

# Doctors Explain Flu-Pneumonia Link

By William Erwin

Immunologists here have discovered why a simple case of the flu often leads to pneumonia in elderly people and infants.

They believe their discovery eventually could help cut the death toll from flu epidemics.

In a 10-month study, Dr. Ralph Snyderman and his colleagues found that flu viruses cripple certain disease-fighting white cells in the body. These cells — called monocytes — are vital to the immune system. They're so tiny that 50 of them side by side would barely equal the diameter of a paper clip wire.

Normally the cells squeeze through pores in the blood vessel walls by the millions and engulf foreign

microorganisms before they can do any harm.

But flu viruses infect the monocytes and make them sluggish, the researchers found. They noted that when a person has the flu, only one-fourth as many monocytes as usual are likely to leave the bloodstream and battle invading organisms.

With so many white cells out of action, harmful bacteria can step up their attack. They gain beachheads in people whose immune systems are weak to start with — such as the very young and the very old, Snyderman said.

The most common disease to strike in this way is pneumonia, he said.

"Individuals who have influenza become very susceptible to different types of pneumonia which are very difficult to treat," he said. "What they usually die of is bacterial pneumonia."

Flu-induced pneumonia killed 825 people in January and February, according to the Federal Center for Disease Control in Atlanta.

Pneumonia is a severe inflammation of one or both lungs. Snyderman explained that it — rather than some other disease — hits flu sufferers because their lungs are already damaged slightly by the flu. Pneumonia bacteria sense this and swarm to the damaged tissue, he said.

Snyderman is a Howard Hughes Medical Investigator here. His co-workers on the study were Dr. Eugenie S. Kleinerman, a research fellow in rheumatology, and Dr. Charles A. Daniels, an associate professor of pathology. The three have published their findings in "The Journal of Immunology."

The scientists were well into their study when this winter's flu epidemic gave them an unexpected chance to prove their theory.

Dr. Kleinerman led this part of the investigation. She took blood samples

from 16 undergraduates who had the flu. She then tested the ability of their monocytes to home in on danger signals produced by the immune system when infectious organisms enter the body.

That ability was depressed in 15 of the 16 students, she found. Three weeks later, the students' white cells were back to normal.

The results provide useful clues about how to counteract virus infections, Snyderman said.

"If we can't get rid of the virus specifically, maybe what we should try to do is reverse the defects the viruses are causing," he said. What's needed are more drugs to stimulate the white cells knocked out of commission by viruses, he added.

One such drug — Levamisol — is being tested at Duke and other medical centers.

"Initially, it was developed to get rid of parasite infections," Snyderman said. But doctors noticed that it also pepped up the immune system.

"What we've found is that Levamisol markedly enhances monocyte chemotaxis (disease-fighting mobility) in humans," he said.

Now Snyderman and his team want to know whether viral infections make a person more prone to cancer.

"The main question we're asking is: does (white cells) depression by fairly innocent viruses make you more susceptible to the development of tumors?" he said.

## VOLUNTEERS NEEDED

Adult volunteers are now needed for a study of fever blisters and cold sores. The study, sponsored by the National Institutes of Health, involves the culturing of viruses from unbroken blisters. If you are interested in volunteering, please call 684-2129. You will be paid for taking part in the study.



**TO BE HONORED** — Radiologic technologist Frances Apple of the Diagnostic Division of the Department of Radiology has been selected to present the annual Reeves-Rousseau Lecture at the state convention of the North Carolina Society of Radiologic Technologists in Wilmington, N.C., May 1-3. This is the highest honor accorded to any member of the professional society, and it is named after Dr. Robert Reeves, first chairman of the Department of Radiology at Duke and a pioneer in his field. The first recipient of the award was John B. Cahoon, professor of radiologic technology here.

## Eye Center Staff Wins State Awards

Three members of the Eye Center's dietary staff have won awards at the North Carolina Culinary Arts Exposition held in Charlotte, March 25-26.

Tony Rush, food service director, dietitian Fran Schmidt and Celeste Moran, assistant food service manager, won second place honors for a complete dietary meal and third place honors for a modified dietary meal in the exposition's "Class C" category, composed of eight hospitals from around the state.

Other classes included hotels, school lunch programs, state culinary arts schools and country clubs.

The Duke entries, which were meal trays as served to patients at the Eye Center, were judged on nutritional balance, neatness, type of food, attractiveness and color.

"We were pleased to earn awards for the only two entries we submitted in our first year of competition," Rush said, "and next year, we're hoping to win first places."

The Szabo Food Service manages dietary operations at the Eye Center.

## Judith V. Joklik Dies in Chapel Hill

Judith V. Joklik, wife of Dr. Wolfgang K. Joklik, chairman of the Department of Microbiology and Immunology, died Saturday, April 5, in North Carolina Memorial Hospital in Chapel Hill.

Mrs. Joklik, 51, was active in the Hospital Auxiliary and was a past president of the School of Medicine Faculty Wives organization. She was born in Perth, Australia, and was a graduate of the Royal Fremantle Hospital School of Nursing.

A memorial service, conducted by Rev. Paul W. Aitken, was held Tuesday afternoon in Duke Chapel.

In addition to her husband, surviving are a son, Richard Joklik; a daughter, Vivien Joklik; her father, William R. Nicholas and a brother, Anthony G. Nicholas, both of Perth, Australia.

## Robertson Cited J.B. Duke Prof

Dr. J. David Robertson, chairman of the Department of Anatomy and a pioneer in high resolution electron microscopy, is one of three faculty members recently named to James B. Duke Professorships, the highest academic honor which Duke bestows.

Announcement of honor came Tuesday from Dr. Frederic N. Cleveland, university provost.

Also named to the chairs were Dr. John H. Hallowell, noted in political science for his analysis of modern political ideologies and Dr. Arthur Larson, a leading authority on workmen's compensation laws and social security.

Robertson is a specialist in cell membrane structure whose application of electron microscopy in this field has advanced the understanding of cell properties and functions.

He came to the School of Medicine to chair the Department of Anatomy in 1966. A native of Alabama, Robertson took his undergraduate degree from the University of Alabama and his M.D. from Harvard in 1945. Prior to joining the Duke faculty, he was an associate professor of neuropathology and an associate biophysicist at McLean Hospital at Harvard Medical School.

All three were honored at a dinner at Duke Wednesday evening. There are now 49 James B. Duke Professors, including 16 emeriti professors.

## ART AND FASHION SHOW

The Duke Faculty Club will sponsor an art and fashion show at the Downtown Art Gallery, 105 1/2 West Chapel Hill St., in Durham from 6:30 to 8:30 p.m. on Friday, April 18.

Wine and cheese will be served. Tickets are \$1.25 each and may be purchased at the club which is located next to the Duke Golf Course on N.C. 751.



**EARNED HIS SILVER BAR** — A.B. Washington received his lieutenantcy in the medical center's public safety department on Tuesday, April 1. The Hillsboro, Texas, native, who is now in charge of all public safety officers here, has worked at Duke for six years following two U.S. Army tours in Korea and one tour in Germany. (Photo by David Williamson)