

The (Amazing) Antibacterial, Antiseptic, and Antibiotic Properties of Turmeric Based on Scientific Studies

Turmeric's myriad of health benefits including antibacterial and antibiotic effects date back more than 5,000 years. Eastern medicine famously uses this wonder root also known as "Curcuma Longa" as an herbal remedy for a whole range of illnesses and conditions. Today, scientific research increasingly recognizes the truly remarkable healing properties of this ancient spice for treating modern disease.



Turmeric is a natural antiseptic and antibacterial with antibiotic properties that has historically been used as an agent to treat everything from minor cuts and scrapes to scabies, skin ulcers and even

leprosy. Turmeric is also a powerful topical antibiotic that helps prevent infections and sepsis in wounds. Acne, psoriasis, eczema and other skin conditions also benefit from the antibacterial action of the spice.

In addition to disinfecting and preventing infection, Turmeric also can help to stop pain and swelling as well as promote the healing of damaged skin tissue. Traditionally used in India for cosmetic purposes, for clearing up blemishes and giving a natural glow and radiance to the skin, it is becoming the natural beauty guru's secret to clear, glowing skin.

Turmeric contains dozens of powerful compounds including a powerful active chemical compound called curcumin. This

compound is not only responsible for its vibrant yellow-orange color and its distinctive flavor, but it also gives Turmeric some of its powerful health benefits.

Bacterial infections are among the most common infectious diseases. Over 50 years of extensive research have discovered new antimicrobial medicines isolated from different natural and chemical sources. Despite progress in development of antibacterial agents, there are still special needs to find new antibacterial agents due to development of new bacteria that are resistant to common pharmaceuticals.

Public health officials have accepted antibiotic resistance is no longer an underlying problem in medicine but a real threat. The number of bacteria capable of tolerating and evading our most powerful medicines against infectious disease continues to rise and several pan-resistant (pathogens that are specifically resistant to 7 antimicrobial agents – cefepime, ceftazidime, imipenem, meropenem, piperacillin-tazobactam, ciprofloxacin, and levofloxacin) strains already exist. The move to reduce the use of these drugs in medicine and agriculture is strengthening although some fear this may not stop the path towards a post-antibiotic era. This means looking elsewhere for treatment options. Antibiotics were first discovered in natural species – fungi to be exact – and a number of options for the future have been found.

Dozens of [studies](#) have revealed many clinical benefits associated with curcumin. They include antioxidant properties, [anti-inflammatory](#) activity and protection against chronic diseases such as diabetes and cancer. The molecule also has antimicrobial activity and is effective against bacteria, viruses, and even fungi. [Turmeric Curcumin](#) has been identified as a very strong potential candidate for an alternative to traditional antibiotics.

Surgical site infections are also a major source of illness

and can even be fatal. Our skin serves as an external barrier to microbes; therefore any surgical cut made in the skin could possibly serve as an entry point for infection. This class of infection can be either restricted superficially to the wound or may be deep-seated in the muscle or organ near the surgical wound. One of the most common infections that occurs in surgical sites is MRSA (methicillin resistant *Staphylococcus aureus*). It is a strain of bacteria that is unaffected by the antibiotic methicillin.

The anti-bacterial activity of curcumin against MRSA has been under investigation. A [comparative study](#) of extracts of Turmeric in different mediums to test its antibacterial activity against MRSA was performed in South Korea ; the results indicated that not only does curcumin help to terminate the infection but also may inhibit any prospect of further infection by acting as a barrier and altering the mechanism by which the bacteria could enter the cell.

Curcumin in combination with readily available antibiotics has been studied for its effectiveness against MRSA, which could lead to the possibility of development of new combinations of antibiotics. Curcumin along with an antioxidant isolated from green tea has shown promise of strong anti microbial activity against MRSA.

Although there is research that can tell us that curcumin has antibacterial properties, exactly how this happens has rarely been explored. A team of researchers from India provided some significant help in [explaining how curcumin may kill bacteria](#). Their results revealed not only a possible mechanism of action but also revealed a probable reason for its broad range of activity.

The study introduced curcumin to actively growing bacteria and looked for any changes in growth. To be sure they had reliable microbial contenders, the team chose four common species known to cause serious illness. They included *Staphylococcus aureus*,

Escherichia coli, *Enterococcus faecalis* and *Pseudomonas aeruginosa*.

As expected, curcumin killed all the bacteria within two hours. Even more encouraging was that the actual amount of curcumin used was no more than a few micrograms. In the context of an actual Turmeric root, that would be equivalent to only a few milligrams needed to achieve the same result.

Now that the study confirmed the actual action of the curcumin against the bacteria, the next steps were to identify just how the molecule killed the bacteria. The team used a number of different techniques to see what might be happening. For instance, they looked at the bacteria under an electron microscope and used colored dyes to determine structural changes to the bacteria.

In all of the observation methods that were chosen, the results were the same. Turmeric Curcumin weakened and ruptured the bacteria's membrane. When viewed under a microscope there were cavities in the bacterial membranes, which are normally perfectly intact. The colored dyes further showed that a catastrophic flooding from the outside had occurred. This resulted in the subsequent death of the bacterial cell.

An even more substantial result was that this membrane penetrating activity happened regardless of the type of bacteria tested. All four species have very different structures and their outside protective walls are unique to their species. But the curcumin molecule had the same mechanism of action and more importantly, the same ability to destroy each type of bacteria.

It was suggested that the results of this study could lead to the combination of Turmeric curcumin with already available antibiotics to increase the antibacterial potential. With the proven broad spectrum activity and the relatively low concentration needed, this simple spice molecule may indeed

fit as a candidate for replacement of antibiotics. This is a very significant discovery to be considered with the increasing interest in holistic remedies and natural treatments for common illnesses.

Some of the more common uses from Turmeric as an antibacterial agent are:

- Cuts, surgical incisions and wounds: Using Turmeric for wounds may help to heal the wound, assist in preventing infection and it's anti-inflammatory properties can also reduce the pain . It can speed up the healing process and also minimize the risk of formation of scar.
- Systemic Infections: Using Turmeric may helps systemic issues by acting on the bacteria that cause the infections of the respiratory, circulatory and digestive systems. In addition to its antibacterial properties, the anti-inflammatory and anti-viral actions Turmeric possesses are also beneficial.
- Skincare: Turmeric can be effective in the treatment of acne due to its antiseptic and antibacterial properties which fight pimples and breakouts to provide a youthful glow to your skin. Turmeric applied as a face mask not only helps to clear acne scars and inflammation but also reduces oil secretion by sebaceous glands.

Turmeric's incredible antibacterial/antibiotic properties may help to destroy bacteria that cause illness and according to studies helps to enable the strengthening of the body's natural defenses. Turmeric has no negative effects on the intestinal micro flora and in fact reduces digestive track inflammation. Additionally, Turmeric may be a safer alternative to other natural and perhaps even synthetic (lab created meds) for long term usage.



- [Turmeric Benefits – 2015](#)

- [Turmeric Anti-inflammatory Benefits: 10 Amazing Inflammation Facts](#)
- [The \(Amazing\) Antibacterial, Antiseptic, and Antibiotic Properties of Turmeric Based on Scientific Studies](#)
 - [Turmeric: The Incredible Flu Fighter](#)
 - [Turmeric: Skin Healing Superstar](#)