

DIAGNOSTICS

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CERVICAL CANCER SCREENING



DIAGNOSIS - PAP TEST AND HOW IT'S DONE - Pg 08

CERVICAL CANCER
SCREENING

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Dear Reader

One of the great aspects of this job is having the opportunity to talk with and listen to the many different manufacturers, distributors, and of course the huge network of dealers that is the backbone of our industry.

Years ago I never would have ever imagined I would be in this position, and it is amazing. To say I really enjoy this job is an understatement.

What makes Diagnostics Update.com so unique is their informative and educative ways to the nation.

The staff and management is always looking for ways to inform their readers on how to tackle different medical issues. Basically, you want more people to enjoy reading more and more.

That said, there is still the need to get more readers to embrace healthy routines within and outside the homestead.

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WHAT TO KNOW ABOUT CANCER

• Cancer causes cells to divide uncontrollably

What is cancer?

Cancer is a broad term. It describes the disease that results when cellular changes cause the uncontrolled growth and division of cells.

Some types of cancer cause rapid cell growth, while others cause cells to grow and divide at a slower rate.

Certain forms of cancer result in visible growths called tumors, while others, such as leukemia, do not.

Most of the body's cells have specific functions and fixed lifespans. While it may sound like a bad thing, cell death is part of a natural and beneficial phenomenon called apoptosis.

A cell receives instructions to die so that the body can replace it with a newer cell that functions better. Cancerous cells lack the components that instruct them to stop dividing and to die.

As a result, they build up in the body, using oxygen and nutrients that would usually nourish other cells. Cancerous cells can form tumors, impair the immune system and cause other changes that prevent the body from functioning regularly.

Cancerous cells may appear in one area, then spread via the lymph nodes. These are clusters of immune cells located throughout the body.

Causes

There are many causes of cancer,

and some are preventable. Risk factors for cancer include:

- heavy alcohol consumption
- excess body weight
- physical inactivity
- poor nutrition
- Smoking
- Viral infections

Is cancer genetic?

Genetic factors can contribute to the development of cancer.

A person's genetic code tells their cells when to divide and expire. Changes in the genes can lead to faulty instructions, and cancer can result.

Genes also influence the cells' production of proteins, and proteins carry many of the instructions for cellular growth and division.

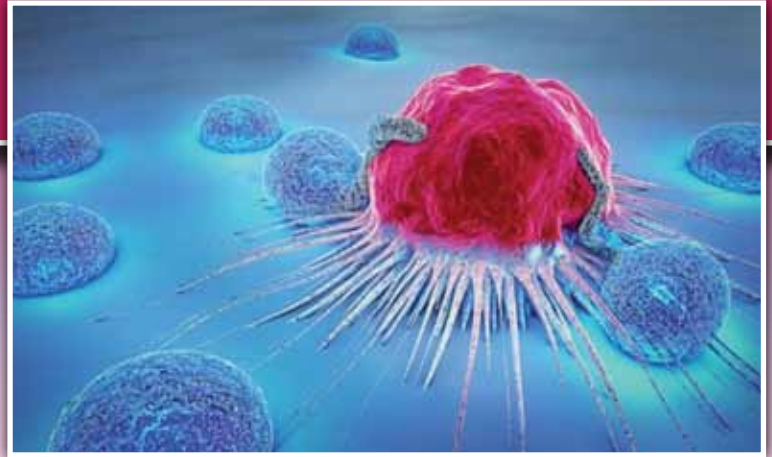
Some genes change proteins that would usually repair damaged cells. This can lead to cancer. If a parent has these genes, they may pass on the altered instructions to their offspring.

Some genetic changes occur after birth, and factors such as smoking and sun exposure can increase the risk.

Other changes that can result in cancer take place in the chemical signals that determine how the body deploys, or "expresses" specific genes.

Finally, a person can inherit a predisposition for a type of cancer. A doctor may refer to this as having a hereditary

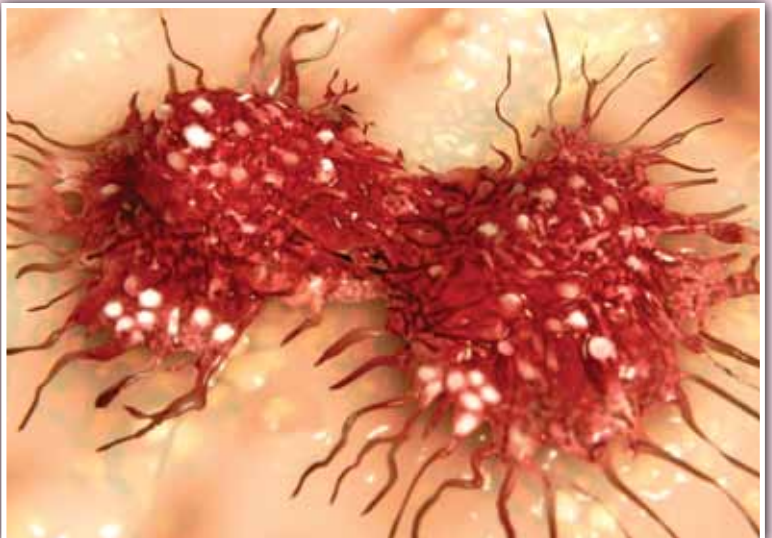
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Cancer growth



Undergoing cancer treatment can seriously impact finances, according to one new study



Promising first step towards new cancer treatment

WHAT TO KNOW ABOUT CANCER

FROM PAGE 03

cancer syndrome. Inherited genetic mutations significantly contribute to the development of 5–10 percent of cancer cases.

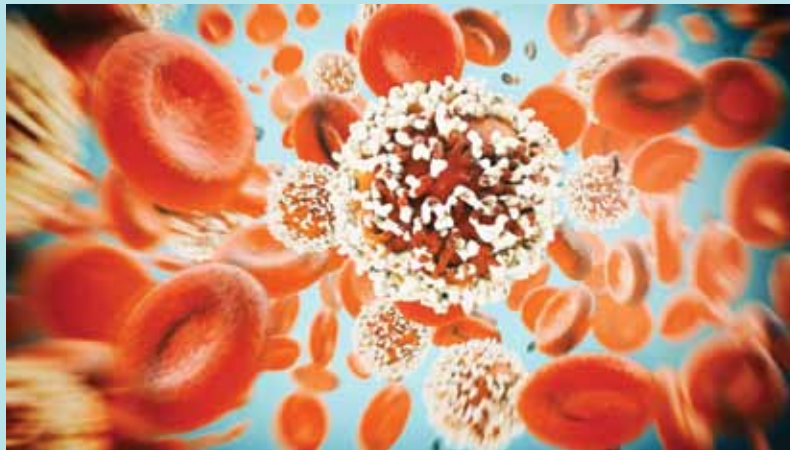
Treatments

Innovative research has fueled the development of new medications and treatment technologies.

Doctors usually prescribe treatments based on the type of cancer, its stage at diagnosis, and the person's overall health.

Below are examples of approaches to cancer treatment:

- Chemotherapy aims to kill cancerous cells with medications that target rapidly dividing cells. The drugs can also help shrink tumors, but the side effects can be severe.
- Hormone therapy involves taking medications that change how certain hormones work or interfere with the body's ability to produce them. When hormones play a significant role, as with prostate and breast cancers, this is a common approach.
- Immunotherapy uses medications and other treatments to boost the immune system and encourage it to fight cancerous cells. Two examples of these treatments are checkpoint inhibitors and adoptive cell transfer.
- Precision medicine, or personalized medicine, is a newer, developing approach. It involves using genetic testing to determine the best treatments for a person's particular presentation of cancer. Researchers have yet to show that it can effectively treat all types of cancer, however.
- Radiation therapy uses high-



Killing cancer softly: New approach halts tumor growth

dose radiation to kill cancerous cells. Also, a doctor may recommend using radiation to shrink a tumor before surgery or reduce tumor-related symptoms.

- Stem cell transplant can be especially beneficial for people with blood-related cancers, such as leukemia or lymphoma. It involves removing cells, such as red or white blood cells, that chemotherapy or radiation has destroyed. Lab technicians then strengthen the cells and put them back into the body.
- Surgery is often a part of a treatment plan when a person has a cancerous tumor. Also, a surgeon may remove lymph nodes to reduce or prevent the disease's spread.
- Targeted therapies perform functions within cancerous cells to prevent them from multiplying. They can also boost the immune system. Two examples of these therapies are small-molecule drugs and monoclonal antibodies.

Doctors will often employ more than one type of treatment to maximize effectiveness.

Types

The most common type of cancer is breast cancer, followed by lung and prostate cancers, according to the National Cancer Institute, which excluded nonmelanoma skin cancers from these findings.

Each year, more people receive a

diagnosis of one of the following types of cancer:

- bladder
- colon and rectal
- endometrial
- kidney
- leukemia
- liver
- melanoma
- non-Hodgkin's lymphoma
- pancreatic
- cervical thyroid
- breast and lung cancers

Other forms are less common. According to the National Cancer Institute, there are over 100 types of cancer.

Cancer development and cell division

Doctors classify cancer by:

- its location in the body
- the tissues that it forms in

For example, sarcomas develop in bones or soft tissues, while carcinomas form in cells that cover internal or external surfaces in the body. Basal cell carcinomas develop in the skin, while adenocarcinomas can form in the breast.

When cancerous cells spread to other parts of the body, the medical term for this is metastasis.

A person can also have more than one type of cancer at a time.

Outlook

Improvements in cancer detection,

increased awareness of the risks of smoking, and a drop in tobacco use have all contributed to a year-on-year decrease in the number of cancer diagnoses and deaths.

Takeaway

Cancer causes cells to divide uncontrollably. It also prevents them from dying at the natural point in their life cycle.

Genetic factors and lifestyle choices, such as smoking, can contribute to the development of the disease. Several elements affect the ways that DNA communicates with cells and directs their division and death.

After nonmelanoma skin cancer, breast cancer is the most common type in the U.S. However, lung cancer is the leading cause of cancer-related death.

Treatments are constantly improving. Examples of current methods include chemotherapy, radiation therapy, and surgery. Some people benefit from newer options, such as stem cell transplantation and precision medicine.

The diagnosis and death rates of cancer are dropping yearly.

Question:

How do I recognize cancer before it starts to cause serious health problems?

Answer:

Some cancers cause early symptoms, but others do not exhibit symptoms until they are more advanced. Many of these symptoms are often from causes unrelated to cancer.

The best way to identify cancer early is to report any unusual, persistent symptoms to your doctor so they can advise you on any further testing that may be needed.

source: medicalnewstoday.com

CERVICAL CANCER OVERVIEW

Cervical cancer is a type of cancer that occurs in the cells of the cervix — the lower part of the uterus that connects to the vagina.

Various strains of the human papillomavirus (HPV), a sexually transmitted infection, play a role in causing most cervical cancer.

When exposed to HPV, a woman's immune system typically prevents the virus from doing harm. In a small group of women, however, the virus survives for years, contributing to the process that causes some cells on the surface of the cervix to become cancer cells.

You can reduce your risk of developing cervical cancer by having screening tests and receiving a vaccine that protects against HPV infection.

Symptoms

Early-stage cervical cancer generally produces no signs or symptoms.

Signs and symptoms of more-advanced cervical cancer include:

- Vaginal bleeding after intercourse, between periods or after menopause
- Watery, bloody vaginal discharge that may be heavy and have a foul odor
- Pelvic pain or pain during intercourse

Causes

Cervical cancer begins when healthy cells acquire a genetic change (mutation) that causes them to turn into abnormal cells.

Healthy cells grow and multiply

at a set rate, eventually dying at a set time. Cancer cells grow and multiply out of control, and they don't die. The accumulating abnormal cells form a mass (tumor). Cancer cells invade nearby tissues and can break off from a tumor to spread (metastasize) elsewhere in the body.

It isn't clear what causes cervical cancer, but it's certain that HPV plays a role. HPV is very common, and most women with the virus never develop cervical cancer. This means other factors — such as your environment or your lifestyle choices — also determine whether you'll develop cervical cancer.

Types of cervical cancer

The type of cervical cancer that you have helps determine your prognosis and treatment. The main types of cervical cancer are:

- **Squamous cell carcinoma:** This type of cervical cancer begins in the thin, flat cells (squamous cells) lining the outer part of the cervix, which projects into the vagina. Most cervical cancers are squamous cell carcinomas.
- **Adenocarcinoma:** This type of cervical cancer begins in the column-shaped glandular cells that line the cervical canal.

Sometimes, both types of cells are involved in cervical cancer. Very rarely, cancer occurs in other cells in the cervix.

Risk factors

Risk factors for cervical cancer include:

Many sexual partners: The greater your number of sexual partners — and the greater your partner's number of sexual partners — the greater your chance of acquiring HPV.

• **Early sexual activity:** Having sex at an early age increases your risk of HPV.

• **Other sexually transmitted infections (STIs):** Having other STIs — such as chlamydia, gonorrhea, syphilis and HIV/AIDS — increases your risk of HPV.

• **A weak immune system:** You may be more likely to develop cervical cancer if your immune system is weakened by another health condition and you have HPV.

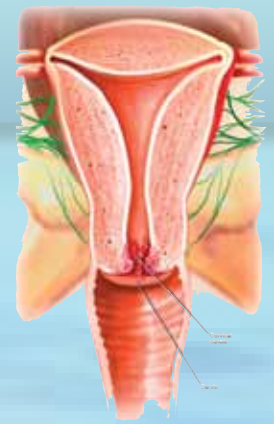
• **Smoking:** Smoking is associated with squamous cell cervical cancer.

Prevention

To reduce your risk of cervical cancer:

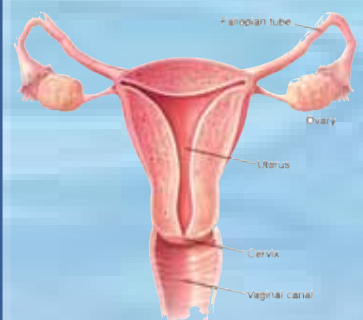
• **Get vaccinated against HPV:** Vaccination is available for girls and women ages 9 to 26. The vaccine is most effective if given to girls before they become sexually active.

• **Have routine Pap tests:** Pap tests can detect precancerous conditions of the cervix, so they can be monitored or treated in order to prevent cervical cancer. Most medical organizations suggest women begin routine Pap tests at age 21 and repeat



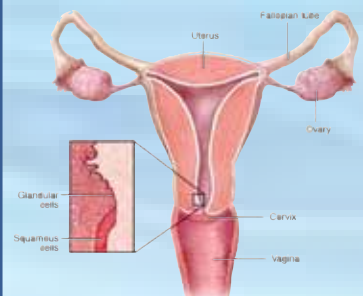
Cervical cancer

Cervical cancer begins in the cells of the cervix.



Female reproductive system

The ovaries, fallopian tubes, uterus, cervix and vagina (vaginal canal) make up the female reproductive system.



Where cervical cancer begins

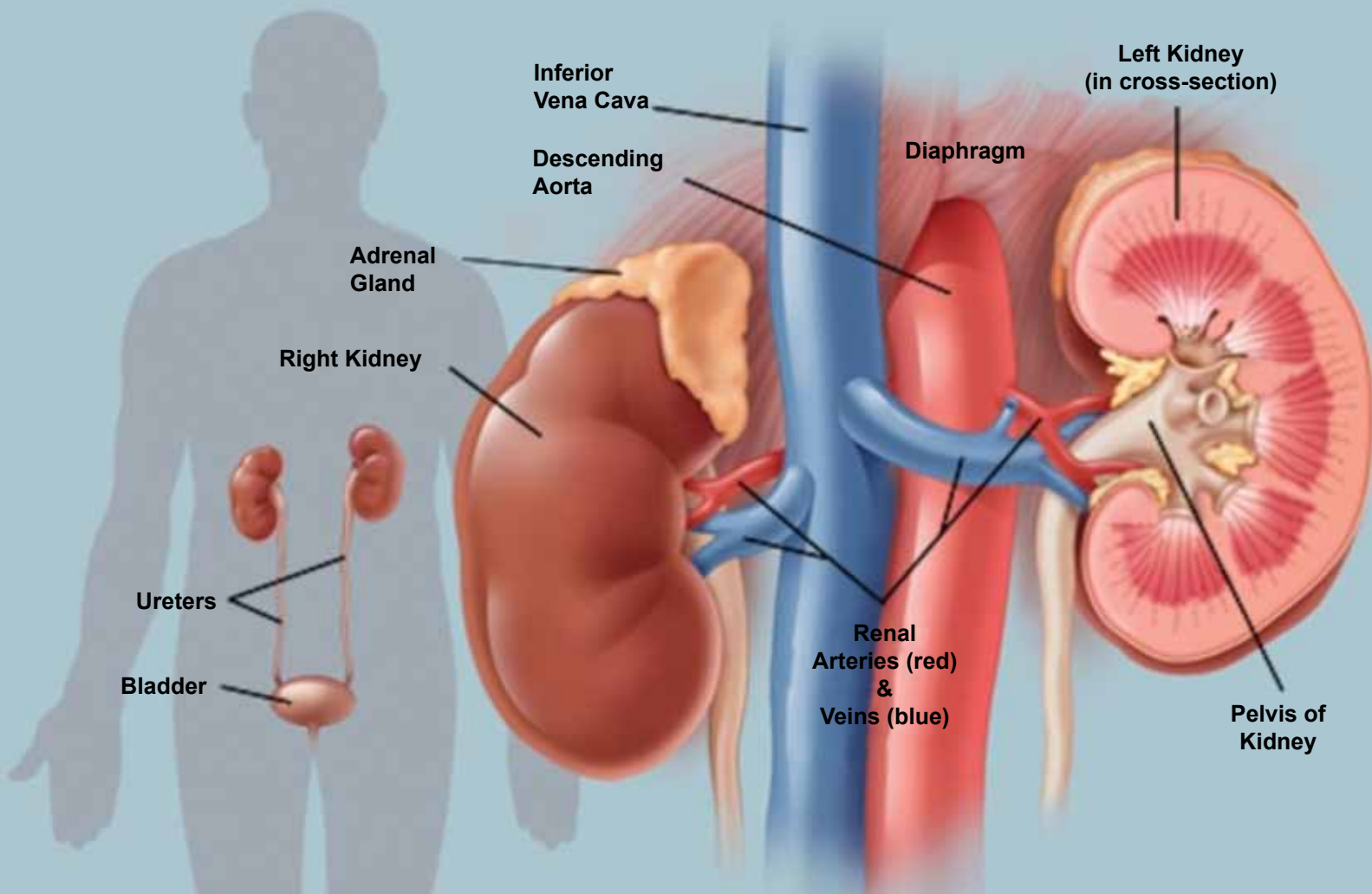
Two types of cells line the surface of the cervix, and both can become cancerous. One type (glandular cells) has a column-shaped appearance. The other type (squamous cells) is thin and flat. The boundary between the two types of cells is where cervical cancer most commonly occurs.

them every few years.

• **Practice safe sex:** Using a condom, having fewer sexual partners and delaying intercourse may reduce your risk of cervical cancer.

• **Don't smoke.**

source: mayoclinic.org



The Kidneys:

Picture, Function, Conditions and Tests

The kidneys are a pair of bean-shaped organs on either side of your spine, below your ribs and behind your belly. Each kidney is about 4 or 5 inches long, roughly the size of a large fist.

The kidneys' job is to filter your blood. They remove wastes, control the body's fluid balance, and keep the right levels of electrolytes. All of the blood in your body passes through them several times a day.

Blood comes into the kidney, waste gets removed, and salt, water, and minerals are adjusted, if needed. The filtered blood goes back into the body. Waste gets turned into urine, which collects in the kidney's pelvis -- a funnel-shaped structure that drains down a tube called the ureter

to the bladder.

Each kidney has around a million tiny filters called nephrons. You could have only 10% of your kidneys working, and you may not notice any symptoms or problems.

If blood stops flowing into a kidney, part or all of it could die. That can lead to kidney failure.

Kidney Conditions

- **Pyelonephritis (infection of kidney pelvis):** Bacteria may infect the kidney, usually causing back pain and fever. A spread of bacteria from an untreated bladder infection is the most common cause of pyelonephritis.

- **Glomerulonephritis:** An overactive immune system may attack the kidney, causing inflammation and some damage. Blood and protein in the urine are common problems that occur with glomerulonephritis. It can also result in kidney failure.

- **Kidney stones (nephrolithiasis):** Minerals in urine form crystals (stones), which may grow large enough to block urine flow. It's considered one of the most painful conditions. Most kidney stones pass on their own, but some are too large and need to be treated.

- **Nephrotic syndrome:** Damage to the kidneys causes them to spill large

amounts of protein into the urine. Leg swelling (edema) may be a symptom.

- **Polycystic kidney disease:** A genetic condition resulting in large cysts in both kidneys that hinder their work.
- **Acute renal failure (kidney failure):** A sudden worsening in how well your kidneys work. Dehydration, a blockage in the urinary tract, or kidney damage can cause acute renal failure, which may be reversible.
- **Chronic renal failure:** A permanent partial loss of how well your kidneys work. Diabetes and high blood pressure are the most common causes.
- **End-stage renal disease (ESRD):** Complete loss of kidney strength, usually due to progressive chronic kidney disease. People with ESRD require regular dialysis for survival.
- **Papillary necrosis:** Severe damage to the kidneys can cause chunks of kidney tissue to break off internally and clog the kidneys. If untreated, the resulting damage can lead to total kidney failure.
- **Diabetic nephropathy:** High blood sugar from diabetes progressively damages the kidneys, eventually causing chronic kidney disease. Protein in the urine (nephrotic syndrome) may also result.
- **Hypertensive nephropathy:** Kidney damage caused by high blood pressure. Chronic renal failure may eventually result.
- **Kidney cancer:** Renal cell carcinoma is the most common cancer affecting the kidney. Smoking is the most common cause of kidney cancer.
- **Interstitial nephritis:** Inflammation of the connective tissue inside the kidney, often causing acute renal failure. Allergic reactions and drug side effects are the usual causes.
- **Minimal change disease:** A form of nephrotic syndrome in which kidney

cells look almost normal under the microscope. The disease can cause significant leg swelling (edema). Steroids are used to treat minimal change disease.

- **Nephrogenic diabetes insipidus:** The kidneys lose the ability to concentrate the urine, usually due to a drug reaction. Although it's rarely dangerous, diabetes insipidus causes constant thirst and frequent urination.
- **Renal cyst:** A hollowed-out space in the kidney. Isolated kidney cysts often happen as people age, and they almost never cause a problem. Complex cysts and masses can be cancerous.
- **Urinalysis:** A routine test of the urine by a machine and often by a person looking through a microscope. Urinalysis can help detect infections, inflammation, microscopic bleeding, and kidney damage.
- **Kidney ultrasound:** A probe placed on the skin reflects sound waves off the kidneys, creating images on a screen. Ultrasound can reveal blockages in urine flow, stones, cysts, or suspicious masses in the kidneys.
- **Computed tomography (CT) scan:** A CT scanner takes a series of X-rays, and a computer creates detailed images of the kidneys.
- **Magnetic resonance imaging (MRI) scan:** A scanner uses radio waves in a magnetic field to make high-resolution images of the kidneys.
- **Urine and blood cultures:** If an infection is suspected, cultures of the blood and urine may identify the bacteria responsible. This can help target antibiotic therapy.
- **Ureteroscopy:** An endoscope (flexible tube with a camera on its end) is passed through the urethra into the bladder and ureters. Ureteroscopy generally cannot reach the kidneys themselves, but can help treat conditions that also affect the ureters.

- **Kidney biopsy:** Using a needle inserted into the back, a small piece of kidney tissue is removed. Examining the kidney tissue under a microscope may help diagnose a kidney problem.

Kidney Treatments

- **Antibiotics:** Kidney infections caused by bacteria are treated with antibiotics. Often, cultures of the blood or urine can help guide the choice of antibiotic therapy.
- **Nephrostomy:** A tube (catheter) is placed through the skin into the kidney. Urine then drains directly from the kidney, bypassing any blockages in urine flow.
- **Lithotripsy:** Some kidney stones may be shattered into small pieces that can pass in the urine. Most often, lithotripsy is done by a machine that projects ultrasound shock waves through the body.
- **Nephrectomy:** Surgery to remove a kidney. Nephrectomy is performed for kidney cancer or severe kidney damage.
- **Dialysis:** Artificial filtering of the blood to replace the work that damaged kidneys can't do.
- **Hemodialysis:** A person with complete kidney failure is connected to a dialysis machine, which filters the blood and returns it to the body. Hemodialysis is typically done 3 days per week in people with ESRD.
- **Peritoneal dialysis:** Placing large amounts of a special fluid in the abdomen through a catheter allows the body to filter the blood using the natural membrane lining the abdomen. After a while, the fluid with the waste is drained and discarded.
- **Kidney transplant:** Transplanting a kidney into a person with ESRD can restore kidney function. A kidney may be transplanted from a living donor, or from a recently deceased organ donor.

Source: /www.webmd.com

DIAGNOSIS

PAP TEST AND HOW IT'S DONE

Screening

Cervical cancer that is detected early is more likely to be treated successfully. Most guidelines suggest that women begin screening for cervical cancer and precancerous changes at age 21.

Screening tests include:

Pap test: During a Pap test, your doctor scrapes and brushes cells from your cervix, which are then examined in a lab for abnormalities.

A Pap test can detect abnormal cells in the cervix, including cancer cells and cells that show changes that increase the risk of cervical cancer.

HPV DNA test: The HPV DNA test involves testing cells collected from the cervix for infection with any of the types of HPV that are most likely to lead to cervical cancer. This test may be an option for women age 30 and older, or for younger women with an abnormal Pap test.

Diagnosis

If cervical cancer is suspected, your doctor is likely to start with a thorough examination of your cervix. A special magnifying

instrument (colposcope) is used to check for abnormal cells.

During the colposcopic examination, your doctor is likely to take a sample of cervical cells (biopsy) for laboratory testing. To obtain tissue, your doctor may use:

Punch biopsy, which involves using a sharp tool to pinch off small samples of cervical tissue.

Endocervical curettage, which uses a small, spoon-shaped instrument (curet) or a thin brush to scrape a tissue sample from the cervix.

If the punch biopsy or endocervical curettage is worrisome, your doctor may perform one of the following tests:

Electrical wire loop, which uses a thin, low-voltage electrical wire to obtain a small tissue sample. Generally this is done under local anesthesia in the office.

Cone biopsy, which is a procedure that allows your doctor to obtain deeper layers of cervical cells for laboratory testing. A cone biopsy may be done in a hospital under general anesthesia.

cancer's stage is a key factor in deciding on your treatment.

Staging exams include:

Imaging tests. Tests such as X-rays, CT scans, magnetic resonance imaging (MRI) and positron emission tomography (PET) help your doctor determine whether your cancer has spread beyond your cervix.

Visual examination of your bladder and rectum. Your doctor may use special scopes to see inside your bladder and rectum.

Stages of cervical cancer include:

Stage I: Cancer is confined to the cervix.

Stage II: Cancer is present in the cervix and upper portion of the vagina.

Stage III: Cancer has moved to the lower portion of the vagina or internally to the pelvic side wall.

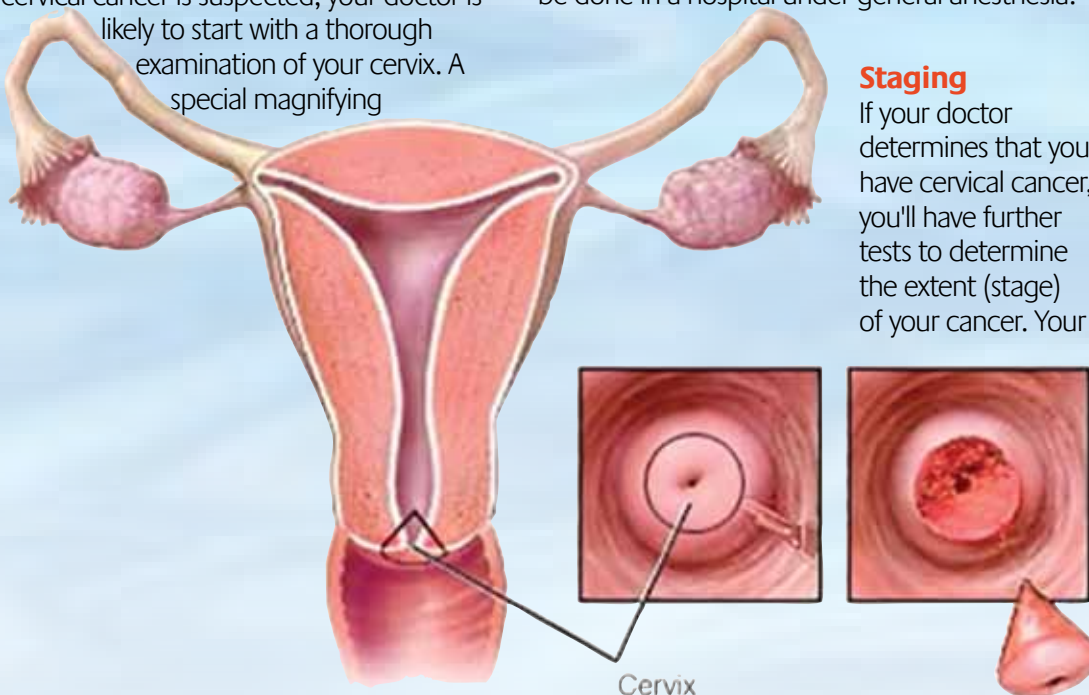
Stage IV: Cancer has spread to nearby organs, such as the bladder or rectum, or it has spread to other areas of the body, such as the lungs, liver or bones.

Treatment

Treatment for cervical cancer depends on several factors, such as the stage of the cancer, other health problems you may have and your preferences. Surgery, radiation, chemotherapy or a combination of the three may be used.

Surgery

Early-stage cervical cancer is



CERVICAL CANCER

typically treated with surgery to remove the uterus (hysterectomy). A hysterectomy can cure early-stage cervical cancer and prevent recurrence. But removing the uterus makes it impossible to become pregnant.

Your doctor may recommend:

Simple hysterectomy: The cervix and uterus are removed along with the cancer. Simple hysterectomy is usually an option only in very early-stage cervical cancer.

Radical hysterectomy: The cervix, uterus, part of the vagina and lymph nodes in the area are removed with the cancer.

Minimally invasive surgery may be an option for early-stage cervical cancer.

Surgery that preserves the possibility of becoming pregnant also may be an option, if you have very early-stage cervical cancer without lymph node involvement.

Radiation: Radiation therapy uses high-powered energy beams, such as X-rays or protons, to kill cancer cells. Radiation therapy may be used alone or with chemotherapy before surgery to shrink a tumor or after surgery to kill any remaining cancer cells.

Radiation therapy can be given:

Externally, by directing a radiation beam at the affected area of the body (external beam radiation therapy)

Internally, by placing a device filled with radioactive material inside your vagina, usually for only a few minutes (brachytherapy)

Premenopausal women may stop menstruating and begin menopause as a result of radiation therapy. If you might

want to get pregnant after radiation treatment, ask your doctor about ways to preserve your eggs before treatment starts.

Chemotherapy

Chemotherapy uses medications, usually injected into a vein, to kill cancer cells. Low doses of chemotherapy are often combined with radiation therapy, since chemotherapy may enhance the effects of the radiation. Higher doses of chemotherapy are used to control advanced cervical cancer that may not be curable.

Follow-up care

After you complete treatment, your doctor will recommend regular checkups. Ask your doctor how often you should have follow-up exams.

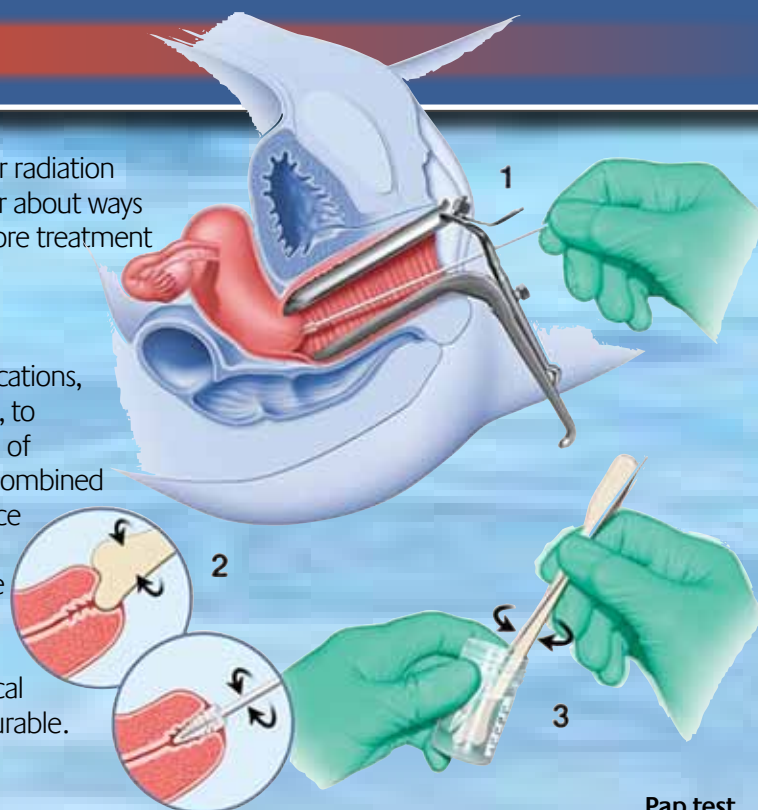
Supportive (palliative) care

Palliative care is specialized medical care that focuses on providing relief from pain and other symptoms of a serious illness. Palliative care specialists work with you, your family and your other doctors to provide an extra layer of support that complements your ongoing care.

When palliative care is used along with all of the other appropriate treatments, people with cancer may feel better and live longer.

Palliative care is provided by a team of doctors, nurses and other specially trained professionals. Palliative care teams aim to improve the quality of life for people with cancer and their families. This form of care is offered alongside curative or other treatments you may be receiving.

Coping and support



Pap test

In a Pap test, your doctor uses a vaginal speculum to hold your vaginal walls apart. Next, a sample of cells from your cervix is collected using a small cone-shaped brush and a tiny wooden spatula (1 and 2). Your doctor then rinses the brush and spatula in a liquid-filled vial (3) and sends the vial to a laboratory for testing.

No one can be prepared for a cancer diagnosis. You can, however, try to manage the shock and fear you're feeling by taking steps to control what you can about your situation.

Everyone deals with a cervical cancer diagnosis in his or her own way. With time, you'll discover what helps you cope. Until then, you can start to take control by attempting to:

Learn enough about cervical cancer to make decisions about your care. Write down your questions and ask them at the next appointment with your doctor. Get a friend or family member to come to appointments with you to take notes. Ask your health care team for further sources of information.

Find someone to talk with. You may feel comfortable discussing your feelings with a

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DIAGNOSIS: **PAP TEST** AND HOW IT'S DONE

FROM PAGE 09

friend or family member, or you might prefer meeting with a formal support group. Support groups for the families of cancer survivors also are available.

Let people help. Cancer treatments can be exhausting. Let friends and family know what types of help would be most useful for you.

Set reasonable goals. Having goals helps you feel in control and can give you a sense of purpose. But choose goals that you can reach.

Take time for yourself. Eating well, relaxing and getting enough rest can help combat the stress and fatigue of cancer.

Preparing for your appointment

Make an appointment with your doctor if you have any signs or symptoms that worry you. If you're thought to have cervical cancer, you may be referred to a doctor who specializes in

treating gynecologic cancers (gynecologic oncologist).

Here's some information to help you get ready for your appointment and what to expect from your doctor.

What you can do

Be aware of any pre-appointment restrictions, such as not eating solid food on the day before your appointment.

Write down

- your symptoms, including any that may seem unrelated to the reason why you scheduled the appointment
- your key medical information, including other conditions.
- key personal information, including anything that increases your risk of STIs, such as early sexual activity, multiple partners or unprotected sex.
- a list of all your medications, vitamins or supplements.
- questions to ask your doctor

Ask a relative or friend to accompany you, to help you remember what the doctor says.

Questions to ask your doctor

- What's the most likely cause of my symptoms?
- What kinds of tests do I need?
- What treatments are available, and what side effects can I expect?
- What is the prognosis?
- How often will I need follow-up visits after I finish treatment?

In addition to the questions that you've prepared to ask your doctor, don't hesitate to ask other questions that occur to you.

What to expect from your doctor

Your doctor is likely to ask you a number of questions. Being ready to answer them may make time to go over points you want to spend more time

on. You may be asked:

- What symptoms are you experiencing?
How severe are they?
- When did you first begin experiencing symptoms?
- Have they changed over time?
- Have you had regular Pap tests since you became sexually active?
- Have you ever had abnormal Pap test results in the past?
- Have you ever been treated for a cervical condition?
- Have you ever been diagnosed with an STI?
- Have you ever taken medications that suppress your immune system?
- Do you or have you ever smoked? How much?
- Do you want to have children in the future?

source:www.mayoclinic.org

VITAMINS AND NUTRITION

Nutrition, or the basic components of the food people consume as part of their daily diet, plays a huge role in overall health and wellness. Some of this is due to the role nutrition plays in helping



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HEALTH EFFECTS OF CIGARETTE SMOKING

Cigarette smoking harms nearly every organ of the body, causes many diseases, and reduces the health of smokers in general.

Quitting smoking lowers your risk for smoking-related diseases and can add years to your life.

Smoking and Death

Cigarette smoking is the leading preventable cause of death in the world.

Cigarette smoking causes more than 480,000 deaths each year in the United States. This is nearly one in five deaths.

- Smoking causes more deaths each year than the following causes combined:
 - o Human immunodeficiency virus (HIV)
 - o Illegal drug use
 - o Alcohol use
 - o Motor vehicle injuries
 - o Firearm-related incidents
- More than 10 times as many U.S. citizens have died prematurely from cigarette smoking than have died in all the wars fought by the United States.
- Smoking causes about 90% (or 9 out of 10) of all lung cancer deaths. More women die from lung cancer each year than from breast cancer.
- Smoking causes about 80% (or 8 out of 10) of all deaths from chronic obstructive pulmonary disease (COPD).
- Cigarette smoking increases risk for death from all causes in men and women.
- The risk of dying from cigarette smoking has increased over the last 50 years in the U.S.

Smoking and Increased Health Risks

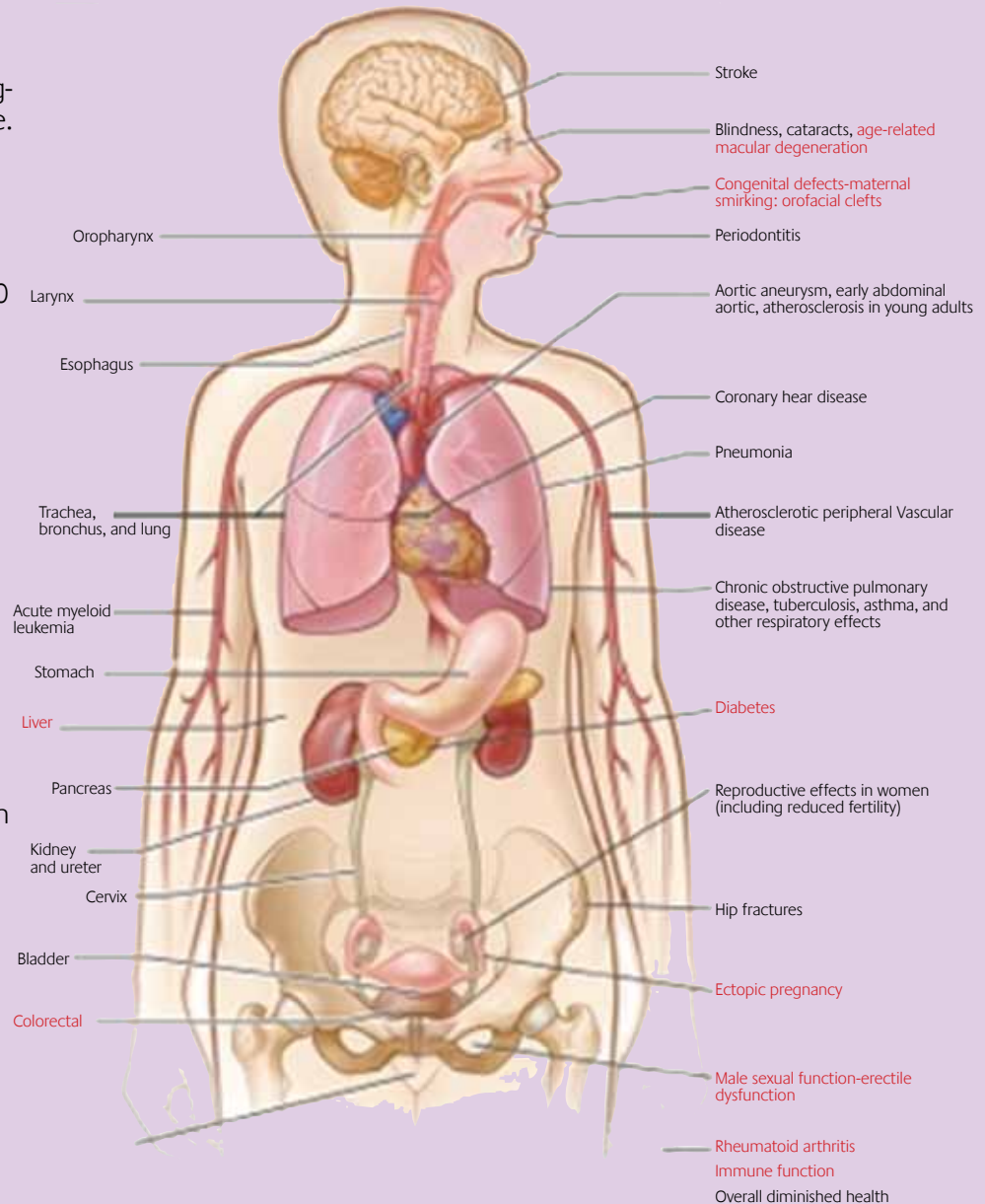
Smokers are more likely than non-smokers to develop heart disease, stroke, and lung cancer.

- Estimates show smoking increases the risk:
 - o For coronary heart disease by 2 to 4 times
 - o For stroke by 2 to 4 times

- o Of men developing lung cancer by 25 times
- o Of women developing lung cancer by 25.7 times
- Smoking causes diminished overall health, increased absenteeism from work, and increased health care utilization and cost.

Risks from Smoking

Smoking can damage nearly every part of your body



Smoking and Cardiovascular Disease

Smokers are at greater risk for diseases that affect the heart and blood vessels (cardiovascular disease).

- Smoking causes stroke and coronary heart disease, which are among the leading causes of death in the United States.

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What Is Tuberculosis?

Tuberculosis -- or TB, as it's commonly called -- is a contagious

infection that usually attacks the lungs. It can also spread to other parts of the body, like the brain and spine. A type of bacteria called *Mycobacterium tuberculosis* causes it.

In the 20th century, TB was a leading cause of death. Today, most cases are cured with antibiotics. But it takes a long time. You have to take meds for at least 6 to 9 months.

How Is It Spread?

Through the air, just like a cold or the flu. When someone who's sick coughs, sneezes, talks, laughs, or sings, tiny droplets that contain the germs are released. If you breathe in these nasty germs, you get infected.

TB is contagious, but it's not easy to catch. The germs grow slowly. You usually have to spend a lot of time around a person who has it. That's why it's often spread among co-workers, friends, and family members.

Tuberculosis germs don't thrive on surfaces. You can't get the disease from shaking hands with someone who has it, or by sharing their food or drink.

How Does Tuberculosis Affect Your Body?

A TB infection doesn't mean you'll get sick. There are two forms of the disease:

Latent TB: You have the germs in your body, but your immune system stops them from spreading. That means you don't have any symptoms and you're



- Loss of appetite
- Weight loss

If you experience any of these symptoms, see your doctor to get tested. Get medical help right away if you have chest pain.

Who's at Risk?

You're more likely to get TB if you come into contact with others who have it. Here are some situations that could increase your risk:

- A friend, co-worker, or family member has active TB disease.

not contagious. But the infection is still alive in your body and can one day become active. If you are at high risk for re-activation — for instance, you have HIV, your primary infection was in the last 2 years, your chest X-ray is abnormal, or you are immunocompromised --- your doctor will treat you with antibiotics to lower the risk for developing active TB.

Active TB disease: This means the germs multiply and can make you sick. You can spread the disease to others. Ninety percent of adult cases of active TB are from the reactivation of a latent TB infection.

What Are the Symptoms of TB?

There aren't any for latent TB. You'll need to get a skin or blood test to find out if you're infected.

But there are usually signs if you have active TB disease. They include:

- A cough that lasts more than 3 weeks
- Chest pain
- Coughing up blood
- Feeling tired all the time
- Night sweats
- Chills
- Fever

- You're part of a group where TB is more likely to spread, or you work or live with someone who is. This includes homeless people, people with HIV, and IV drug users.

- You work or live in a hospital or nursing home.

A healthy immune system fights the TB bacteria. But if you have any of the following, you might not be able to fend off active TB disease:

- HIV or AIDS
- Diabetes
- Severe kidney disease
- Head and neck cancers
- Cancer treatments, such as chemotherapy
- Low body weight and malnutrition
- Medications for organ transplants
- Certain drugs to treat rheumatoid arthritis, Crohn's disease, and psoriasis

Babies and young children also are at greater risk, because their immune systems aren't fully formed.

Source: www.webmd.com/

CIGARETTE SMOKING

FROM PAGE 11

States.

- Even people who smoke fewer than five cigarettes a day can have early signs of cardiovascular disease.
- Smoking damages blood vessels and can make them thicken and grow narrower. This makes your heart beat faster and your blood pressure go up. Clots can also form.
- A stroke occurs when:
 - o A clot blocks the blood flow to part of your brain;
 - o A blood vessel in or around your brain bursts.
- Blockages caused by smoking can also reduce blood flow to your legs and skin.

Smoking and Respiratory Disease

Smoking can cause lung disease by damaging your airways and the small air sacs (alveoli) found in your lungs.

- Lung diseases caused by smoking include COPD, which includes emphysema and chronic bronchitis.
- Cigarette smoking causes most cases of lung cancer.
- If you have asthma, tobacco smoke can trigger an attack or make an attack worse.
- Smokers are 12 to 13 times more likely to die from COPD than nonsmokers.

Smoking and Cancer

Smoking can cause cancer almost anywhere in your body: (See figure above)

- Bladder
- Blood (acute myeloid leukemia)

- Cervix
- Colon and rectum (colorectal)
- Esophagus
- Kidney and ureter
- Larynx
- Liver
- Oropharynx (includes parts of the throat, tongue, soft palate, and the tonsils)
- Pancreas
- Stomach
- Trachea, bronchus, and lung

Smoking also increases the risk of dying from cancer and other diseases in cancer patients and survivors.

If nobody smoked, one of every three cancer deaths in the United States would not happen.

Smoking and Other Health Risks

Smoking harms nearly every organ of the body and affects a person's overall health.

- Smoking can make it harder for a woman to become pregnant. It can also affect her baby's health before and after birth. Smoking increases risks for:
 - o Preterm (early) delivery
 - o Stillbirth (death of the baby before birth)
 - o Low birth weight
 - o Sudden infant death syndrome (known as SIDS or crib death)
 - o Ectopic pregnancy
 - o Orofacial clefts in infants
- Smoking can also affect men's sperm, which can reduce fertility and also increase risks for birth defects and miscarriage.
- Smoking can affect bone health.

- o Women past childbearing years who smoke have weaker bones than women who never smoked. They are also at greater risk for broken bones.

- Smoking affects the health of your teeth and gums and can cause tooth loss.
- Smoking can increase your risk for cataracts (clouding of the eye's lens that makes it hard for you to see). It can also cause age-related macular degeneration (AMD). AMD is damage to a small spot near the centre of the retina, the part of the eye needed for central vision.
- Smoking is a cause of type 2 diabetes mellitus and can make it harder to control. The risk of developing diabetes is 30–40% higher for active smokers than non-smokers.
- Smoking causes general adverse effects on the body, including inflammation and decreased immune function.
- Smoking is a cause of rheumatoid arthritis.

Quitting and Reduced Risks

- Quitting smoking cuts cardiovascular risks. Just 1 year after quitting smoking, your risk for a heart attack drops sharply.
- Within 2 to 5 years after quitting smoking, your risk for stroke may reduce to about that of a non-smoker's.
- If you quit smoking, your risks for cancers of the mouth, throat, esophagus, and bladder drop by half within 5 years.
- Ten years after you quit smoking, your risk for lung cancer drops by half.

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VITAMINS AND NUTRITION

FROM PAGE 10

people maintain a healthy weight. But certain vitamins found within foods, as well as nutritional supplements, also play distinctive roles within the body.

Diet and Health

To obtain the maximum health impact from nutrition, people should eat a variety of foods from five distinct groups. Two of the most important groups are fruits and vegetables, and consumption of a wide variety of fruits and vegetables is recommended in order to derive the maximum values of vitamin and minerals from these food groups. Fruits and vegetables offer benefits whether they're served fresh, canned or frozen. However, the labels of fruit juices should be checked closely as many types of juice contain very

little actual juice. In general, 100 percent fruit juice is recommended.

Grains are another important food group, and people should strive to eat more whole grains, which offer more health benefits in general than more refined sources of carbohydrates. When it comes to the dairy group, it's best to choose low-fat sources of dairy, which offer the same benefits of calcium and protein without all the saturated fat. The same goes for the protein group, where lean cuts of meat are typically the best choices for overall health.

Along with variety, eating the correct amount of calories each day is also important when it comes to nutrition for overall health. Monitoring calorie intake can help with

maintaining a healthy weight.

More on Vitamins and Minerals

Aside from the "big picture" of nutrition, some specific vitamins and minerals found within certain foods can play a direct role in health. Most people can get their needed vitamins and minerals by eating a healthy diet of a broad array of foods, but certain people may need more emphasis on specific vitamins and minerals. For example, calcium and vitamin D are both important

for bone health. Folic acid is especially critical for expecting mothers. And iron plays a large role in the health of the blood and the cells within the body.

Some people can benefit from taking a vitamin or mineral supplement, but they are not needed by everyone and might do more harm than good in certain situations. It's usually best to talk with a health care provider to see if a vitamin or mineral supplement is a good idea.

Sources: consumer.healthday.com



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