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Doctors Band Together to Study Immunology

The body's immune system, which usually fights off germs, sometimes turns on itself-attacking healthy cells.

[Entire story](#)

Immunologists Form Consortium

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WASHINGTON -- When David E. Yocum applied to do research at the National Institutes of Health in 1983 he wanted to focus on how the body's immune system, responsible for preventing disease, sometimes turned on itself, prompting ailments.

However, with 27 distinct sub-institutes focusing on cancer, allergies, arthritis, diabetes and other specific areas, the NIH told Dr. Yocum to choose sides because the institutes didn't separate immunology research.

Nearly two decades after Dr. Yocum chose to pursue arthritis research at NIH, researchers are finding more evidence that similar immune-system reactions might be the source of seemingly unrelated diseases.

Dr. Yocum, now director of the Arizona Arthritis Center at the University of Arizona in Tucson, says he thinks a new nationwide collaboration of immune researchers will offer doctors from varied fields a chance to pick each others' brains and ultimately speed up new drug development.

The Federation of Clinical Immunology Societies, a Milwaukee-based assembly of medical and scientific organizations, announced last week that it formed a consortium of specialists from 19 universities and hospitals that will band together in the areas of research, diagnosis and treatment of a wide spectrum of immune-system diseases.

The immune system protects the body by fighting off foreign invaders such as bacteria, viruses and even implanted organs. However, in some cases the immune system can be hyperactive, assaulting its own joints, as it does in rheumatoid-arthritis sufferers. That same mechanism may be the root cause of other diseases, Dr. Yocum said.

The year-old group gathered 1,350 doctors in San Francisco for a meeting that ended Monday. C. Garrison Fathman, chairman of the federation and director of the Center for Clinical Immunology at Stanford, said the new consortium plans to educate and train community doctors and medical students to think about the immune system as the body's regulator. "It is in control of normal health. When it goes awry many things can arise," Dr. Fathman said.

The group also will concentrate on changing the way immunology is taught in medical schools while also lobbying the NIH and legislators to fund collaborative research projects. "We are redefining the field," Dr. Fathman said.

More specific objectives will be hammered out at the group's October meeting.

"Fifteen to 20 years ago, immunology was boxed into subspecialties," Dr. Yocum said, but today researchers and physicians believe that discoveries made in one area can help a host of patients. "Clinically there is significant overlap," he said.

This trend is also evident in the fact that drug companies apply to have approvals expanded for products that suppress the immune system. For example, Dr. Yocum said he gives patients Johnson & Johnson's Remicade for a variety of ailments, including skin disorders, although it is federally approved for only rheumatoid arthritis and Crohn's disease, a rare bowel disorder. Johnson & Johnson's Centocor unit is funding the collaboration through an unrestricted educational grant.

Dr. Yocum envisions immunology following in the footsteps of cancer research, which has long used collaborative groups and tested successful therapies on a variety of tumors.

Dr. Jay Berzofsky of the NIH said cancer researchers have been exploring the intricacies of the immune system for a decade trying to use the body's own defenses to fight cancer.

"The immune system can potentially distinguish between normal cells and cancer cells. We're trying to harness the specificity of the immune system to try to get it to reject tumors the way it rejects an organ transplant," said Dr. Berzofsky, chief of molecular immunogenetics and vaccine research at NIH's cancer institute. "Overall, it's very promising, [but there aren't] very many success stories yet."

"The trick," Dr. Berzofsky said, "is to find the key step in the cancer cells that differ from normal cells." Finding the difference, called a marker, will assist in developing cancer treatments and ultimately vaccines, he said.

This could lead to safer treatments, with fewer side effects.

"Many drugs use toxic compounds to kill cancer cells, which also damages other cells," Dr. Berzofsky said. "The immune system can be very specific and can target cancer cells wherever they are, not just in the original tumor."

With science evolving at a rapid pace and researchers decoding the human genome, Kathryn E. Stein, a vice president at MacroGenics Inc., a Rockville, Md., biotechnology company, said scientists and physicians were becoming very specialized.

"Now, the need for this to come together is very clear," said Dr. Stein, who left the Food and Drug Administration two months ago after running the agency's division of monoclonal

antibodies, which are genetically engineered products designed to block specific sites on cancer cells. "It's all related," Dr. Stein said. "You can't view them in isolation."