MAYO CLINIC HEALTH LETTER

Tools for Healthier Lives

VOLUME 28 NUMBER 4 APRIL 2010

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Reclaiming your life — with help.

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Early treatment is key.

MAYO CLINIC

Barrett's esophagus

Put cancer risk in context

For years, acid reflux has been an all-too-regular part of life. So you've taken medications to manage chronic heartburn and gotten some relief.

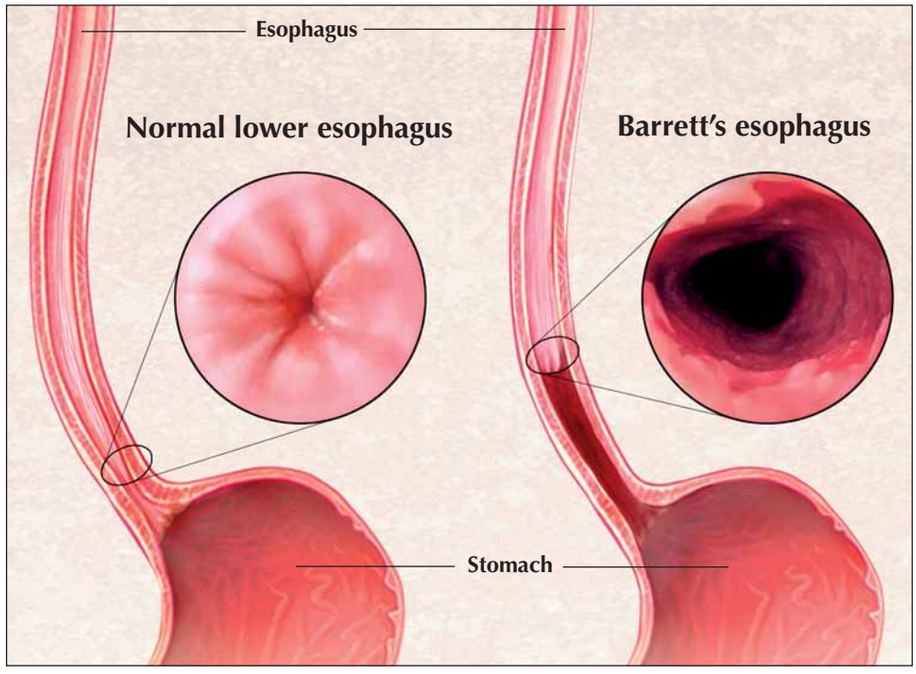
Recently, though, your doctor recommended you have a test to check the lining of your esophagus for changes that could be related to the heartburn. It was a good call, as the exam showed tissue changes associated with Barrett's esophagus.

Barrett's esophagus is a condition in which the cells lining the lower esophagus undergo changes thought to be caused by damage from chronic acid exposure.

Barrett's esophagus is considered to be a precancerous condition, because it increases the risk of esophageal cancer. However, the risk is generally low — in any given year, less than 1 percent of people with Barrett's esophagus go on to develop esophageal cancer.

Uncertain beginnings

The esophagus is the passageway through which swallowed food and liquid travel down from your throat



Barrett's esophagus is a condition in which the cells lining the lower esophagus undergo changes thought to be caused by damage from chronic acid exposure.

into your stomach. Normally, when you swallow, circular bands of muscle (sphincters) at the upper and lower end of your esophagus relax. This allows food and liquid to pass into your esophagus and down into the stomach, after which the sphincters close.

However, if the lower sphincter weakens or relaxes abnormally, a backwash of stomach acid can run back up into the esophagus (reflux). If it's ongoing, it's known as gastroesophageal reflux disease (GERD). Over time, repeated acid exposure can take a toll on the cells that line the esophagus.

Although there's no certainty as to what causes Barrett's esophagus, one line of thinking is that the acid-damaged esophageal cells change to cell types associated with Barrett's esophagus. The normal, skin-like lining (squamous epithelium) of the esophagus is replaced by cells that are similar to the shag carpet-like lining of the small intestine (columnar epithelium).

GERD is fairly common, and although most people with GERD don't develop Barrett's esophagus, having GERD for more than 10 years is associated with increased risk of Barrett's esophagus. Men are more likely than women to have the condition, and Barrett's esophagus is more common in older adults.

Scoping it out

Most people who have Barrett's esophagus have long-standing GERD and experience symptoms that include frequent heartburn and acid regurgitation. However, about 40 percent of people diagnosed with Barrett's esophagus have never experienced acid reflux or heartburn — they have no signs or symptoms.

Upper endoscopy is typically used to diagnose Barrett's esophagus. It involves passing a lighted, flexible tube (endoscope) down your esophagus. The endoscope has a tiny camera to view esophageal tissue and identify any changes that may be consistent with Barrett's esophagus. Specialized tools may be passed through the endoscope to take several tissue samples (biopsies) that can then be evaluated for possible precancerous cell changes. These precancerous changes in the size, shape and organization of cells lining the esophagus together are called dysplasia.

The progression from Barrett's esophagus to esophageal cancer can range anywhere from no precancerous cell changes, to low-grade and high-grade dysplasia, and finally to cancer. Those who have Barrett's esophagus without dysplasia have the lowest risk of cancer. Those with low-grade dysplasia also have a low risk of cancer. People with high-grade dysplasia have the greatest risk of cancer.

If high-grade dysplasia is detected, the risk of actual cancer development may be as high as 36 percent over five years. On the bright side, this means that 64 percent of people who have high-grade dysplasia will not progress to cancer within five years.

Since no one can predict who will develop cancer, it's recommended that you discuss your options with your doctor to develop the best strategy for your situation. However, dysplasia and cancer tend to develop unpredictably throughout tissue affected by Barrett's esophagus, so they may be missed with standard endoscopy and random biopsies.

Specialized procedures are making it possible to diagnose Barrett's esophagus and identify precancerous and cancerous cells at their earliest stages. These procedures are generally done at major medical centers and include:

- *High-resolution endoscopy* — Visualization of esophageal cells is improved using newer electronic endoscopes with high-resolution microchips. Combined with advanced optical techniques that use reflective light properties, this can further enhance certain features in precancerous cells, allowing better detection of advanced dysplasia.
- *Probe-based confocal microscopy* — This involves passing a fiber-optic probe — which acts like a miniature microscope — through an endoscope. Individual cell structure can be seen, so biopsies may not be needed. This specialized procedure allows for detection of precancerous cell changes.
- *Endoscopic ultrasound* — This procedure uses an endoscope to place a tiny ultrasound probe in the esophagus. Sound waves are then used to show how deeply cancer or precancerous tissue extends into the esophageal wall.

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Treatment moving forward

A diagnosis of Barrett's esophagus in which there's either low-grade dysplasia or no precancerous cell changes is typically managed with periodic upper endoscopy follow-up tests and consultations with your doctor. But, if there's a high degree of change in esophageal cells, other more invasive treatment decisions may be considered.

Surgery to remove most of the esophagus (esophagectomy) is commonly used to treat Barrett's esophagus when there's diffuse high-grade dysplasia or early esophageal cancer that hasn't spread beyond the esophagus. At some larger medical centers, newer endoscopic procedures, some of which are still considered experimental, are being done to preserve the esophagus. These procedures may need to be performed multiple times and include:

■ *Radiofrequency ablation (RFA)* — This procedure uses controlled bursts of radiofrequency energy to heat and burn away abnormal esophageal tissue.

■ *Cryotherapy* — This involves the use of liquid nitrogen or carbon dioxide to freeze abnormal or cancerous cells, which eventually slough off and are replaced with healthy new esophageal tissue.

■ *Photodynamic therapy (PDT)* — Medication that makes certain cells — including damaged esophageal cells — sensitive to light is given intravenously. Then, using an endoscope, a special light is directed at those cells. The light reacts with the medicine in the cells, causing them to die.

■ *Endoscopic mucosal resection (EMR)* — This procedure involves injecting a saline solution under the Barrett's tissue in the esophagus, which helps form a sort of blister. The raised blister allows abnormal tissue to be removed or suctioned away, leaving the rest of the esophagus intact.

On many occasions, these techniques are combined. For example, endoscopic mucosal resection may be done to remove a nodule of high-grade dysplasia, followed by radiofrequency ablation, cryotherapy or photodynamic therapy to get rid of any remaining shag carpet-like cells.

A healthy perspective

Keep in mind that Barrett's esophagus can be a precursor to cancer of the esophagus, but the overall chances are low. In the long run, you're more likely to be bothered by frequent heartburn or acid reflux than you are to develop esophageal cancer.

That's why management of Barrett's esophagus usually begins by controlling gastroesophageal reflux disease. In addition to acid-reducing medications that may help relieve your symptoms, lifestyle modifications that may help provide relief include:

■ Maintaining a healthy weight

■ Avoiding overeating by eating smaller amounts of food at your mealtimes

■ Avoiding heartburn trigger foods, such as fatty or fried foods, alcohol, mint or peppermint, and food and drinks that contain caffeine — these include coffee, tea, soda, energy drinks and chocolate

■ Avoiding long periods of time spent bending over

■ Not smoking because smoking may increase risk

■ Avoid wearing clothes that are tight at the waist

In addition, try raising the head of your bed four to six inches. You can do this by placing sturdy wooden blocks under the front legs of your bed.

Avoid putting a lot of pillows under your head. While this may make you feel better, it can actually make acid reflux worse because it causes food from the stomach to be pushed into the chest. ❒

Health tips

Going without meat

When people consider greatly reducing or even eliminating meat or other animal-based foods from their diet, they often worry about getting enough of certain nutrients, such as protein, iron, calcium and vitamin B-12.

However, if you eliminate or markedly reduce only the meat in your diet, but still consume animal products such as dairy and eggs, and a wide variety of plant-based foods, you should have no problem getting adequate protein, iron, calcium and vitamin B-12.

Even a vegan diet — which eliminates all animal-based foods, including dairy and eggs — provides adequate protein and iron if you get enough calories and eat a variety of foods, including soy products, legumes, lentils, nuts, seeds, whole grains, and dark green leafy vegetables. The only true nutritional issues for those who adopt a balanced vegan diet are getting enough:

■ *Calcium* — If you don't consume dairy products, a calcium supplement may be necessary. Other calcium sources include fortified products such as some types of tofu, soy milk, breakfast cereal and fruit juice. Dark green vegetables, such as spinach and broccoli, also contain calcium.

■ *Vitamin B-12* — Some foods, such as breakfast cereals, are fortified with vitamin B-12. Still, you may need to take a vitamin supplement to get this important nutrient. ❒

News and our views

Traditional heart bypass surgery technique versus new ones

Surgery to bypass blocked heart arteries has traditionally been done using a heart-lung machine. This machine circulates blood throughout the body while the heart is stopped to permit bypass surgery.

It was thought that these heart-lung machines were the cause of or contributed to certain complications — such as stroke, memory loss or trouble thinking clearly — occasionally observed after surgery.

In recent years, techniques have been developed so that bypass surgery can sometimes be done without a heart-lung machine, while the heart is still beating. The theory was that this would improve results by reducing complications associated with the heart-lung machine.

Not so, according to a study published in the Nov. 5, 2009, issue of *The New England Journal of Medicine*. The study randomly divided 2,203 men into two groups that received bypass surgery either with or without heart-lung machines. One year later, about 10 percent of those who had bypass surgery without a heart-lung machine had died, had a heart attack or needed another surgery to open a blocked artery. These outcomes occurred in only about 7 percent of those who had surgery using the machines. There was no difference in cognitive function between the two groups.

A probable explanation is that it's more technically challenging to sew bypass arteries onto a beating heart. This resulted in a small number of planned bypasses never being completed.

Mayo Clinic heart specialists say the study clearly shows that bypassing all blocked arteries must be the goal of any bypass procedure, regardless of the chosen approach. Beyond that, the results remain controversial because the study population was all male and generally younger and healthier than the typical person receiving bypass surgery. Other studies have shown that women and older, sicker adults may benefit most from off-pump bypass. In addition, varying surgeon and anesthesiologist skills may have altered results.

The fact remains that in the hands of skilled surgeons and anesthesiologists, certain people may still benefit from bypass surgery done without a heart-lung machine. ❐

Study looks at combined therapy for breast cancer

A multicenter clinical trial has found that combining the drug trastuzumab (Herceptin) with chemotherapy — instead of using it after chemotherapy — improves disease-free breast cancer survival for women with a more aggressive form of the disease called HER2-positive breast cancer. This type of breast cancer overproduces a protein called human epidermal growth factor receptor 2 (HER2), which promotes the growth of cancer cells.

Using trastuzumab and chemotherapy together reduced post-surgical risk of cancer recurrence or death by 25 percent, compared with using trastuzumab after chemotherapy. Mayo experts say the study will lead to a re-evaluation of how best to prescribe trastuzumab. ❐

Leukemia advances

New treatments for older adults

Leukemia is a term for several types of cancer of the bone marrow and blood. Although often thought of as a disease affecting children and young adults, leukemia most commonly occurs in adults over age 60. With the most common type of leukemia — chronic lymphocytic leukemia (CLL) — the average age of diagnosis is 70.

In the past decade, dramatic strides have been made in understanding and treating the various types of leukemia, and CLL is no exception. As recently as the 1990s, only about 55 percent of those with CLL had any response to the available drug options for controlling the disease. Only around 2 percent had a complete response and went into prolonged remission.

Drug combinations now used result in a 91 to 95 percent response rate, and about a 41 to 70 percent rate of complete response. Complete response in older adults is often at the lower end of that range.

Research into all forms of leukemia continues to rapidly advance, and a key goal in treating older adults is developing therapies complete enough to kill cancer cells, but not so harsh that they cause unacceptable side effects.

Right diagnosis

CLL is often a slowly progressing disease. It may be present for years without causing any signs or symptoms. For most, it's diagnosed after a routine blood test shows an elevated white blood cell count.

In the past, a bone marrow biopsy was the only way to confirm a diagnosis of CLL. That's changed.

For about 90 percent of those with CLL today, a blood test called flow cytometry can identify the presence of cancerous blood cells. For the remainder, a lymph node biopsy is required for diagnosis.

Recently, diagnosis has been taken a step further. An array of blood tests that look for certain genes, chromosomes or proteins of cancerous cells can help predict the aggressiveness of the cancer. The disease can be classified as high risk, meaning you'll likely need to begin treatment within the next two to five years, low risk, meaning you may be able to go decades without treatment, or somewhere in between.

Most people are diagnosed with CLL in an early stage of the disease and don't require immediate cancer treatment. An active monitoring plan is usually followed, where regular blood tests and physical exams identify disease complications — and the point at which the cancer becomes advanced enough to warrant treatment. Diagnosis to identify CLL aggressiveness plays an important role in how closely you will be monitored.

In addition, promising clinical trials — including some at Mayo Clinic — are under way looking at possible drug interventions to slow advancement of early stage disease in those with high-risk CLL.

Rapidly evolving treatments

Treatment for CLL is often complex and varies depending on many factors. When treatment begins, it's often a one-two punch of chemotherapy and monoclonal antibody drugs, which each work to kill CLL cells in different ways. Many of these drugs have been introduced in the last 10 years. Recognizing that these classes of drugs work well in combination has been a recent advance.

Commonly used first line chemotherapy drugs include a combination of cyclophosphamide (Cytoxan) and either fludarabine (Fludara, others) or pentostatin (Nipent). Pentostatin is less toxic than fludarabine and may be a better choice for adults over age 60.

Monoclonal antibody drugs are designed to seek out certain proteins on the surface of CLL cells, in a form of targeted destruction. Rituximab (Rituxan) is a commonly used first line monoclonal antibody drug.

Although most people respond to initial treatment, the response may not be complete or the disease may return within several months or years. In these cases, another round of the first line drugs may be attempted, or additional chemotherapy agents — such as bendamustine (Treanda) — or monoclonal antibody drugs such as alemtuzumab (Campath) and ofatumumab (Arzerra) may be used. Many additional CLL drugs — and combinations of drugs — are in development or are being tested.

For select people with high-risk CLL or CLL that hasn't responded to standard therapies, an allogeneic stem cell transplant is an emerging option for treatment. In these transplants, blood-cell-producing bone marrow cells of a healthy person are injected into the bloodstream.

Standard bone marrow transplants are considered too risky for adults over 60. However, reduced-intensity bone marrow transplants have been developed that make it possible, although still challenging, to perform bone marrow stem cell transplants up to about age 70.

Importance of support

Another major advance of the past decade has been the recognition that complications of CLL are every bit as harmful as the disease itself. CLL is a disease that affects the immune system, which is why common complications include a greater susceptibility to infection, autoimmune disease, in which your own immune cells attack your body, and high risk of a second cancer.

Since treatment options are evolving rapidly, with CLL or any form of leukemia, seek treatment from a doctor or center specializing in the disease. ❐

Other advances

A great success story in medicine has been the development of drugs to treat a form of leukemia called chronic myeloid leukemia (CML). Before 2000, drugs used to treat CML resulted in, at best, about a 30 to 40 percent survival rate 10 years after diagnosis. That changed in 2001 when the drug imatinib (Gleevec) was introduced.

Imatinib doesn't cure the disease, but it can suppress CML so that those who have it can live a normal life. If the survival trends continue at their current levels, it appears that the 10-year survival rate will have improved to 80 percent or higher. New drugs — such as nilotinib (Tasigna), dasatinib (Sprycel) and others — may be used if imatinib doesn't work.

Other forms of leukemia, including acute myeloid leukemia (AML) and acute lymphocytic leukemia (ALL), remain challenging to treat in older adults. With acute forms of leukemia, immediate and aggressive chemotherapy is usually required. However, this is very hard on the body and may be too risky for many older adults. Research is under way to develop less toxic drug regimens and to improve supportive care for those who do begin chemotherapy.

Ultraviolet light therapy

Harmful rays doing good

You've heard it a million times — cover or shade your skin from the sun's harmful rays, and when you can't, apply ample amounts of sunscreen to exposed skin.

That's great advice for preventing wrinkles, skin cancer and other skin problems. However, in a medical setting, the same ultraviolet light that's emitted from the sun can be carefully used as therapy for certain hard-to-treat skin problems and certain medical conditions.

Bad made good

The main forms of ultraviolet light that reach us from the sun are called ultraviolet A (UVA) and ultraviolet B (UVB). These are the same wavelengths of light that are used for medical therapies.

Ultraviolet light causes changes in cell DNA leading to cell damage and possible cell mutations that can turn a normal skin cell into a cancerous one. UVB rays are those responsible for sunburn.

UVA rays penetrate skin more deeply, and it's increasingly recognized that they also set the stage for skin cancer development. Ultraviolet A is the predominant type of ultraviolet light that comes from tanning beds.

With ultraviolet light therapy, certain aspects of UV light are harnessed for good. Although it's not fully known why certain skin conditions may respond to ultraviolet light, slowing skin cell overgrowth and altering the immune system are two mechanisms that appear to be at work.

Various UV treatments of the skin are potential therapy options for conditions including:

- Psoriasis
- A loss of skin pigment (vitiligo) that often appears as white blotches on the skin
- Eczema, which is also called dermatitis
- Persistent itching (pruritus)
- A rare form of cancer called cutaneous T-cell lymphoma that usually involves the skin
- Graft-versus-host disease — which is a complication associated with blood and bone marrow transplants

Catching some rays

There's a wide range of ways to administer UV light therapy. Equipment that may be used includes larger, full-body units such as light beds or body-sized light cabinets. Smaller equipment may include light cabinets for the hands or feet, a handheld light, combs that emit light from the tines for reaching the scalp, and lasers, which can focus a high-intensity beam of UV light on a small area.

A procedure called photopheresis may be used to treat T-cell lymphoma and graft-versus-host disease. It involves removing a small amount of blood from the body, exposing it to ultraviolet light, and then infusing it back into the person.

Ultraviolet light therapy is usually initiated in a medical clinic. Therapy sessions may last from a few seconds to an hour and may take place two to seven days a week. It may take dozens of sessions before an adequate response is achieved.

Consistency is one of the keys to success. If your condition responds well to UV therapy, less frequent maintenance sessions may be needed. For some, maintenance therapy may be performed using a home ultraviolet unit.

The main types of ultraviolet light therapy include:

- *Light-sensitizing psoralen plus ultraviolet A (PUVA)* — With this type of therapy, you take a psoralen drug orally or apply it topically. This medication makes your skin more sensitive to UV light, enhancing the treatment effect.

Afterward, you'll need to block sunlight from reaching the treated area for 24 hours. If you take an oral psoralen drug, that means avoiding the sun altogether and wearing protective sunglasses. Nausea is a potential side effect of psoralen, and long-term PUVA therapy may increase skin cancer risk.

- *Broadband or narrow band ultraviolet B* — Although both of these therapies use UVB, narrow band UVB involves a more specific range of UVB wavelengths.

Narrow band UVB is emerging as a more effective treatment than broadband UVB in certain situations, such as with psoriasis. In addition, it may be an alternative to PUVA. Narrow band UVB has the advantage of not requiring oral medication and may be less likely to cause skin cancer than other forms of ultraviolet therapy.

The downside

Ultraviolet light therapy can dry out your skin and cause mild irritation. Unless you are told otherwise, apply a moisturizer recommended by your dermatologist at least 30 minutes before your appointment. If your lips or nipple area becomes tender, you may be able to apply a sunscreen to the area before therapy.

The main downside of long-term UV therapy is an increased risk of skin cancer. As with any form of treatment, the potential benefits need to be weighed against the potential risks. But fortunately, skin cancers generally can be removed and successfully treated when they are detected early. For those receiving UV therapy, an annual examination by a dermatologist for skin cancer is recommended. ❐

Hair loss in women

More common with age

Hair loss has been on your mind lately. Your once full head of hair has begun to feel less so, and your part line has more scalp than before.

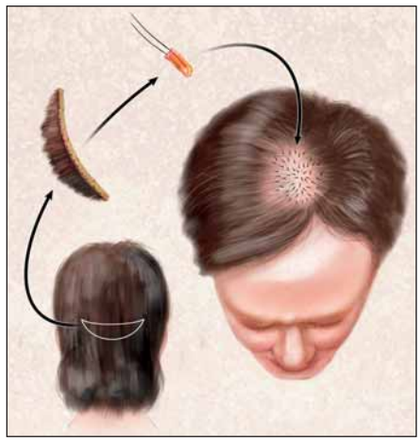
Addressing hair loss in women depends on the cause, and that's best determined by visiting your doctor. Some medical conditions — such as thyroid disease, diabetes or lupus — may cause hair loss. Sometimes, hair loss can be a side effect of certain drugs, such as those that treat gout, arthritis, depression, heart problems and cancer.

But most commonly, permanent hair loss in women is due to pattern thinning — the medical term is androgenetic alopecia (al-o-PE-she-uh). This is the same type of hair loss that more commonly affects men.

Family patterns

Hair loss and gradual thinning are a normal part of aging. Family genes are a factor in the age at which hair thinning begins, how quickly it progresses and the pattern of hair loss. Unlike men, women with androgenetic alopecia usually maintain their frontal hairline and rarely experience complete baldness. Instead, hair generally thins over the entire head with the most noticeable loss often occurring along the part line and crown.

There's also interest in the possible role iron stores in the body may play in hair loss. Some studies suggest iron deficiency may be related to different types of hair loss, including androgenetic alopecia — but other studies find no relationship. Although the evidence related to iron deficiency and hair loss isn't clear, some experts believe blood tests to measure red blood cell levels in the blood and iron stores in the body (ferritin) are worth considering in women with hair loss. If there's a deficiency, iron replacement through diet and supplements may be considered.



Hair transplants involve removing a patch of scalp where hair is growing well, dividing it into micrografts and implanting them where hair is lacking.

A topical approach

Although there's no cure for pattern thinning in women, there are drug treatments and surgical options. The nonprescription drug minoxidil (Rogaine) is the only drug approved for use by women to treat androgenetic alopecia.

Minoxidil is available as a 2 percent and a 5 percent solution and doesn't require a prescription. It's also available as a 5 percent foam. Minoxidil is rubbed into a dry scalp twice daily to slow hair loss and encourage regrowth.

Results with minoxidil vary. Typically, it takes at least six months to see results, although some women get no benefit. With ongoing use, hair thinning is usually reduced and what hair remains is retained.

Minoxidil doesn't affect existing hair. Rather, it makes new hair being formed in the root of the hair follicle thicker. It can take several months before these thicker hair shafts are noticeable. Although new hair from minoxidil use may still be thin, for some women it's enough to compensate for thinning areas and to blend in with existing hair. If you find minoxidil helpful, you'll need to keep using it to maintain results.

Minoxidil-related side effects, such as itching, rash, or fast or irregular heartbeat, are uncommon but should be reported to your doctor as soon as possible.

Other routes

If hair loss is extensive or minoxidil hasn't been helpful, surgery may be considered. Procedures include:

■ *Hair transplants* — This involves having a dermatologic surgeon transplant micrografts of skin containing hair follicles — each containing one to several hairs — from one area of your scalp to another. These micrografts are taken from your scalp where hair is growing well — normally on the back of the head — and then implanted into scalp that's lacking hair. Several transplant sessions may be needed to keep up with the hereditary hair loss over time.

The transplanted hair generally takes about six to eight months to become cosmetically acceptable. Although the surgery isn't without risk, the procedure generally is safe and effective with a normal success rate of over 95 percent.

■ *Scalp reduction and flap surgery* — These are generally performed only on men, but can be used on women in certain circumstances. Scalp reduction is surgical removal of scalp skin that lacks hair. Flap surgery involves moving scalp with hair to an adjacent area that's lacking hair.

For some women, an alternative to medical treatment may be as simple as changing a hairstyle or using a quality, natural-looking hairpiece or wig. Wigs or hairpieces shouldn't be implanted or sewn into the skin because that can cause infection and a foreign body reaction. ❐

Second opinion

Questions and our answers

Q: I was diagnosed with a prostate infection, but my doctor said the urine sample I gave showed no signs of infection. How is this possible?

A: Elevated levels of bacteria and white blood cells in a urine sample may indicate an infection somewhere in the urinary tract. However, it's not uncommon for men with a prostate infection to have normal urine samples. Although the prostate gland totally surrounds the urine tube (urethra), the prostate is a separate organ that's not in direct, continuous contact with urine. Still, a prostate infection may spill over into the urine some of the time.

Your doctor may be able to diagnose a prostate infection without a positive urine sample based on symptoms and a digital rectal exam (DRE). A DRE involves inserting into the rectum a gloved, lubricated finger to feel for prostate abnormalities such as enlargement from inflammation. An inflamed prostate often feels tender to the touch.

Signs and symptoms of an infected prostate may include discomfort when voiding urine, pain and aching in the region between the base of the penis and the anus (perineum), and sometimes fever. If you have a suspected prostate infection and a fever, your doctor may elect to delay a DRE and treat you with a course of antibiotics.

An elevated prostate-specific antigen (PSA) blood test can indicate prostate infection, as well as other problems such as prostate cancers. PSA levels may remain elevated for several weeks after you have been treated for an infected or inflamed prostate.

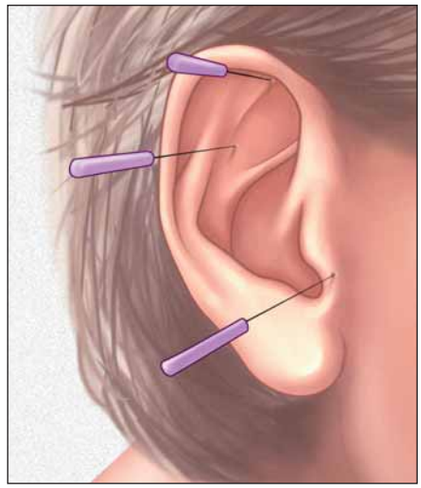
Occasionally, the prostate may be massaged to force prostate fluid — and any bacteria and white blood cells — into the urethra and eventually into a urine sample. Laboratory analysis of a urine sample obtained in this way may result in a more definitive diagnosis. ❐

Q: I read that ear acupuncture can be used to help manage anxiety and stress. How does that work?

A: The ancient Chinese tradition of acupuncture involves inserting hair-thin needles into strategic points on the body to stimulate energy flow and unblock and rebalance energy.

The ear is one of several of the body's microsystems. Microsystems such as the ear, scalp, hand and foot can be used as the focus for acupuncture treatment of other parts of the body. The theory for the ear's use as an acupuncture microsystem is relatively recent, having evolved in France in the 1950s. Ear (auricular) acupuncture may be useful for many conditions, including anxiety.

Ear acupuncture involves placing acupuncture needles into specific points around your ear. These points correspond with specific organs, emotions or sensory feelings. There are points on the ear that may increase serotonin levels that affect the parasympathetic nervous system. Stimulating these points may reduce anxiety and help make you feel calmer and less stressed.



Ear acupuncture involves placing acupuncture needles into specific points around the ear. These points correspond with specific organs, emotions or sensory feelings.

Although auricular acupuncture to reduce anxiety appears to be helpful, more research-based evidence is needed. ❐

Have a question or comment?

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