

# CAMPUS NEWS

## Instructor studying diseased bacterium

Although it hasn't received the publicity of the deadly disease which struck in the summer of 1976, another mysterious bacterium has appeared—this one affecting people living in coastal areas of the southeastern US.

And like the Legionnaire's disease, this bacterium is a killer.

Thus far the bacterium has been found only in salt water. Of those persons infected by this pathogen, a high percentage have died.

Dr. James D. Oliver, a microbiologist at UNCC, is pioneering research on this newly discovered micro-organism. He doesn't want to push the panic button for persons living or visiting coastal areas, but the evidence suggests some caution should be taken.

"There seems to be two ways humans can acquire the organism," Oliver said. "One is through a cut in the skin, and the other is through ingestion of contaminated seafoods."

Once inside the body, the organism apparently produces a toxin that causes the water in the blood to be lost to the body tissues. "The blood develops a molasses consistency which does not circulate," Oliver said.

The symptoms include swelling and decay of tissues, severe low blood pressure, shock and inflammation of the skin.

The disease can be easily treated by current antibiotics, but the problem is identifying it in time. Oliver said hospital laboratories have not traditionally used salt in media employed in testing to identify bacteria. Without salt, the bacterium—which has been labeled lactose-positive *Vibrio*—dies quickly.

Oliver said a few hospitals in coastal areas are now using salt in their testing procedures. Because the bacterium thrives in salt solutions, it is thus easier to identify.

The Center for Disease Control (CDC) in Atlanta reported nearly 70 clinical cases of the disease from 1976-78.

In a report published early this year, Dr. Paul Blake of the CDC's microbiology division did a case history study on 39 persons infected by the disease. There is a strong indication persons with a liver dysfunction are more susceptible to infection. There is also evidence people are being infected by eating raw oysters which are contaminated with the bacterium.

Of the 39 cases in Blake's report, 24 were infected through ingestion, resulting in 11 deaths. Twenty-three of the 24 had some type of liver ailment, and 19 had eaten raw oysters just prior to their illness.

Oliver said the bacterium can penetrate the skin through an opening as "slight as an ant bite."

The CDC has done the only two case studies on this type of bacteria. It was the CDC's first report on 38 cases in 1976 which got Oliver and one of his graduate students interested in the organism.

As a project for his master's degree, Mike Poole, now a third-year medical student at UNC-Chapel Hill, began research on how this bacterium infected a variety of laboratory animals. This study provided the first experimental data on the pathogenesis of the organism.

Mice, hamsters and

rabbits were selected for the experiment which was sponsored by a grant from the Charlotte-Mecklenburg Heart Association. Bacterial samples were obtained from the CDC and placed in the drinking water of the animals in a UNCC laboratory. Other animals were injected with the bacteria.

Oliver and Poole found the animals in some cases died within a three-hour period after being infected, one of the most rapid death rates reported in this type of research.

They also did surgery on rats and rabbits, placing the organism in the intestinal tract. They planned to reopen the incision 13 or 14 hours later to study how the organs had been affected, but the animals kept dying before the time was up.

Since that initial study, Oliver has continued research on the bacterium. He currently is giving alcohol to mice so they will develop cirrhosis of the liver. When the mice develop the liver ailment, they will be tested with the bacteria to study the role the liver plays in the infection. Oliver has also spent the last year trying to isolate some type of toxin he feels the organism is producing.

He's received financial help from the Greater Charlotte Foundation

and the United Medical Research Foundation, a United Way organization. He also has applied for a quarter million dollar grant from the National Institute of Health for a much broader three-year study of the organism.

"I don't think this organism is new," Oliver said. "I believe it's been around for some time, but has just been lumped together with other bacteria. Only recently has it been realized it differs from other types of bacteria."

"We've done the first laboratory investigations into the pathogenesis of infections caused by the lactose-positive *Vibrio*," he said. "Now, we want to look at two questions on a broader scale. First, we want to find out where it is—the ecology of the organism. Second, we want to find how it kills—the pathogenesis of the organism."

To date no systematic studies have been performed on the distribution of the bacteria in coastal waters. Oliver, in his grant proposal to the National Institute of Health, wants to study sites at 16 major beach/resort areas along the East coast from Maine to Florida. He's awaiting word on his grant application.

The microbiological, chemical and physical factors affecting the eco-



UNCC microbiologist Dr. James D. Oliver injects mouse with a sample of a bacteria. Oliver is conducting research on a mysterious bacteria which is infecting people living in the Southeastern U.S.

logy of the organism will be investigated. Samples to be examined include water, sediment, plankton and shellfish at each site.

Oliver thinks he may have already found the bacterium in waters near the Marine Resources Center at Ft. Fisher on the North Carolina coast. Further studies

are necessary before definite conclusions are reached.

"Mothers should be unduly alarmed if their children play in the water at the beach," Oliver said. "The chances of a child acquiring the disease do not seem great."



Basketball coach Judy Wilkins will be advising the cheerleading squad next year.

## Basketball coach Judy Wilkins adds duties of cheerleading advisor

By Luann Whitley  
Judy Wilkins, assistant athletic director, will tackle the job of being cheerleader advisor next year.

"The main change I want to make will be to instill better rapport between the cheerleaders and students," Wilkins said. "As it stands, the UNCC students have a negative image of the cheerleading squad. We want to have better coordination between the squad, students and pep band next year," Wilkins said.

Another major change will be the cheerleaders will cheer for the women's basketball games as well as the men's.

"We will want to have a good squad next year. There will be more discipline involved and we are going to set up specific rules for the squad to follow," Wilkins said.

There will be only one tryout for the cheerleading squad and it will be held in the fall. The present travel procedures for the squad will not

change. "The squad will cheer at all of the basketball games," Wilkins said.

"We want the students to become more involved with the cheerleaders. The squad will do more chants next year with less emphasis on gymnastics. More pep rallies will also be held," Wilkins said.

"Being a cheerleader at UNCC will become more special position. We will have a better organized and more recognized squad next year," Wilkins said.