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COLUMBUS -- Late this fall, Ohio State University researchers will be able to ratchet up their work towards seeking treatments for - and perhaps cures for - some of the world's most serious diseases.

The improvements will come with the opening of a new biosafety level 3 (BSL-3) laboratory being built on the university's West Campus, according to Cecil Smith, assistant vice president for physical facilities and university biosafety officer.

Under federal guidelines, all facilities handling potentially infectious agents must adhere to strict procedures to insure containment of these pathogens. Depending on the ease with which microorganisms can be transmitted, they are classified as
either BSL-1, BSL-2, BSL-3 or BSL-4, with BSL-4 carrying the highest risk of infection.

Organisms requiring BSL-1 protections are those thought incapable of causing disease in healthy adults, while BSL4 pathogens, such as Ebola hemorrhagic fever, have extremely high mortality rates. Ohio State has no facilities capable of handling BSL-4 infectious agents.

The University's new BSL-3 facility is intended to provide Ohio State researchers with a core facility that guarantees biocontainment, explained Larry Schlesinger, professor and director of the division of infectious diseases on campus and director of the new facility.

Ohio State has a long history of successful research attacking infectious diseases. Researchers here developed a vaccine against the highly contagious virus responsible for feline leukemia and last year discovered a new approach to producing a vaccine against anthrax.

"However, these and other efforts over the years have focused on using viral or bacterial components rather than using the entire organisms," Schlesinger said. "This new facility will provide our scientists with the kind of facility they need to safely and directly attack these diseases and the organisms that cause them."

Schlesinger was the director of a similar facility at the University of Iowa before he joined Ohio State. He has spent the last 15 years working on Mycobacterium tuberculosis, the cause of tuberculosis.

He expects the new facility will be used to continue that tuberculosis work, as well as to support new research on the
pathogens responsible for HIV, anthrax, tularemia and a number of other contagious diseases.

"This will be the safest, most secure research site on campus," Smith explained. "No human studies will be conducted at the facility."

The new BSL-3 facility will be physically isolated and constantly monitored. Access to the area will be limited and tightly controlled. Once inside, researchers would be assigned to one of six segregated laboratories. No interaction between these separate areas is possible. Additional safeguards insuring isolation of the organisms would follow federal guidelines mandated by the Centers for Disease Control and Prevention.

Ohio State now has two BSL-3 facilities - one that is undergoing renovations in the College of Biological Sciences and another at the University's Laboratory Animal Center which is not being used for BSL3-level containment at this time.

Additional BSL3-level laboratories are being planned for the university's proposed Biomedical Research Tower set to open in 2006. The university operates perhaps several hundred BSL-2 category laboratories as well.

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[Editor's note: The Centers for Disease Control and Prevention document that outlines the criteria for dealing with Biosafety]
Level 1 (BSL-1) through BSL-4 containment can be found at http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4s3.htm#Biosafety%20Level%203(BSL-3).