

Louisiana Pharmacists Association

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Louisiana Pharmacists Association Educates Patients about Antibiotic Overuse

Since the introduction of penicillin, the use of antibiotics has revolutionized medicine.ⁱ Unfortunately, bacteria are constantly evolving to survive antibiotic attack. Antibiotic resistance is now considered a global health threat.ⁱⁱ Infection with drug-resistant bacteria can cause longer illnesses, incur greater medical expenses, and increase the risk of death. Alternative antibiotics required to treat these resistant infections can also be more toxic and expensive.^{iii,iv}

Antibiotics are often inappropriately used to treat infections of the throat and nose. The majority of these infections are caused by viruses, which are not vulnerable to antibiotics. There is also a common misconception, held by even health care professionals, that dark-colored mucus is a sign that an antibiotic is needed.^v Many patients expect an antibiotic for their cough or cold, but the fastest pathway to resistance is overuse in cases where the antibiotic has no role in treatment. A trip to the pharmacy can still be beneficial however - the pharmacist is a knowledgeable resource who can recommend OTC products that effectively ease viral symptoms.

If a patient is suffering from a bacterial infection, it is imperative to take the entire course of medication even after symptoms resolve. After symptoms go away there are still illness-causing bacteria present, albeit in smaller numbers. If the antibiotics are stopped after symptoms disappear but prior to completing the whole course of medication, the remaining bacteria may recover their numbers and the sickness could return. Exposed bacteria that may have evolved

some degree of resistance can spread to other people; only if all the bacteria get wiped out in the initial treatment can resistance be avoided.^{vi} Also, never use an old prescription of antibiotic suspension because once it is mixed, it begins to lose potency after 14 days.

While we attempt to control widespread antibiotic use among humans by requiring prescriptions, agricultural antibiotic use accounts for 80% of antibiotic consumption in the US. As such, any discussion of antibiotic resistance would be remiss to overlook it.^{vii} Antibiotics are used for growth promotion and prophylactically to prevent disease. This has led to the evolution of resistant bacteria such as multidrug resistant salmonella. It is very important for consumers to carefully handle raw farm-raised meats in order to avoid potential exposure to these bacteria.^{3,viii}

The responsible use of antibiotics will protect not only a patient's own health, but also that of the entire community.

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The Louisiana Pharmacists Association, established in 1882, strives to promote the interests of all pharmacists of the State of Louisiana. For more information about the LPA and its benefits, contact Julie Fuselier or Phyllis Perron, LPA Co-Executive Directors at 225/346-6883 or visit our website at www.louisianapharmacists.com.

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ⁱ American Chemical Society International Historic Chemical Landmarks. Discovery and Development of Penicillin. <http://www.acs.org/content/acs/en/education/whatischemistry/landmarks/flemingpenicillin.html> (Accessed January 20, 2016).

ⁱⁱ Whitelaw AC. Role of infection control in combating antibiotic resistance., South African Medical Journal, 2015 Apr 10; Vol. 105 (5), (Accessed January 20,2016). PMID: 26242679

ⁱⁱⁱ Antibiotic resistance threats in the United States, Centers for Disease Control and Prevention. <http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf> (Accessed January 20, 2016).

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- ^{iv} National Antimicrobial Resistance Monitoring System for Enteric Bacteria (NARMS). Centers for Disease Control and Prevention. <http://www.cdc.gov/narms/faq.html> (Accessed January 20, 2016).
- ^v Centers for Disease Control and Prevention. Get smart: know when antibiotics work; 2015. <http://www.cdc.gov/getsmart/community/index.html>. (Accessed January 20, 2016).
- ^{vi} Antibiotics: Misuse puts you and others at risk. Mayo Clinic. <http://www.mayoclinic.org/healthy-lifestyle/consumer-health/in-depth/antibiotics/art-20045720?pg=1> (Accessed January 20, 2016).
- ^{vii} Hollis A. and Ahmed Z. Preserving antibiotics, rationally. *N Engl J Med.* 2013;369(26):2474–2476. <http://www.nejm.org/doi/full/10.1056/NEJMp1311479> (Accessed January 20, 2016).
- ^{viii} McEachran AD; Blackwell BR; Hanson JD; Wooten KJ; Mayer GD; Cox SB; Smith PN. Antibiotics, bacteria, and antibiotic resistance genes: aerial transport from cattle feed yards via particulate matter. *Environmental Health Perspectives*, 2015 Apr; Vol. 123 (4), pp. 337-43; (Accessed January 20, 2016). PMID: 25633846