

# Dirty pacifiers may make infants sick, study says

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But some experts say concerns about germs are overstated and parents should not be worried.

(HealthDay)—Pacifiers are universally popular with new parents and their infants, but there's one big problem with them: They can get dirty. Very dirty.

Researchers report that they found a wide range of disease-causing bacteria, fungus and mold on pacifiers that young children had been using.

They added that pacifiers can often grow a slimy coating of bacteria—called a biofilm—that actually alters the normal bacteria in a baby or toddler's mouth. That [biofilm](#) can spur inflammation and potentially increase the risk of developing [gastrointestinal problems](#) such

as colic or even ear infections.

In fact, the same types of bacteria found on a common pacifier have been linked to cardiovascular disease, [metabolic syndrome](#), allergies, asthma and [autoimmune diseases](#), said study author Dr. Tom Glass, a professor of forensic sciences, pathology and [dental medicine](#) at Oklahoma State University.

Glass said the problem with pacifiers applies also to removable orthodontic appliances such as retainers and even athletic mouth guards and dentures. Pores in the plastic can capture fungi, bacteria, food and water, creating a perfect spot for bacterial and [fungal growth](#) and infection, he explained.

The research was scheduled to be presented Friday at the American Society for Clinical Pathology annual meeting in Boston. The data and conclusions of the study should be considered preliminary until they are published in a peer-reviewed journal.

The study authors collected 10 pacifiers from healthy infants at a pediatric clinic. They chopped up the nipples and shields finely, and put them in laboratory dishes designed to allow any bacteria or fungi that was present on the pacifiers to grow.

After 24 and 48 hours, the investigators compared the growth around the used pacifiers to the growth in dishes in which chopped-up new, unused pacifiers had been placed.

While half of the 10 used pacifiers were lightly contaminated, the other 5 were heavily contaminated (with levels reaching as high as 100 million colony-forming units per gram).

The researchers cultured 40 different species of bacteria from the 10

used pacifiers. One pacifier was contaminated with four different strains of *Staphylococcus aureus*. Yet, the unused pacifiers were found to be sanitary (with colony growths in the dishes less than 100 colony-forming units per gram).

What was particularly concerning, said Glass, was that many of the bacteria growing from the used pacifiers were resistant to commonly used antibiotics such as penicillin and methicillin.

The development of such resistance to certain antibiotics does not cause the organism to be more infectious than other strains that have no antibiotic resistance, but it can make the infection more difficult to treat.

Glass doesn't recommend that parents use pacifiers to calm their babies and toddlers. "After doing the study, I say why take a risk? The key is to recognize that pacifiers can cause illness," he said. "In the long run, it may be that what you do now [using a pacifier] may have a lot to do with whether a child ends up developing atherosclerosis or type 2 diabetes."

For those who still choose to use pacifiers, Glass recommends soaking them daily in a denture-cleaning agent and carrying extras so a dropped or soiled pacifier doesn't have to be replaced without first cleaning it thoroughly at home.

He also recommends throwing out pacifiers after two weeks of use because wear increases the bacteria-trapping porousness of the plastic.

Some experts are not concerned about pacifiers carrying disease-causing germs.

Dr. Ben Hoffman, medical director of the Children's Safety Center at Oregon Health and Science University's Doernbecher Children's Hospital, said he can't think of an infection a child has had that he would

attribute to a pacifier.

"The majority of things you're going to find on a pacifier are things we'll find on our clothes, normal human flora," said Hoffman. "It's not a reason to demonize [pacifiers](#) if people find them useful."

**More information:** Find out more about the risks and benefits of pacifiers from the [American Academy of Family Physicians](#).

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