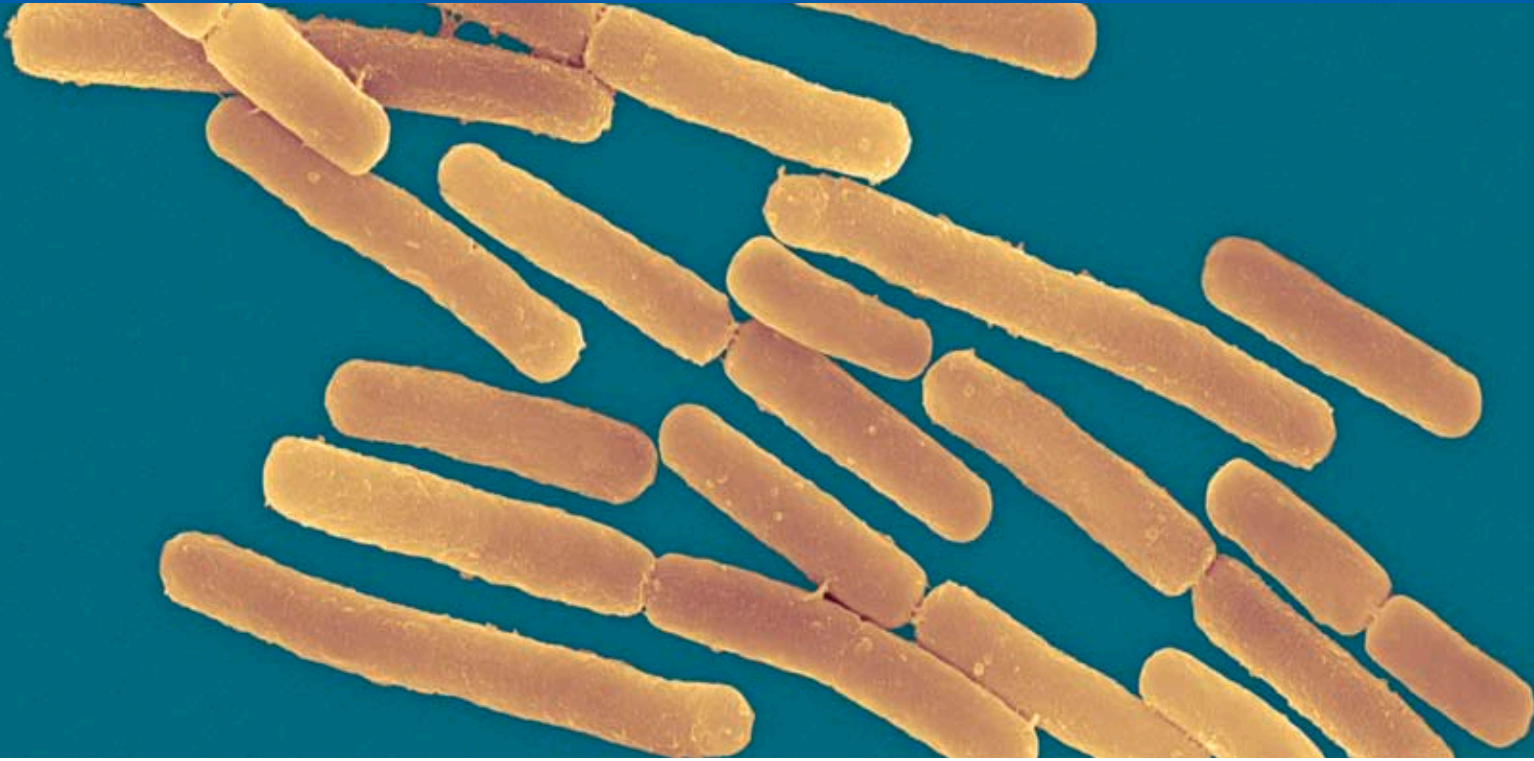




# *Clostridium difficile*: Infections on the Rise



## Facts About *Clostridium difficile*

### What is it?

*Clostridium difficile* or *C. difficile* is a bacterium found in the intestines causing a variety of symptoms, from diarrhea to more serious life threatening intestinal disease. A survey by the Association for Professionals in Infection Control (APIC) found that *C. difficile* infections cost American healthcare institutions \$17.6 million to \$51.5 million each day — and the incidence rate of 13 out of every 1000 inpatients either infected or colonized with *C. difficile* is 6.5 to 20 times greater than previous incidence estimates.<sup>1</sup>

### Transmission and treatment

*C. difficile* bacteria is found in feces and can be transmitted by hand to frequently touched surfaces such as bedding, toilets, bedpans, light switches and grab bars. People can become infected if they touch contaminated surfaces or items and then touch their mouths or mucous membranes. Treatment may include discontinuing the antibiotic that caused the infection and then prescribing a different antibiotic.

### Who is at risk?

The risk of contracting *C. difficile* increases in the elderly and in patients with previous antibiotic use, a serious underlying illness and a long stay in healthcare settings such as hospitals, nursing homes and other healthcare institutions.

### Vegetative versus spore

The spore form of *C. difficile* represents a dormant, highly protected state and is extremely resistant to heat, drying and numerous chemical agents, including a variety of disinfectants. *C. difficile* spores have the ability to survive for up to 5 months on surfaces.<sup>2</sup> Alternatively, vegetative cells of *C. difficile* are easily killed by heat, drying and many disinfectants, and due to their inability to tolerate oxygen, they can live for only a few hours on surfaces.

### Decontamination of environmental surfaces

*C. difficile* spores are resistant to many commonly used disinfectants, sanitizers and cleaning agents, even alcohol-based hand sanitizers. Because *C. difficile* patients can contaminate their environment and the spores can persist on surfaces for months, adherence to the CDC "Guidelines for Environmental Infection Control in Health-Care Facilities" is critical to help reduce the spread of *C. difficile* spores. Clorox Commercial Solutions® Ultra Clorox® Germicidal Bleach is the first product to obtain federal EPA and state registration for killing *C. difficile* spores on hard, nonporous surfaces when used as directed.

1. Association for Professionals in Infection Control, "Intestinal Infection Afflicts 13 of 1,000 Hospital Patients; Infection Rates 6.5-20 Times Greater Than Previous Estimates, New Study Says," November 11, 2008.

2. Kim et al. 1981. J Infect Dis 143: 42-50

## Clorox Commercial Solutions® Ultra Clorox® Germicidal Bleach

Effective against:

KILL TIMES

<i>Acinetobacter baumannii</i>	5 min
Adenovirus type 2	5 min
<i>Aspergillus niger</i>	5 min
Avian Influenza A	5 min
<i>Candida albicans</i>	5 min
Canine parvovirus	10 min
<b><i>Clostridium difficile</i> spore</b>	<b>10 min</b>
Cytomegalovirus	5 min
Human Coronavirus	5 min
<i>Enterococcus faecalis</i> , vancomycin resistant (VRE)	5 min
<i>Escherichia coli</i> , ESBL* producing	5 min
<i>Escherichia coli</i> O157:H7	5 min
Feline panleukopenia virus	10 min
Human Hepatitis A virus	5 min
Human Hepatitis B virus	5 min
Human Hepatitis C virus	5 min
Herpes simplex virus type 2	5 min
HIV type 1	2 min
Influenza A virus	5 min
<i>Legionella pneumophila</i>	5 min
<i>Mycobacterium bovis</i> (Tuberculosis)	5 min
Norovirus (as Feline Calicivirus)	5 min
Parainfluenza type 1	5 min
<i>Pseudomonas aeruginosa</i>	5 min
<i>Rhinovirus</i> type 17	5 min
Rotavirus	2 min
Respiratory syncytial virus (RSV)	5 min
Rubella virus	5 min
<i>Salmonella enterica</i>	5 min
<i>Shigella dysenteriae</i>	5 min
<i>Staphylococcus aureus</i>	5 min
<i>Staph. aureus</i> , methicillin resistant (MRSA)†	5 min
<i>Streptococcus pneumoniae</i>	5 min
<i>Streptococcus pyogenes</i>	5 min
<i>Trichophyton mentagrophytes</i>	5 min
Varicella-zoster virus	5 min



**The first product registered by the EPA to kill *C. difficile* spores‡**

**PRODUCT INFORMATION**  
Case UPC 02490 6/96 oz.  
Case UPC 02489 3/182 oz.

### Registered by the EPA and in all 50 states

Ultra Clorox® brand Germicidal Bleach complies with EPA standards for product efficacy, usage safety, shelf life, label strength, processing and raw materials. Add confidence to your disinfecting regimen by ensuring your bleach adheres to these rigorous standards.

### More concentrated

At 6.15% sodium hypochlorite, Ultra Clorox® brand Germicidal Bleach is more concentrated than many bleach products on the market. Using the Centers for Disease Control and Prevention-recommended dilution ratio of 1:10, Ultra Clorox® brand Germicidal Bleach exceeds the 5,000 ppm required to kill many of the pathogens of most concern to hospitals.

### Safe for use on most nonporous surfaces

Use Ultra Clorox® brand Germicidal Bleach with confidence to clean and disinfect large surfaces such as exam tables, floors and hallways, as well as bedrails, tables, equipment surfaces and mobile devices such as IV stands, BP monitors, carts and glucometers.‡

### Effective cleaning

Ultra Clorox® brand Germicidal Bleach is excellent for controlling mold and mildew in bathrooms, on high-touch surfaces and in laboratories. Our product complies with OSHA guidelines for bloodborne pathogens and meets FDA guidelines for sanitizing food contact surfaces.‡

### Long shelf life

Not all bleach products are created equal. Our higher concentration and super-filtration processes help ensure long shelf life, so you can trust Clorox® bleach to be effective.

### Environmental impact

Clorox does not purchase sodium hydroxide or chlorine that is manufactured with the mercury cell process. This eliminates a source of mercury contaminants found in some bleach products. During use and disposal, 95 percent to 98 percent of bleach rapidly breaks down back into salt and water. The remaining by-products are effectively treated by municipal wastewater and septic systems. Bleach does not contaminate ground water because it does not survive sewage treatment, either in municipal sewage treatment plants or in septic systems. No dioxins are formed.

Contact your Clorox representative directly, e-mail [healthcare@clorox.com](mailto:healthcare@clorox.com) or visit [www.cloroxprofessional.com](http://www.cloroxprofessional.com) to learn more about Clorox Commercial Solutions® products.

## 38 Kill Claims

\* Extended Spectrum Beta Lactamase  
† Includes CA-MRSA Genotypes USA 300/400  
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1221 Broadway, Oakland, CA 94612

‡ Federal EPA & State registered. Use as directed on hard, nonporous surfaces.

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