

# OPTIMAL HEALTH UNIVERSITY™

Presented by Patrick Ryan, DC

## Disorders Associated With Antibiotic Use

*Ugh... your aching head, your stuffy nose and your exhausted body have landed you on the couch with a nasty cold. You're anxious to get back to work and think an antibiotic medication might speed your recovery.*

*Think again. Antibiotics don't help viral illnesses such as colds and flu. Also, Dr. Ryan wants you to know that inappropriate use of antibiotics is harmful. Overuse has created antibiotic-resistant bacteria, and constant dosing can reduce the immune system's response — increasing risks for diseases such as cancer.*



### Antibiotics 101

Before jumping to antibiotics to cure what ails you, it's important to have the facts. Read on for details on how antibiotics work, and don't work.

#### **Not for Colds**

Remember: The common cold is a virus, and antibiotics don't work on viral infections. Antibiotics are *ineffective* in treating infections caused by viruses, which include the majority of colds, coughs and flu-like illnesses.

#### **Antibiotic Resistance**

Since the first antibiotic, penicillin, was introduced in the 1940s, scientists have developed more than 150 antibiotic drugs. Dr. Ryan explains that the overuse of antibiotics has led to the evolution of bacterial strains that no longer respond to treatment with common antibiotics. It's a problem known as "antibiotic resistance" and has led to the development of "superbugs."

#### **Superbug Cycle**

Superbugs emerge when an antibiotic leaves surviving bacteria behind, which then become resistant to that

particular drug. If a stronger antibiotic is then prescribed, the bacteria quickly learn to withstand it too. What's happened? A perpetuating cycle where increasingly powerful drugs are required.

Superbugs can also exchange survival information with other bacteria, allowing additional drug-resistant organisms to emerge.

#### **Superbugs and Death**

As more and more superbugs emerge, illnesses last longer, and the odds of complications and death increase. The inability to treat a particular infection leads to longer periods in which a person is contagious and able to spread the resistant strains.

#### **Keep the Good Bacteria**

Did you know that adults have three to four pounds of beneficial bacteria and yeast living within their intestines? Your first reaction may be "yuck, gross"! But beneficial bacteria have all sorts of crucial functions, most notably aiding digestion.

Because antibiotics kill the friendly bacteria in the digestive tract, they provide a setting where harmful organisms flourish. When the delicate balance of the intestinal terrain is upset, yeasts may grow unchecked into large colonies. The intestinal wall may also be compromised, leading to con-

ditions such as ulcers.

### Adverse Antibiotic Effects

Although antibiotics are intended to treat illness, they can have the opposite effect — making an illness worse, or even causing new illnesses. Read on to find out more.

#### **Ear Infection**

Childhood ear infection, or acute otitis media (AOM), is a common disorder. Dr. Ryan worries that the widespread use of antibiotics for AOM has caused an emergence of multidrug-resistant pathogens. Moreover, the panic to administer antibiotics is unfounded: Research shows that most children with ear infections recover without antibiotics.

One study of 223 children with ear infections aged 6 months to 12 years assigned 112 to an antibiotic (amoxicillin) group and 111 to a watchful waiting group who received no antibiotics.

The investigators, who were blinded to enrollment status, used measures such as parents' satisfaction with care, patients' symptoms and recurrence and antibiotic resistance to assess the outcome of both approaches.



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The result? “Parent satisfaction with AOM care was not different between the two treatment groups at either day 12 or 30,” reported researchers. A whopping 66 percent of the watchful waiting group completed the 30-day study without antibiotics. What’s more, *neither* group experienced any serious ear infection related adverse events. The number of office and emergency department visits and days of work and school missed were identical between both groups.

What’s also alarming is that, compared with the youngsters in the watchful waiting group, children in the antibiotic group were more likely to develop multidrug-resistant bacteria strains after 12 days and endure antibiotic-related adverse events (*Pediatrics* 2005;115:1455-65).

### **Breast Cancer**

One large-scale study published in the prestigious *Journal of the American Medical Association* has identified a direct link between antibiotic use and breast cancer.

The study included 2,266 women with breast cancer and 7,953 randomly selected healthy control subjects. The researchers found that as the number of days of *cumulative* antibiotic use increased, so did breast cancer incidence and mortality.

Based on this study, the scientist could not pinpoint the mechanism behind the increased risks. “It cannot be determined from this study whether antibiotic use is causally related to breast cancer, or whether indication for use, overall weakened immune function, or other factors are pertinent underlying exposures.” (*JAMA* 2004;291:827-35.)

However, researchers speculate that antibiotics may play a causative role.

### **Non-Hodgkin’s Lymphoma**

Non-Hodgkin’s lymphoma (NHL) is a type of cancer of the blood that affects the white blood cells: cells that are usually involved in protecting against infection. NHL originates in the lymphatic system.

In a study in Stockholm, Sweden, researchers found that antibiotics may increase risks for NHL. The three-year study included 3,055 NHL patients and 3,187 healthy controls. Participants reported their history of using medications and of particular medical conditions.

Use of antibiotics more than 10 times during adulthood was positively associated with risk of NHL, compared with nonusers. In addition, high cumulative use of nonsteroidal anti-inflammatory drugs (NSAIDs) was marginally associated with elevated NHL risk. “Findings suggest that inflammation, infections, susceptibility to infections, and/or use of antibiotics or nonsteroidal anti-inflammatory drugs to treat these conditions may increase the risk of NHL.” (*Am J Epidemiol* 2005;162:965-74.)



### **Heart Disease**

In a large-scale study, researchers examined the records of 1,476 cases of sudden death from cardiac causes. Mortality rates among patients using the antibiotic erythromycin were twice as high as the rates among those who hadn’t used antibiotic medications.

Mixing erythromycin with certain heart disease medications proved even more dangerous. Risks for sudden

death were five times greater for those who concurrently used angina drugs and erythromycin than for individuals who used neither drug (*N Engl J Med* 2004;351:1089-96).

### **Liver Injury**

In a 10-year analysis performed in Spain from 1994 to 2004, investigators linked the antibiotic amoxicillin to liver damage.

Researchers assessed 570 patients with liver damage and found that 461 — 81 percent — related to a drug-induced liver injury. Out of the 505 drugs that patients used when they suffered the liver damage, antibiotics were most frequently incriminated, accounting for 12.8 percent (*Gastroenterology* 2005;129:512-21).

### **All-Natural Immune Boost**

Rather than reacting to disease and illness with drugs, doctors of chiropractic prefer a proactive approach — one that begins long before sickness ensues. The *chiropractic lifestyle* is rooted in strengthening the immune system to avoid illness and function at optimal capacity.

In addition to possible long-term effects, antibiotics may also create many short-term problems, such as nausea, diarrhea and allergic reactions. Schedule a chiropractic evaluation today to learn more about building the immune system, naturally.

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