



Bovine Colostrum & Superbugs

Antibiotic-resistant superbugs are lurking in our food supply

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Superbugs were once a figment of Hollywood's imagination, but no more. These antibiotic-resistant bacteria and deadly viruses are definitely real; they're here and making people ill in record numbers and taking lives. Superbugs commonly found in the soil and in animal and human gastrointestinal tracts make their way to the dinner table via contaminated processing equipment, food workers' dirty hands, manure applied to crops, as well as livestock and fish, who have themselves been raised on unnecessary antibiotics.

An article in the December 2013 issue of [Consumer Reports](#) reported that 97% of more than three hundred raw chicken breast samples contained illness-causing bacteria. The chicken breasts were purchased across the U.S. and included organic brands and those labeled "raised without antibiotics". The most common bacteria detected was Enterococcus, which occurred in 79.8% percent of the samples, followed by E. coli (65.2%); campylobacter (43%); klebsiella pneumonia (13.6%); salmonella (10.8%); and staphylococcus aureus (9.2 %). Virtually every sample contained some type of bacteria, including the "organic" and "no antibiotics" breasts.

Even more disturbing were the findings that nearly half (49.7%) of the samples contained at least one type of antibiotic-resistant bacteria, and another 11.5% contained two or more types of multidrug-resistant bacteria. Although consumers are advised to cook chicken to an internal temperature of 165° F and to follow safe handling practices, unintentional cross contamination and subsequent ingestion is exceedingly common. Chicken is the most popular meat consumed in the U.S., and the Centers for Disease Control and Prevention (CDC), says that "more deaths are attributed to poultry than to any other commodity." Chicken may cause the most deaths, but it's certainly not the only source of food poisoning. According to the CDC, forty-eight million Americans become ill from eating tainted food every year. That's roughly one of every six people. 128,000 are hospitalized and 3,000 die from a foodborne illness. But food poisoning is only part of the equation. The problem is compounded by livestock operations that regularly feed antibiotics to cattle, pigs, and fish even in the absence of illness. This creates strains of antibiotic-resistant bacteria, which when humans encounter, are impervious to our drugs. According to the CDC's report, *Antibiotic resistance threats in the United States, 2013*, two million people become infected with antibiotic-resistant bacteria annually, and at least 23,000 deaths are attributable to these infections. An indeterminate number of people die from other conditions that were exacerbated by the antibiotic-resistant infection.

The CDC report also confirmed the widely-held belief that there is a link between the routine use/misuse/overuse of antibiotics in livestock which has led to the escalating incidence of superbugs. Approximately 80% of all antibiotics utilized in the U.S. are administered to farm animals, and the misuse pertains to farmers who knowingly inject them into healthy livestock on a regular basis. The CDC report noted a few specific pathogens whose spread to humans is driven by farm practices. These include campylobacter which causes 310,000 infections per year with 28 reported deaths, and drug-resistant salmonella, which infects 100,000 people each year and resulted in 38 deaths. Even more staggering are the statistics for Methicillin-resistant Staphylococcus aureus (MRSA) which accounts for 80,461 severe cases per year and kills 11,285 people annually. The CDC does not directly link MRSA to livestock production, but it does note that the number of MRSA cases acquired during hospital stays has decreased

dramatically in recent years, while the overall rates of MRSA infections have increased rapidly in the general population despite not having received care in any healthcare setting.

So why would so many otherwise healthy people come down with MRSA? A recent [JAMA Internal Medicine study](#) said that increasing evidence points to factory-scale hog facilities as a source of MRSA. People living near hog farms or in areas where hog manure is applied to crops as fertilizer have an increased risk of contracting MRSA. People with the highest exposure to manure, based on how close they lived to farms, farm acreage, and quantity of manure used, were 38% more likely to get MRSA than the lowest exposure level.

Superbugs often wreak havoc on the gastrointestinal tract by causing severe vomiting and diarrhea, which may lead to life-threatening dehydration. Diarrhea is especially lethal to infants and worldwide, it is the second leading cause of death in infants. Antibiotic-resistant bacteria strains are more virulent and result in more hospitalizations than non-resistant strains. Antibiotics can be especially dangerous to infants, hospital patients, the elderly, and those with compromised immune systems. Since antibiotics cannot distinguish between good and bad bacteria, they kill everything. When the good bacteria in the gut is eradicated, it can no longer protect against the dangerous bacteria, which leaves patients susceptible to potentially fatal infections such as MRSA or Clostridium difficile (C. diff.). Additionally, antibiotics are ineffective against virus-caused diarrhea, so at-risk populations have an elevated mortality rate.

So, not only is the deliberate use of antibiotics in livestock killing people, but so is the fertilizer from these animals. Contaminated water that runs off from large scale livestock operations can affect nearby farms, even those that are certified “organic”. Farmers routinely apply fertilizers derived from antibiotic-fed fish and manure from antibiotic-fed livestock to crops as a means to encourage growth and increase crop yield. The majority of recent foodborne illness outbreaks have been linked to raw fruits and vegetables, specifically spinach, lettuce, cantaloupe, and avocados. Even organic farmers use animal-based fertilizers that may contain livestock-grade antibiotics and hormones which are readily absorbed by plants. This reinforces the truth that no one is immune from unintentional antibiotic consumption – not even vegans.

The Role of Bovine Colostrum in Fighting Superbugs

Bovine colostrum is our last and most promising hope for survival against superbugs. Studies show that bovine antibodies can be effective in the prevention or treatment of human and animal diseases caused by enteropathogenic microbes (bacteria, viruses, protozoans, and fungi). Bovine colostrum passes immunity to all the disease-causing pathogens that the cow has encountered in her lifetime, including the antibodies she received from her mother. While the female cow is expressing colostrum, she is essentially a broad-spectrum, all-natural pharmacy.

The Center for Nutritional Research recommends bovine colostrum supplements to help neutralize bacterial pathogens found in the food supply and to prevent potentially deadly illnesses caused by antibiotic-resistant superbugs. Supplementing with bovine colostrum is an added defense against bacterial pathogens in the nation's food supply. Bovine colostrum contains natural antibodies against all six bacterial strains detected by the *Consumer Reports* investigative team -- Enterococcus, E. coli, campylobacter, klebsiella pneumonia, salmonella, and staphylococcus aureus -- among many others. These superbugs may be antibiotic resistant, but they're no match against antibodies. Taking colostrum on a daily basis, in addition to proper food handling habits, can help prevent these nasty, deadly pathogens from infecting humans.

The efficacy of any bovine colostrum supplement is determined by the antimicrobial activity of the specific antibodies, which must be preserved during the manufacturing process. There is only one colostrum supplement on the market that undergoes a rigorous testing protocol to certify that it is from the first milking and is free of antibiotics and pesticides. This colostrum product has been tested and confirmed to contain active antibodies against the following disease-causing microbes:

Bacteria:

Bacillus cereus	Listeria monocytogenes	Salmonella enteritidis
Streptococcus pyogenes	Yersinia enterocolitica	Salmonella typhimurium
Streptococcus agalactiae	Escherichia coli	Klebsiella pneumoniae
Streptococcus pneumoniae	Escherichia coli O157:H7	Propionibacterium acnes
Streptococcus mutans	Haemophilus influenza	Vibrio cholera
Staphylococcus epidermidis	Campylobacter jejuni	
Staphylococcus aureus	Helicobacter pylori	

Viruses:

Adenovirus	Hepatitis C virus	Polio virus
Alphavirus	Herpes viruses	Respiratory syncytial virus
Dengue virus	HIV-1	Rotavirus
Echovirus	Human Papilloma virus	St. Louis virus
Epstein-Barr virus	Influenza	West Nile virus
Enterovirus 71	Japanese encephalitis	Yellow fever virus
Hantavirus	Measles	

Fungus:

Candida albicans

Liposomal Delivery Advantage & Standardization

To achieve the gastrointestinal benefits of bovine colostrum, it is crucial that the active components will bypass digestion in the stomach and be bioavailable for uptake and distribution to the body's cells. Additionally, colostrum must be soluble for free dispersion throughout the GI tract. Liposomal Delivery Advantage enhances the bioavailability, and extensive research shows that such an enhanced delivery method allows ingested bovine colostrum to achieve the intended results. ONLY select colostrum supplements that are GMP certified, contain a standardized content of active components, are flash pasteurized without loss of effectiveness, are derived from first-milking pastured cows, and utilize Liposomal Delivery Advantage.

Safety of Bovine Colostrum Supplements

No significant health risks have been reported during or after oral ingestion of colostrum preparations. Colostrum supplementation is generally regarded as a non-invasive intervention, and therefore, safe.

It is important that diagnosis and evaluation of chronic symptoms be determined by qualified health care professionals either natural health care practitioner or complimentary care physician. The above is not intended to diagnose or treat disease and the statements herein have not been evaluated by the Food and Drug Administration.

The Center for Nutritional Research is a not for-profit organization located in Sedona, Arizona dedicated to the continued research and promotion of bovine colostrum. The Center for Nutritional Research has pioneered colostrum collection and processing technology for human consumption. This information is copyrighted and may not be reproduced without express permission from the Center for Nutritional Research.

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