patches might be available at your local pharmacy, or you can ask your health care provider to write you a prescription for one of the other medications. The good news is that all these medications have been shown to be effective in helping smokers who are motivated to quit.

How will I feel when I quit smoking? Will I gain weight?

Many smokers gain weight when they quit, but it is usually less than 10 pounds. Eat a healthy diet, stay active, and try not to let weight gain distract you from your main goal—quitting smoking. Some of the medications to help you quit may help delay weight gain. Some research suggests that metabolism can sometimes change when you quit smoking, but in general this is not particularly significant. Snacks that replace cigarettes seem to cause the problem, especially if they are sweet. You should try to keep your snacks under control or eat low carb food such as fruits. As you will feel fitter when you quit smoking. Try increasing exercise. It can be part of the new you. It keeps your body and your mind occupied and active

What kinds of activities can I do when I feel the urge to smoke?

When you first try to quit, change your routine. Drink tea instead of coffee. Eat breakfast in a different place. Exercise and drink a lot of water and other fluids. Even medications can help you stop smoking and lessen the urge to smoke. You can even go to individual, group, or telephone counseling or you can attend various special workshops and counselling sessions for people who want to quit held by various local hospitals and health centers

What are the Withdrawal symptoms of smoking?

The first few weeks after quitting smoking are usually the most difficult and it normally takes at least 8-12 weeks before a person starts to feel comfortable. Physical symptoms include tingling in the hands and feet, sweating, intestinal disorders (cramps, nausea), headache, & various symptoms of cold as the lungs begin to clear (sore throats, coughing etc). Mental and emotional symptoms include feelings of being an infant, intense need, and a state of near paralysis, insomnia, mental confusion, vagueness, irritability, anxiety, and depression may also occur.

I like to smoke when I have a drink. Do I have to give up both?

As chronic alcohol drinking and chronic smoking more often than not co-occur, researchers have begun to realize that the brain effects previously attributed to alcohol drinking alone may in fact be the result of both drinking and smoking. It's best to avoid drinking alcohol for the first 3 months after quitting because drinking lowers your chances of success at quitting. It helps to drink a lot of water and other nonalcoholic drinks when you are trying to quit.

What are the different Second Hand Smoking Tests?

A diverse array of testing methods are available nowadays, some are laboratory based while others are used for home testing purposes. Most of these tests provide a quick, accurate and on-the-spot determination of a person’s level of exposure to tobacco products either actively or passively i.e. by second hand smoke & allow detection, verification and monitoring of tobacco use status over a period of time. Frequent users of these tests include parents of young children, workers in a smoky workplace,
smokers trying to quit, coaches, insurance companies, smoking cessation counselors and other persons concerned about the harmful effects of second hand smoke.

What are the Urine Strip Tests for smoking?

Amongst the second hand smoking tests, these tests are quite easy to use. Non-invasive urine strip tests are reasonably fast, accurate & can detect exposure to second hand smoke along with active usage of cigarettes, pipes, cigars etc. Such tests measure the levels of cotinine, a byproduct of the body's breakdown of nicotine which is an active ingredient found in tobacco products and tobacco smoke. Cotinine is a widely accepted indicator of recent tobacco product use and exposure, including second hand smoke exposure.

How does the Urine Strip test work?

The end of the urine test strip contains gold particles coated with an antibody that selectively binds to cotinine in the urine. After the end of the strip is dipped in urine, the gold particles migrate through specialized in the strip. The more cotinine bound to a gold particle, the further it is able to migrate along the strip. The reddish bands seen on the developed strip correspond to gold particles caught in a particular trap. This test is extremely sensitive and can measure amounts as low as 6 ng of cotinine per milliliter of urine.

What is the HPLC based Fluorescent Testing for smoking?

This technique has been developed for monitoring carcinogenic pollutants in environmental tobacco smoke & is thousand times more sensitive than previous techniques. It involves two dual computer-programmable fluorescence detectors that are used along with high performance liquid chromatography and combined with a unique new sample preparation protocol to screen for a wide range of polycyclic aromatic hydrocarbons and their equally hazardous alkyl derivatives in environmental tobacco smoke.

What are the advantages of HPLC based Fluorescent testing?

This new technique can work with less than a milligram of sample and enables researchers to identify and estimate the concentrations of both parent and alkyl PAHs (polycyclic aromatic hydrocarbons) with precision and accuracy. The most significant advantage of this detection method is the ability to quantitate chromatographically inseparable or hardly separable compounds using selective fluorescence detection. This new detection method also enables the researchers to significantly shorten sampling Is the NicAlert urine test commonly used with children for secondhand smoke detection?

Yes, the NicAlert urine can be used to test secondhand smoke in children. We suggest putting cotton balls in the diaper and then squeezing the urine out into a cup and then perform the test as per the instructions. times and reduce the amount of hazardous solvent waste material generated for analysis.

Is the NicAlert urine test FDA approved and what are the cut off levels?

NicAlert is FDA cleared. Using a 100 ng/ml cutoff, the sensitivity is 98% and the specificity is 97%.

How much second hand smoking is bad?
Non-smokers who breathe in secondhand smoke take in nicotine and other toxic chemicals just like smokers do. The more secondhand smoke you are exposed to, the higher the level of these harmful chemicals in your body.

What are the pros and Cons of doing a nicotine test?

WORKPLACE: (Employees)

Pros
1. A regular nicotine test can protect the health of non-smokers.
2. A nicotine test can help increase productivity in the workplace.
3. A nicotine test can help smokers quit.

Cons
1. Nicotine testing is an invasion of privacy.
2. Some states in the U.S. deem nicotine testing as illegal.
3. Regular nicotine testing can be expensive.

SCHOOLS: (Kids & Teenagers)

Pros
1. It improves the accountability of students and schools.
2. It motivates students to really learn the material rather than just memorize for tests.
3. Knowledge is cumulative, so a student doing poor early can end up behind indefinitely.

Cons
1. Standardized tests can be biased or unfair.
2. Students in failing school districts will be punished.
3. It lessens the flexibility of teachers.
4. Learning material for tests means other material receives less emphasis.

ADULTS: (Spouses & Partners)

Pros
1. To detect the presence of and/or measure the quantity of nicotine in the person's body.
2. To determine whether someone uses tobacco or has been exposed to secondhand smoke.
3. To evaluate for acute nicotine poisoning.

Cons
1. Nicotine testing is an invasion of privacy.
2. Regular nicotine testing can be expensive.

**What Are Signs and symptoms of Secret Smoker?**

**CHILDREN and TEENAGERS**

Coughing
Shortness of breath
Bad breath
Throat irritation
Stained teeth and clothing (also signs of chewing tobacco use)
Greater susceptibility to colds
Decreased athletic performance

**ADULTS**

Smoky smelling clothes and hair
Nicotine stained fingers and teeth
Hoarseness
Coughing

**What condition and diseases second hand smoking can lead to?**

In adults, second-hand smoke causes serious cardiovascular and respiratory diseases, including coronary heart disease and lung cancer.
In infants, it causes sudden death.

Pregnant women exposed to secondhand smoke are at increased risk of having low birth-weight babies and a higher risk of her baby developing asthma in childhood.

Secondhand smoke can also result to eye irritation, headaches, nausea, and dizziness.

**What are the dangers of smoking in the presence of young children?**

**INFANTS**

Infants exposed to secondhand smoke are at an increased risk of sudden infant death syndrome (SIDS).
High risk of developing lung infection.
Slows lung growth in their children.
Affects the heart and blood circulation in a harmful way.
**TODDLERS & KIDS**

Children exposed to secondhand smoke are at an increased risk of developing acute respiratory infections (like bronchitis and pneumonia).

Increased risk of ear problems, and more severe asthma.

Coughing, sore throats, sniffing, and sneezing.

Slows lung growth in their children.

**TEENAGERS**

Youths exposed to second-hand smoke at home are one-and-a-half to two times more likely to start smoking than those not exposed.

Coughing, sore throats, sniffing, and sneezing.

Over a longer time it also causes heart disease and lung cancer.

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**Can the specific level of cotinine in blood be used to establish evidence for level of cigarette smoke (in custody cases, workplace related cases etc...)?**

Even though cotinine has a certain established scientific half-life and there are research studies that explains relationship between cotinine level and smoking, it is not recommended to use cotinine level in blood test to determine level of smoking. Please keep in mind that the donor might be using other nicotine dispensing apparatus like patches, gum, nasal sprays, electronic cigarettes etc.

**Why should I do nicotine testing in my surgical practice? Why would I need to know if my patients are smoking or not?**

Especially in elective surgical procedures like plastic surgery, as a medical professional you might want to use nicotine (cotinine) testing to determine if your patients are currently smoking or not. Smoking would increase the recovery time for certain surgical procedures. Some plastic surgery practices postpone the elective surgery procedures until cotinine levels for the patient are in the non-smoking low range in order to ensure faster recovery.

**The health effects of smoking, one or two cigarettes per day?**
Men and women who smoke 1-2 cigarettes per day have risk of death from ischaemic heart disease. The primary risk includes cancer of lung, kidney, larynx, head and neck. Oral cancer is not uncommon among smokers. Coronary artery disease is prevalent among light smokers who smoke one or two cigarettes per day.