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# Biomedical Breakthroughs and My Life

My essay focuses on the causes and the possible cure of middle ear infections. It is important to cure it because thousands of children get ear infections every year. The reason why it should be cured is because it's painful, cause problems with your hearing and it could kill you. What the research shows are different medicines that can possible cure ear infections.

Biofilms is a bacteria that causes ear infections. According to a study published by the American Medical Association " biofilms are antibiotic resistant colonization of bacteria that attach to surfaces and form a slime like barrier that acts as a formidable defense mechanism, protecting the bacteria from eradication". What that means is, the biofilms keep the medicine from killing the bacteria. Children who have suffered chronic middle ear infection tested positive for biofilms. Scientist have to find a new way to get pass the biofilms.

The scientists are researching new ways of curing ear infections. They're researching in different places like Tennessee and New York. The reason they're trying to cure it is so fewer children get ear infections. Scientist discovered a vaccine called pneumococcal conjugate vaccine (PCV). When PCV was given to children the following things were achieved: (10/9/2006)

17 percent fewer children developed chronic ear infection in Tennessee  
28 percent fewer children developed chronic ear infection in New York  
16 percent fewer children in Tennessee ended up needing ear tubes  
23 percent fewer children in New York ended up needing ear tubes

While the results are good the scientist want to research more. The scientists are researching more so they can be sure about the results. If the results continue to be good it could mean that children have fewer ear infections in the future.

Another possible cure is a nasal spray. Researchers said that the first step is to treat middle ear infections in children along with other complications that arise from the flu and other infections. The spray has not been tested on children but it has been tested on mice. Researchers see in the future a nasal spray that people can use once a week during the wintertime to clear out the bacteria. The spray can also be used after the flu to prevent other infections since it's not the flue that kills people but the bacteria infection that may follow. The reason why the spray is important is because at least 80 percent of kids in the U.S. get an ear infection once in their lives and it's good for parents who do not want to use antibiotics to prevent the ear infection in their children.

Ear infections are a big problem for children between 2 and 12-years-old. Researchers haven't found a real cure yet. When children get ear infection they have to go to the doctor many times and get many different medicines. It also takes a lot of time to go to the doctor and can be very expensive. Even though you spend all that time and money there is no guarantee it will go away. Ear infections can be dangerous because some time the infections can turn into something else far more dangerous that result in sickness and even death.

When researchers find a permanent cure it will relieve children's pain, and they wont have to go to the doctor, save money, prevent children from hearing lost, and possibly more serious infections.

## **Reflective Paragraph:**

**I wanted to do this paper on ear infections because my little sister has had many infections. When she has an infection my parents have to take her to the doctor for medicine. Sometimes she has to go very late at night or early in the morning. She cries a lot because she is in pain and I feel sorry for her. I hope that someday researchers will find a cure. Many children have the same problem so I hope a cure is found soon.**

**This was a good learning experience. I learned many things that help me better understand the problems of ear infections.**

# **Bibliography**

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**Ear Infections in your child  
Grundfast/Carney copy write 1987**