



The Liker Health Report

Keeping People Focused on Staying Fit & Healthy

Spring 2009

The Liker Health Report is a quarterly publication intended to raise awareness of health-related issues and to encourage readers to take charge of their health and live healthier, more fulfilling lives.

The Heart of the Matter: C. DIFFICILE

Just when you thought that MRSA (methicillin resistant Staphylococcus aureus) was our biggest health threat, another “super-bug” is reaching epidemic proportions with deadly consequences. Clostridium difficile (*C. difficile*) is a bacteria that produces a toxin which causes watery diarrhea, nausea, abdominal cramps, and fever in a mild case, and colon inflammation, blood poisoning, and kidney failure in a severe case. Death is not uncommon; of the estimated 500,000 annual cases, as many as 30,000 people will die. Since 2000, there has been a five-fold increase in the number of *C. difficile* infections.

Scientists have known about *C. difficile* for more than thirty years, and it typically affected elderly patients in hospitals or nursing homes or people with compromised immune systems. *C. difficile* has recently mutated into a more deadly strain which now affects people of all ages. This new strain (NAP1) produces at least 16 times more toxin than the previous strains and is significantly more resistant to antibiotic treatment. The fluoroquinolones are powerful antibiotics used in hospitals to treat pneumonia, but even these are less effective against *C. difficile*. As a consequence, *C. difficile* has been able to spread quickly from patient to patient, usually by unsuspecting hospital and health care workers.

C. difficile produces spores which are easily spread from person to person either (1) by touching an infected person or (2) by touching medical equipment or other surface with the spores on it. The spores are resistant to alcohol-based hand sanitizers and most hospital disinfectants. Thus, a healthy person could potentially become infected simply by visiting a hospital patient and touching the bed rails, I.V. pole, water pitcher or t.v. remote. Only bleach will kill the spores on surfaces; however, only two-thirds of hospitals and care facilities clean with bleach.

PROTECTING YOURSELF

- ▶ Avoid visiting people in hospitals, if possible. Particularly, do not take children who are overly tactile and can easily spread the *C. difficile* spores.
- ▶ Wear disposable gloves when touching items and surfaces in a patient’s room.
- ▶ Do not use antibiotics unnecessarily. Overuse and misuse has facilitated the emergence of antibiotic resistant super-bugs.
- ▶ Following a course of antibiotics, replenish the “good” bacteria by eating yogurt with live cultures and/or liquid acidophilus.
- ▶ Maintain good hygiene. Thoroughly wash your hands regularly with soap and warm water. Keep open wounds clean and covered. Avoid touching the eyes, nose, and mouth.

C. difficile inhabits the large intestine of approximately three to five percent of healthy people who do not become ill. This is because the “good” bacteria in the intestine keep the *C. difficile* in check.

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Your Lifestyle: OZONE-EMITTING AIR CLEANERS

Indoor air pollution can be as great a risk to health as outdoor pollution, particularly in newer homes which are tightly sealed and do not allow an exchange of outside air. This, along with new research into the health effects of toxic fumes from cleaning products, carpet materials, flooring adhesives, and paint has bolstered the “air purifying” industry. Ozone generators sold as “air cleaners” aren’t as healthy as the people selling them would like consumers to believe. Some manufacturers and vendors claim that the EPA (Environmental Protection Agency) or the U.S. federal government has approved ozone generators for use in the home or office. This is 100% false. The federal government and its related agencies do not approve or certify them for use in any occupied space.

Creative marketing strategies advertise these devices with buzz phrases such as “activated oxygen”, “pure air”, “mountain fresh air”, and consumers are misled into believing that ozone generators are safe and effective for eliminating indoor pollutants such as allergens, bacteria, viruses, and mold. Ozone generators sold as air cleaners are intentionally designed to produce ozone, a lung irritant. Other air cleaners, such as ionic-type air cleaners, emit ozone as a by product. The American Lung Association does not recommend that consumers use any type of air cleaner that emits ozone. They are currently waging a fight to (1) inform the public of the hazards and (2) sponsor legislation to protect consumers. The American Lung Association only recommends HEPA (High Efficiency Particulate Air) filters for maximum safety and effectiveness.

An analysis of four ozone generators on the market revealed that the amount of ozone emitted exceeded the ozone standard for outdoor air, even when the operating instructions were followed. In fact, one of the four devices produced enough ozone to trigger a stage 1 smog alert. Simply following the manufacturer’s instructions does not guarantee that unhealthy ozone levels won’t be generated.

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What is Ozone & Why is It Unhealthy?

Scientifically speaking, ozone is a molecule which contains three oxygen atoms, sometimes referred to as trivalent oxygen. Two of the atoms form the basic oxygen (O₂) that we breathe. The third atom can detach itself from the ozone molecule and join with other molecules.

In terms of the health effects, the ozone layer in the earth’s upper atmosphere (10-30 miles above ground) is beneficial; it helps filter out the sun’s UV radiation. Conversely, ozone in the lower atmosphere (the air we breathe) is harmful to the respiratory system. Ozone is a potent lung irritant which can cause a chemical burn on delicate lung tissue. It is particularly hazardous for people with pre-existing lung conditions, such as asthma. Harmful ozone levels are created by the interaction of sunlight and automobile emissions or chemical emissions from industrial plants.

Young children and the elderly are typically more affected by ozone; however, even when ozone is inhaled in small amounts by otherwise healthy people, it can cause coughing, wheezing, throat irritation, shortness of breath, and chest pain. People who have asthma or chronic respiratory diseases experience a worsening of symptoms and decreased ability to fight respiratory infections. When lower atmosphere ozone levels are high, it is not uncommon for other pollutant levels to be high as well. Thus, people are advised not to play or exercise outdoors and stay indoors when ozone levels exceed the EPA standards.

People vary in their susceptibility to ozone’s negative effects, and researchers believe that most people can recover from short-term, low-level exposure. However, the longer the exposure and higher levels, the greater the health risk. Some doctors believe that elevated ozone levels may be responsible for the surge in childhood asthma.



Did You Know?

People spend as much as 90% of their time indoors.

Playing It Safe: SPRINGTIME ALLERGIES

Spring brings a bouquet of flowering plants, budding trees and welcoming warm weather. Everyone loves spring, right? Well, maybe not if you're one of the more than 20 million Americans who suffers from allergic rhinitis (hay fever). Hay fever is the most common respiratory allergy, although many other inhaled airborne substances can have the same effect.

An allergy is an abnormal reaction by the immune system to an otherwise benign substance. The immune system's job is to protect the body from foreign substances called allergens, or antigens. It does this by producing antibodies and releasing histamine (a natural chemical in the body's cells) to fight the invaders. For example, the body fights the common cold by producing antibodies against the virus (antigen) which is causing the infection. Occasionally, the immune system cannot distinguish between a dangerous bacteria or virus and a harmless substance, such as pollen, food, bee sting, or medication, and it attacks them as if they were the same. Respiratory allergies are caused by airborne pollen, household dust, mold spores, mites, and animal dander.

Most people suffer from one or more of the following symptoms -- runny or stuffy nose; sneezing; wheezing; itchy eyes, mouth and/or throat; swollen throat; hives; or headache. Respiratory allergies range from mildly annoying to downright uncomfortable, yet they are rarely dangerous.

Preventing respiratory allergies is all about (1) minimizing your exposure and (2) taking medications to relieve symptoms and/or prevent the allergic reaction entirely. Environmental changes should be your first line of defense. If these do not help sufficiently, consult your doctor about pharmacologic treatment.

- ▶ Use a HEPA filter and change the filters often.
- ▶ Change the heating and cooling filters as recommended by the manufacturer.
- ▶ Vacuum floors and carpets regularly.
- ▶ Leave floors bare or use washable rugs.
- ▶ Dust furniture regularly.
- ▶ Wash linen and bedding weekly or more often.
- ▶ Keep kitchen and bathroom surfaces dry.
- ▶ Keep pets outside and bathe them regularly.



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IN THE CAR



- ▶ Keep windows and air vents closed; use the air conditioner.
- ▶ Vacuum carpet and upholstery regularly.
- ▶ Do not allow passengers to smoke.
- ▶ Avoid transporting pets.

IN THE YARD



- ▶ Plant low pollen-producing vegetation.
- ▶ Wear a dust mask when mowing lawns or gardening.
- ▶ Avoid the yard when pollen counts are high.

Antihistamines neutralize the histamine and relieve the sometimes debilitating symptoms. The primary side effects of over-the-counter (OTC) antihistamines are drowsiness and impaired coordination, so care should be taken to use them properly and pay attention to your specific reaction. Commonly used OTC antihistamines are Benadryl[®], Chlor-Trimeton[®], Claritin[®], and Tavist[®]. OTC allergy medications such as Actifed[®] and Tylenol Sinus[®], add a decongestant to relieve the sinus pressure.

Steroidal nasal sprays are intended to prevent an allergic reaction before it begins; they can, however, be taken after symptoms appear. Cortisone-derived sprays work by reducing the number of mast cells (cells which contain histamine) in the nose, which in turn decreases the amount of potential irritation by histamine. Since the action is limited to the nasal passages and not systemic, there is no reason to worry about taking a steroid medication. Nasal steroids, such as Beconase[®] and Flonase[®], are only available with a doctor's prescription.

Cromolyn nasal sprays are non-steroidal and work by strengthening the mast cells which helps prevent inflammation and bursting of cells. Nasalcrom[®] is available without a prescription. It is important to use both steroidal and non-steroidal sprays everyday during peak allergy season, not just when the symptoms become unbearable.

If you suffer with moderate to severe allergies which cannot be effectively managed with an OTC product, you should be evaluated by your doctor or an allergist. Testing involves putting potential allergens under the skin of the arms or back; a welt indicates sensitivity. Your doctor will then determine which treatment is most appropriate for you.

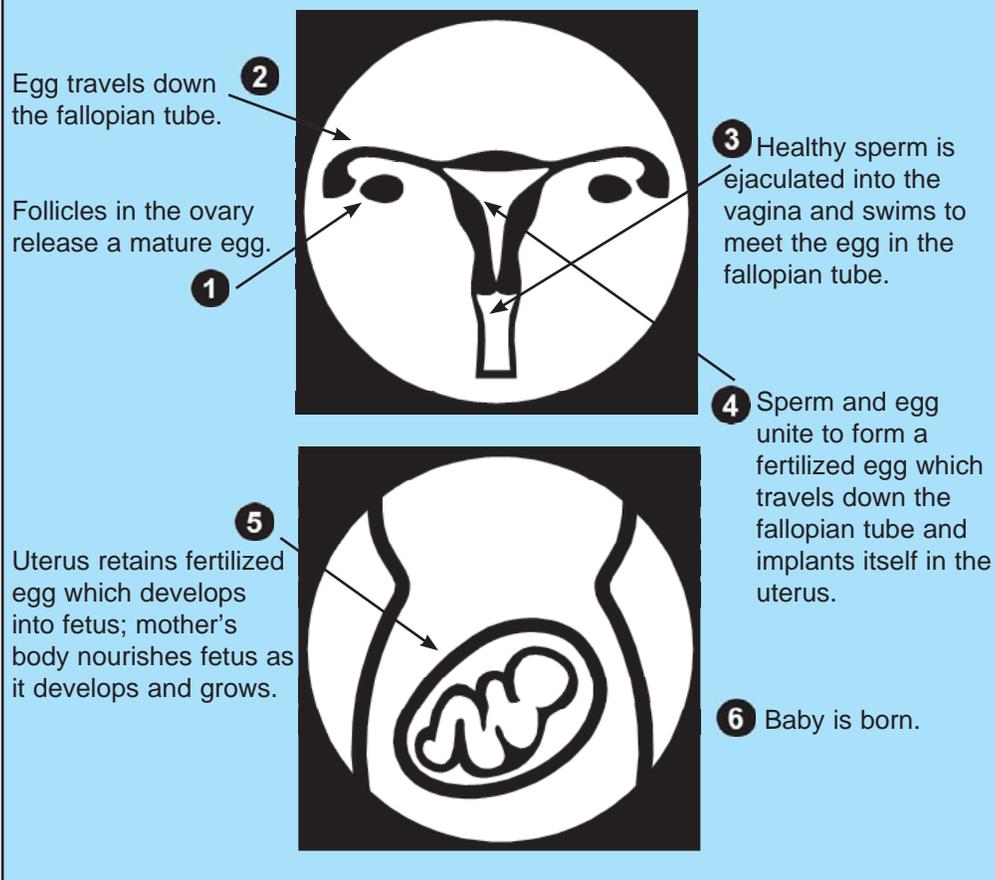
The Inside Story: FEMALE INFERTILITY

In the previous issue of The Liker Health Report, the focus was on male infertility and the fact that in 40-50% of infertile couples, the man has a role and in 20% of cases, he is solely responsible. Whenever a couple is unable to achieve pregnancy after one year of trying, both people should be medically evaluated. Since a successful pregnancy is characterized by a multi-step chain of events, there are one or more possible points of failure.

Premature Ovarian Failure (POF)

This condition, also called primary ovarian insufficiency, is one in which the ovaries stop functioning normally. It affects women under age forty. POF is not considered early menopause because the woman still has menstrual periods, although they are irregular. The chances of becoming pregnant are greatly reduced but still possible.

CHAIN OF EVENTS LEADING TO A SUCCESSFUL PREGNANCY & BIRTH



Missed or irregular periods are typically the first significant sign of POF and may be accompanied by symptoms of natural menopause to a lesser degree. These include hot flashes, night sweats, irritability, mood swings, poor concentration, decreased libido, vaginal dryness, and pain during sexual intercourse. Because these symptoms are not typical in women under age forty, it is important to get an accurate diagnosis and treatment. POF can lead to other serious health conditions, such as osteoporosis, low thyroid function, heart disease, and Addison's disease.

Diagnosing POF entails blood tests which measure the follicle stimulating hormone (FSH) levels. FSH helps determine whether the ovaries are functioning properly.

Infertility in women is defined as the inability for a woman of normal childbearing age to either (1) become pregnant after one year of trying or (2) carry a pregnancy to term. Female fertility is determined by a combination of conditions which if any is not met or not met for the required time period, the pregnancy will either never occur or terminate early. Female infertility is primarily due to problems with ovulation. Two common conditions are premature ovarian failure and polycystic ovary syndrome.

Currently, there is no treatment for POF which would result in a natural pregnancy; however, egg donation is an option. Between five and ten percent of women with POF do become pregnant without any medical intervention.

Polycystic Ovary Syndrome (PCOS)

This is a condition in which the ovaries do not release eggs during the ovulation process and fluid-filled cysts develop on the ovaries. PCOS is caused

by an over production of androgens by the woman's ovaries and often her adrenal glands. Androgens are considered "male" hormones, but they are present in small amounts in healthy women. When the androgen levels are abnormally high, they can interfere with the development and release of the egg. The follicles bunch together to form cysts, and because they are unable to release the mature egg, a woman is unable to become pregnant. Women with PCOS either have no menstrual periods (amenorrhea) or infrequent menstrual periods (oligomenorrhea). If a woman is able to become pregnant, either naturally or with assistive reproductive procedures, her risk of miscarriage is elevated.

Lifestyle & Environmental Factors Affecting Female Fertility

- ▶ Advancing age
- ▶ Mental or emotional stress
- ▶ Poor nutrition
- ▶ Being significantly underweight
- ▶ Obesity
- ▶ Smoking, drug or alcohol use
- ▶ Some medications
- ▶ Environmental toxins
- ▶ Sexually transmitted diseases
- ▶ Genetic conditions

Aside from the symptom of infertility itself, women with PCOS may also experience pelvic pain; oily skin or acne; dandruff; excessive hair growth on the face, chest, abdomen, toes or thumbs (the medical term is hirsutism); thinning hair; male pattern baldness; or patches of skin that has thickened and discolored to dark brown or black. Obesity increases a woman's risk for PCOS, and women with PCOS have a higher incidence of type 2 diabetes, metabolic disease ("pre-diabetes"), and cardiovascular disease.

If your gynecologist suspects PCOS by virtue of your menstrual history, he/she can confirm the diagnosis by either palpating for ovarian cysts or by performing a vaginal ultrasound. Blood tests to measure the androgen levels may also be done. If the patient is obese, the doctor should check glucose, insulin, cholesterol and triglyceride levels which would confirm or deny any concurrent conditions.

PCOS cannot be cured, but it can be managed with medications that regulate menstruation and reduce androgen levels. Losing weight is beneficial to managing the concurrent conditions and to lessening or eliminating symptoms. Surgery is only recommended if the other options do not succeed.

Two other conditions unrelated to ovulation which can cause infertility by blocking the fallopian tubes, are pelvic inflammatory disease (PID) and endometriosis. PID involves a bacterial infection and inflammation of the reproductive organs (uterus, fallopian tubes, and ovaries). If the inflammation creates scar tissue in the fallopian tubes, the

egg cannot successfully travel to the uterus. It may result in permanent infertility, an ectopic pregnancy or severe, constant pelvic pain if it is not treated with antibiotics. Sexually transmitted diseases (STDs) -- gonorrhea and chlamydia -- are the most common culprits, although it is possible to get PID from other bacteria that is normally present in the vagina and on the cervix. Douching can induce PID by pushing bacteria into the

uterus, fallopian tubes, and ovaries; it can also mask the signs of an infection. Any signs of an STD or PID should be checked by a doctor as soon as possible.

Endometriosis is a painful condition in which tissue on the *inside* of the uterus begins growing abnormally on the *outside* of the uterus and on other organs in the pelvis or abdomen. Endometriosis causes 30-40% of women with the condition to become infertile. Other symptoms include pain before or after the menstrual cycle; heavy periods; spotting or bleeding between periods; low back, pelvic or intestinal pain; painful urination or bowel movements during menstruation; pain during or after sexual intercourse. Although there is neither a known cause or cure for endometriosis, symptoms can be managed with pain medication, hormone therapy to curb the abnormal tissue growth, and surgical removal of large tissue growths. Both hormone therapy and surgery have been used successfully to restore fertility and produce a viable pregnancy.



Did You Know?

Infertility affects nearly 12% of the reproductive age population in America.

Personal Health: KIDNEY STONES

Just the mention of the term “kidney stone” can cause anyone who had one to cringe from the memory of the excruciating pain as it is passed. The good news is that kidney stones typically do not cause any permanent damage. Additionally, the formation of future kidney stones can be prevented in most people by making some simple lifestyle modifications.

A kidney stone is a hard mass comprised of mineral and acid salts that forms in the kidney. Normally, these substances are diluted in the urine and do not react; however, if the urine is concentrated, these substances are more likely to crystallize and stick together. Kidney stones range in size from a grain of sand to a pea to a golf ball. Most small stones are passed during urination and the person never knows he/she had one. The larger ones are accompanied by extreme pain in the back and side and require medical intervention.

There are four types of kidney stones as classified by their composition and underlying cause. Eighty percent of all kidney stones are **calcium stones**. These stones are comprised mainly of calcium oxalate which is primarily produced by the liver although it is found in some foods such as dark green vegetables, nuts and chocolate. Since these foods are also high in antioxidants, they should not be avoided unless your physician believes that they are causing your stones. High doses of vitamin D, gastric bypass surgery, and some metabolic disorders can increase urinary calcium and oxalate. **Uric acid stones** are comprised of uric acid, a by product of protein metabolism. People who eat a high protein diet or have gout are more

likely to form uric acid stones. Thus, cutting down on protein intake may lessen the risk. **Struvite stones** are nearly always caused by a urinary tract infection. They are more prevalent in women than men because a woman’s anatomy makes her more susceptible to UTIs. **Cystine stones** are very rare and form in people who have a genetic disorder which causes their kidneys to excrete large amounts of cystinuria, an amino acid.

If you are predisposed to kidney stones, the most important modifiable risk factor is fluid intake. Increasing the amount of fluids, particularly water, is critical to diluting the substances in the urine which can otherwise form stones. People with a

history of stones need to pass about 2 1/2 quarts of urine daily. To achieve this, 14 cups need to be consumed in a normal environment. Two factors which increase the fluid need are strenuous exercise and living in a hot, dry climate, which cause fluids to be lost through sweating.

If a stone does develop, drinking 2-3 quarts of water daily and being physically active may be sufficient to move the stone through the urinary tract and out of the body. When conservative treatment doesn’t work because stones are too large to be passed or they cause bleeding or kidney damage, medical intervention is necessary. Shock waves are effective in breaking the stones into fragments which are then passed during urination. Stones may also be removed surgically through a

small incision in the back or through a tube inserted into the bladder combined with ultrasound waves to shatter the stone.

Symptoms of Kidney Stones

- ▶ Back or side pain, below the ribs, which may radiate in waves towards the lower abdomen or groin
- ▶ Fluctuations in pain intensity with periods lasting 20 to 60 minutes followed by a period of relatively no pain
- ▶ Bloody or cloudy urine
- ▶ Foul-smelling urine
- ▶ Pain or burning during urination
- ▶ Urge to urinate
- ▶ Nausea and/or vomiting
- ▶ Fever and chills

Risk Factors

- ▶ Caucasian
- ▶ Male
- ▶ Over age 40
- ▶ Previous history of stones
- ▶ Family history of stones
- ▶ Don’t drink enough fluids
- ▶ High protein, high sodium, low calcium diet
- ▶ Obesity (particularly in women)
- ▶ Hypertension
- ▶ Long periods of inactivity due to illness
- ▶ Gastric bypass surgery
- ▶ Inflammatory bowel disease (IBD)
- ▶ Chronic diarrhea

AIR CLEANERS *continued from page 2*

Controlling Indoor Air Pollution

- ▶ Reduce or eliminate the source of the pollution (1) minimize the use of harsh cleaning products, chemicals, solvents, aerosols, toxic adhesives; use non-toxic or “green” products, low VOC (volatile organic compounds) paints. (2) vacuum regularly. (3) control the humidity and moisture to prevent microorganisms from thriving and multiplying. (4) periodically disinfect wet/moist surfaces such as sinks, toilets, showers, and kitchen counters.
- ▶ Dilute and expel the pollutants by increasing the exchange of indoor and outdoor air. (1) use an exhaust fan. (2) open the windows.
- ▶ “Clean” the air using the home’s central filtration system with HEPA (High Efficiency Particulate Air) filters. HEPA filters are a type of mechanical filter that is highly efficient at removing most fine particles that would otherwise be breathed deeply into the lungs. When purchasing a HEPA air cleaner, select one that removes 0.3 micron-sized particles and has a minimum efficiency of 99.97%.

C. DIFFICILE *continued from page 1*

However, taking antibiotics, for example, for a urinary tract infection wipes out both the bacteria causing the UTI as well as the good bacteria, thereby upsetting the natural balance.

The *C. difficile* remains strong and will flourish in the absence of the good bacteria. This is one reason not to take antibiotics unless you truly need them. Ideally, the goal is to maintain the effectiveness of the “last resort” antibiotics. If this fails, even the relatively harmless bacteria will have greater potential for patient mortality and the super-bugs may run rampant, causing worldwide pandemics.



The Medicine Cabinet

Danocrine®

Treatment for Endometriosis

Trade Name: Danazol (da' na zole)

Drug Classification: synthetic steroid

Purpose: used to treat endometriosis in women; may also be used to treat fibrocystic breast disease (FBD).

Action: suppresses female hormone production.

Dispensing Method: oral capsule taken twice a day, with the first dose taken during menstruation; therapy for endometriosis lasts 3 to 9 months and may be restarted if symptoms recur; treatment for FBD lasts between 4 and 6 months at a lower dosage than for endometriosis.

Major Precautions: pregnant or breast-feeding women should not take danazol. A second method of birth control (i.e., condoms) should be used in addition to oral contraceptives while taking danazol. Notify your doctor immediately if you become pregnant. Some people have experienced life-threatening complications such as stroke, elevated pressure in the brain, abdominal bleeding, and liver disease.

Side Effects: acne; oily skin or hair; unusual hair growth; hoarseness, voice deepening, or sore throat; water retention or bloating; weight gain; decrease in breast size; flushing or sweating; nervousness, irritability or depression; vaginal dryness, burning, itching, or abnormal bleeding; cessation of menstruation, spotting between periods, or other change in menstrual cycle. Notify your doctor if any symptoms do not go away or worsen. **SERIOUS:** skin rash; yellowing of the eyes or skin; persistent headache; visual problems; persistent abdominal pain or upset stomach; vomiting. Call your doctor immediately if any of these symptoms occur.

As with any medication, always follow your doctor's instructions, and if you have any problems, side effects, or questions, follow up with your doctor or pharmacist.

What's the Message?

FOR YOUR **C. DIFFICILE** AWARENESS:

The new strain of *C. difficile* is significantly more resistant to antibiotic treatment and may reach epidemic proportions.

Pay attention to good hygiene and take precautions when visiting people in hospitals and care facilities.

FOR YOUR **OZONE** AWARENESS:

Air cleaners which emit ozone are health hazards.

For maximum safety and effectiveness, the American Lung Association recommends using mechanical air filters or whole-home filtration systems with HEPA filters.

FOR YOUR **ALLERGY** AWARENESS:

Consult your doctor about medications to treat allergies if personal environmental modifications are insufficient.

Be aware of the side effects of OTC and prescription allergy medications and discuss any concerns or problems with your doctor.

FOR YOUR **FEMALE INFERTILITY** AWARENESS:

Female infertility is primarily due to problems with ovulation.

Simply changing a few lifestyle behaviors may improve a woman's fertility.

FOR YOUR **KIDNEY STONE** AWARENESS:

The most important modifiable risk factor for anyone predisposed to kidney stones, is increasing fluid intake.

Losing weight and staying active are helpful in preventing kidney stones.

Keeping Stress in Check

Surround yourself with people who exude self-esteem, and you will be a more confident problem-solver.

Dear Dr. Liker... Are there home remedies for kidney stones and do they work?

Home remedies for kidney stones encompass increasing your fluid intake and dietary modifications. Drink at least 14 cups of fluids daily, and if you live in a hot, dry, desert-like climate, drink even more. Drink a glass of real lemonade daily. Lemonade increases the urinary citrate concentration which in turn, helps prevent kidney stone formation.

If you suffer from calcium oxalate stones, restricting the amount of oxalate-rich foods you eat can help. These include beet greens, collard greens, spinach, Swiss chard, beets, sweet potatoes, okra, refried beans, rhubarb, sesame seeds, almonds, and soy products. Lowering your salt intake and animal protein intake will also help. Increasing dietary calcium or taking calcium supplements with meals may help prevent stones. The calcium binds to oxalates in the intestines and prevents them from being absorbed and excreted by the kidneys to form stones. As always, check with your doctor first so you don't create any dietary deficiencies or excesses.

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Keeping People Focused on Staying Fit & Healthy



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