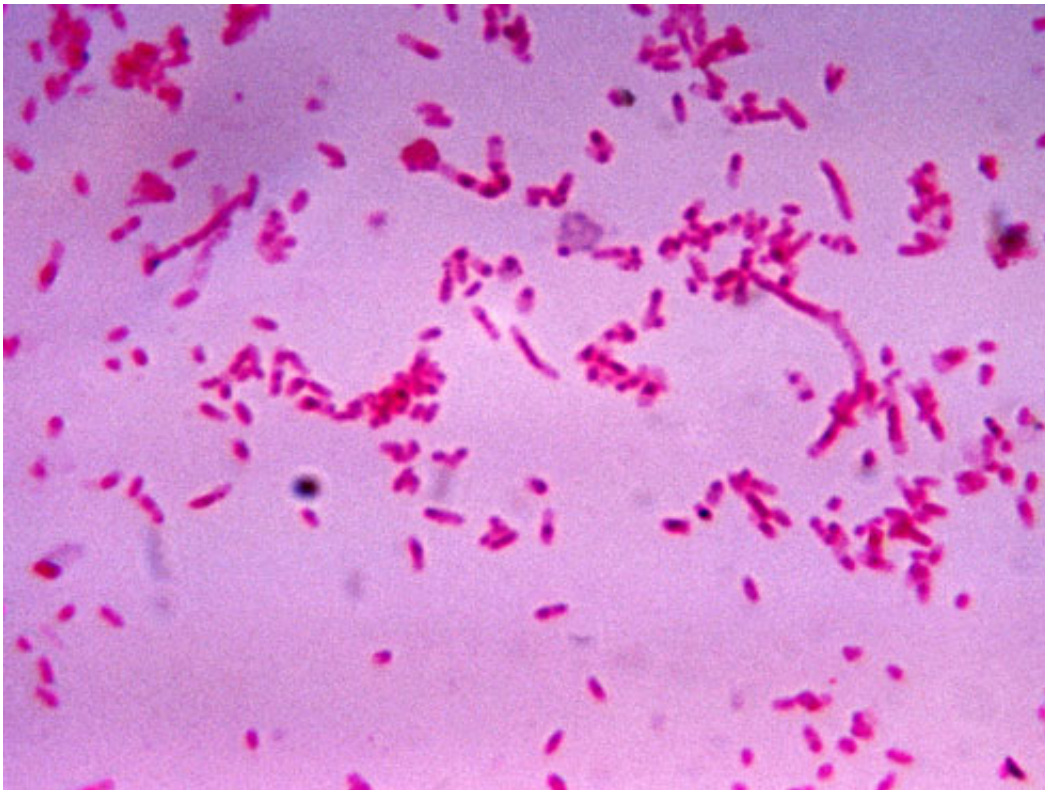


Forgotten bacterium is the cause of many severe sore throats in young adults

February 17 2015, by Bob Shepard



New research from the University of Alabama at Birmingham suggests that *Fusobacterium necrophorum* more often causes severe sore throats in young adults than streptococcus—the cause of the much better known strep throat. The findings, published today in the *Annals of Internal Medicine*, suggest physicians should consider *F. necrophorum* when

treating severe sore throat, known as pharyngitis, in young adults and adolescents that worsens.

In an analysis of 312 college students at UAB's Student Health Clinic, investigators found that *F. necrophorum* was detected in more than 20 percent of patients with sore-throat symptoms, against only 10 percent for Group A strep and 9 percent for Group C or G strep.

"This is the first study in the United States that shows that *F. necrophorum* causes a significant number of cases of pharyngitis in this young adult population," said Robert M. Centor, M.D., professor in the Division of General Internal Medicine in the UAB School of Medicine and the study's lead author. "It is also the first to show that *F. necrophorum* pharyngitis and streptococcus pharyngitis share similar clinical signs. This study bolsters our understanding that this condition is common in the U.S. and very closely resembles strep throat."

Centor says that *F. necrophorum* pharyngitis is the leading cause of a rare but potentially very dangerous condition known as the Lemierre's syndrome. The syndrome affects mostly adolescents and [young adults](#) and is seen rarely in pre-adolescents. It often causes long, complex hospitalizations requiring intensive care, and about 6 percent of those contracting the Lemierre's syndrome die.

Group A strep can also cause a serious disease, rheumatic fever, which remains common in many parts of the developing world, but is now rare in the U.S. The [rapid test](#) for strep and aggressive treatment with antibiotics have contributed to rheumatic fever's decline in this country. Centor says *F. necrophorum* warrants the same consideration.

"It is not just about strep throat in this 15-30 age group," said Centor. "Physicians have to consider *F. necrophorum*, which in our study caused more [sore throats](#) than strep. And *F. necrophorum* is itself associated

with a potentially devastating complication, which while rare, is a more common side effect that acute [rheumatic fever](#)."

The Lemierre syndrome occurs in around one in 70,000 adolescents/young adults each year. It begins with a sore throat, followed by an infected jugular vein after four to five days. Abscesses in other parts of the body may occur. It was more common, and deadly, prior to the advent of penicillin. Nearly wiped out by routine antibiotic use, it has since been called the forgotten disease; but Centor says it has been making a comeback in the past 10 years as antibiotic use has slowed due to fears of antibiotic resistance.

"I read an article about *F. necrophorum* in the BBC news in 2002, and I became fascinated by this bacterium that once had been the cause of this very devastating disease but had become forgotten for perhaps 30 years," Centor said. "I started following the literature and discovered that *F. necrophorum* had recently been identified in Europe as a cause of endemic pharyngitis in adolescents and young adults."

The issue for physicians is that *F. necrophorum* pharyngitis is hard to recognize. Its signs and symptoms are very similar to those of [strep throat](#). There is a rapid test for strep; but there is not a routine, commercially available rapid test for *F. necrophorum*.

"For an infection caused by *F. necrophorum*, aggressive therapy with antibiotics is appropriate, as the bacterium responds well to penicillin and other antibiotics," said Centor. "We suspect that many physicians would prescribe antibiotics for patients with *F. necrophorum* pharyngitis if there were a point-of-care diagnostic test that proved its presence."

In the absence of a viable test for the presence of *F. necrophorum*, Centor suggests that treating with antibiotics empirically may be the best course of action. He says that those patients who have clinical symptoms,

and score high on the Centor Score (a set of criteria used to identify the likelihood of a bacterial infection of adult patients with sore throat, named after Dr. Centor) should be considered for antibiotic treatment.

The absence of a test to detect *F. necrophorum* remains a problem. Centor's team had to create their own research assay especially for this study—a polymerase chain reaction or PCR test. A PCR test is likely to be too expensive and time-consuming to be practical, and *F. necrophorum* is difficult to culture because it is an anaerobic bacterium requiring special methods to grow it in a lab. A rapid test, similar to the [strep](#) test, is an intriguing possibility.

"This is the first step in a series of studies that need to be done to define the prevalence and extent of *F. necrophorum* and how it presents clinically," Centor said. "A very important next step is to develop a practical and affordable point-of-care test for *F. necrophorum*."

Provided by University of Alabama at Birmingham

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