



Date: October 2, 2008

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Antibiotics: Increasing risk and decreasing benefit

A new report highlighting the dangers of taking antibiotics has come out just in time for the cold and flu season.

The study, published in the September issue of the journal *Clinical Infectious Diseases*, shows that in addition to the hazards of driving up antibiotic resistance, the drugs can cause a variety of unpleasant and potentially life-threatening side-effects.

The study showed that:

- One in five visits to emergency departments for adverse drug reactions resulted from bad reactions to antibiotics.
- More than 140,000 emergency department visits annually in the U.S. are due to side effects of antibiotic use.
- For every outpatient antibiotic prescription given in the U.S., there is a one in 1,000 chance of winding up in the emergency department with an adverse reaction.

"For several years now we have been educating clinicians and the public about the growing danger of infections that are resistant to antibiotics," says Paul Lewis, M.D., a pediatrician at Oregon Health & Science University and a deputy health officer for the Tri-county area. Last year, for instance, researchers in New York reported several cases of children's ear infections that were resistant to all oral antibiotics licensed for use in children.

"It is not that antibiotics shouldn't be used," Lewis says. "Antibiotics should be used with caution and only when it is likely that a patient has a bacterial infection rather than one of the far more common viral infections."

Additionally, Lewis says, some modest, localized, bacterial infections can also be treated without antibiotics. Skin and soft tissue infections as well as some much more serious and life-threatening infections caused by the antibiotic-resistant *Staphylococcus aureus* bacteria (MRSA) have become very common across the United States.

Dr. Ann M. Loeffler, Pediatric Infectious Diseases Attending at Legacy Emanuel Children's Hospital, says that if a routine infection is a small abscess or boil on the skin and the child is otherwise not ill, the physician can drain the infection with a small incision and advise the parents how to manage the wound and watch the child carefully without antibiotics.

"The use of heating pads and limb elevation can greatly contribute to healing of some infections," She says.

There is also a growing recognition of dangerous side-effects from antibiotics, ranging from minor nuisances, such as diarrhea or skin rashes, to more severe allergic reactions, such as the sudden onset of difficulty breathing.

Dr. Ann Thomas, medical director for the Oregon Alliance Working for Antibiotic Resistance Education (AWARE), says that "when you weigh the risks and benefits of taking antibiotics for something like the cold or the flu, which are caused by viruses and won't respond to antibiotics, the issue of antibiotic resistance becomes almost irrelevant. The real issue is your personal risk."

Taking an antibiotic for an upper respiratory infection, such as sinusitis or bronchitis, has about a one in 4,000 chance of success. In contrast, there is a five percent to 25 percent chance of getting diarrhea, a two percent chance of a skin reaction, and a one in 5,000 chance of a life-threatening allergic reaction.

"You have to think it's just not worth it," Thomas said.

AWARE is a statewide coalition promoting the appropriate use of antibiotics in Oregon by educating the public and supporting health care providers in making judicious prescribing decisions. The partnership includes physicians, healthcare providers, public health agencies, higher education representatives and community-based organizations. Founded in 2001 out of concern for the growing problem of antibiotic resistance, Oregon AWARE is one of 16 state and local programs coordinated through the U.S. Centers for Disease Control and Prevention's "Get Smart: Know When Antibiotics Work" campaign.

For consumers who are concerned about preventing the spread of antibiotic-resistant bacteria and avoiding potential adverse events from antibiotics, Oregon AWARE has three key messages:

- Don't pressure your health care provider to prescribe antibiotics for viral infections such as colds or flu. Antibiotics have no power against viruses and can cause serious side effects.
- When antibiotics are prescribed, take every dose, even if your symptoms improve. Not finishing the treatment contributes to the development of resistant bacteria.
- Never share antibiotics. Taking a prescription that isn't yours or using leftover antibiotics to treat an illness can cause adverse reactions.

October 6-10 is National "Get Smart about Antibiotics Week." To find out what you can do to help promote the safe use of antibiotics and learn more about Oregon AWARE, go to <http://www.healthoregon.org/antibiotics/> or call 971-673-1100.

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