

# Bio Terror Bible

## EXPOSING THE COMING BIO-TERROR PANDEMIC

**BIOTERRORBIBLE.COM:** Totally inexcusable lab [“accidents”](#) have been occurring at BSL Labs (biosafety level labs) within the United States and around the world. Should a bio-terror pandemic arise, it is possible that a lab “accident” may serve as the scapegoat and source of the deadly pathogen.

**Title:** Researcher Isolated After Possible Ebola Exposure

**Date:** February 19, 2004

**Source:** [CNN](#)

**Abstract:** A civilian Army researcher at Fort Detrick, Maryland, is in isolation after possibly being exposed to the Ebola virus, Army officials said Thursday.

The researcher accidentally pricked herself with a needle that contained a weakened form of the Ebola virus last week while she was injecting mice with the virus as part of a research effort.

The woman has shown no signs of the fatal illness, but will remain at Fort Detrick for up to 30 days of isolation.

Local government officials have been notified, but no one else is believed to have been exposed.

The Ebola virus, named for the river in Africa where it first struck nearly 30 years ago, causes high fever, a rash, and bleeding from the internal organs.

According to the Centers for Disease Control and Prevention, the incubation period is between two and 21 days, but a small number of people who have been exposed have been found not susceptible to serious effects. In addition to exposure through a cut, scrape, or injection, it can be passed person-to-person through body secretions.

Fort Detrick, about 30 miles from Washington, traditionally has been known for its germ warfare research. In recent years, the facility's biomedical mission has included a role in the investigation of anthrax bioterror attacks on the U.S. Capitol in October 2001.

It is home to the Army Medical Research and Materiel Command, and houses the main research lab for the Army Medical Research Institute of Infectious Diseases ([CNN, 2004](#)).

**Title:** Russian Scientist Dies In Ebola Accident At Former Weapons Lab

**Date:** May 25, 2004

**Source:** [New York Times](#)

**Abstract:** A Russian scientist at a former Soviet biological weapons laboratory in Siberia has died after accidentally sticking herself with a needle laced with ebola, the deadly virus for which there is no vaccine or treatment, the lab's parent Russian center announced over the weekend.

Scientists and officials said the accident had raised concerns about safety and secrecy at the State Research Center of Virology and Biotechnology, known as Vector, which in Soviet times specialized in turning deadly viruses into biological weapons. Vector has been a leading recipient of aid in an American program to help former Soviet scientists and labs convert to peaceful research.

Although the accident occurred May 5, Vector did not report it to the World Health Organization until last week. Scientists said that although Vector had isolated the scientist to contain any potential spread of the disease and there was no requirement that accidents involving ebola be reported, the delay meant that scientists at the health agency could not provide prompt advice on treatment that might have saved her life.

The first public mention of the accident was over the weekend on Pro-Med, the informal Internet reporting and discussion network of doctors and other health care professionals, which posted the Vector account of the laboratory accident on its Web site ([www.promedmail.org](http://www.promedmail.org)).

American experts said the accident had not occurred in a lab now receiving United States government or private money for research.

While officials at Vector said the scientist, Antonina Presnyakova, was working on an ebola vaccine, they have declined to identify who was financing the research or discuss its specific nature.

Terry Fredeking, the president and founder of Antibody Systems, a Texas-based company, said that while his company had spent more than \$150,000 in the last five years on joint research on ebola at Vector, the accident did not involve research he was financing. "It's sad and somewhat frightening," said Mr. Fredeking, "that Vector didn't inform the W.H.O. or even its own lab directors that the accident had occurred in time for us to offer help."

Ronald Atlas, a biodefense expert at a center at the University of Louisville, in Kentucky, said that while it was important to work on vaccines to protect against deadly viruses, the accident showed the danger. "It shows we must be careful about what we are doing, as well as where and with whom we are doing it," said Dr. Atlas, in an interview here at the American Society for Microbiology's annual meeting.

An American scientist was involved in a similar accident with ebola at the Army's leading biodefense lab at Fort Detrick, Md., several months ago. But she did not contract the disease. The lab disclosed the accident within 48 hours, officials said.

Vector is also one of two repositories of the deadly smallpox virus -- the other is the Centers for Disease Control and Prevention in Atlanta. Since the Soviet Union collapsed, the United States has spent millions of dollars to help convert such places to peaceful research, including an estimated \$10 million at Vector.

Critics of the program have opposed expanding such aid because it is hard to verify whether former Soviet scientists are using the American-supported research for peaceful purposes. But the program's defenders say it keeps scientists employed on peaceful projects and prevents them from working for anti-American states or terrorists seeking biological weapons ([New York Times, 2004](#)).

**Title:** SARS Cases In Asia Show Labs' Risks

**Date:** May 29, 2004

**Source:** [Washington Post](#)

**Abstract:** Scientists still do not fully understand exactly where or how SARS emerged 18 months ago. But it is now clear that the most threatening source of the deadly virus today may be places they know intimately -- their own laboratories.

The recent announcement of nine cases of severe acute respiratory syndrome linked to China's National Institute of Virology brings to three the number of lab outbreaks of the disease in the past eight months. The three events -- including one in Singapore in September and another in Taiwan in December -- account for all but four of the known SARS cases since last year's epidemic was brought under control.

The Beijing incident, unlike the others, led to person-to-person transmission of the virus outside the lab. It caused one death and required quarantining about 200 people in two provinces to stop the virus from spreading. It was an epidemic "near-miss" and has led to calls for greater international monitoring of labs working on a virus that caused more than 8,000 illnesses and 774 deaths last year.

Together, the three SARS outbreaks have highlighted the unique hazards to public health that arise from accidental laboratory releases of germs that no longer exist -- or barely exist -- in the wild.

Such an event happened 26 years ago when the last cases of smallpox -- the only human disease ever eradicated -- occurred after a laboratory accident. Another one may have happened in 1977, when an influenza virus not seen for 27 years inexplicably reappeared and circulated worldwide. Leaders of the campaign to wipe out polio are working to ensure that such a thing never happens with that disease. They are already inventorying and urging destruction of global stocks of polio virus.

Laboratory workers can be infected in myriad ways, including needle sticks, animal bites, splashes in the mouth or eyes, and undetected inhalation of infected droplets. When a person recalls no definite exposure, in most cases the microbe somehow got into the air, usually because of poor lab technique and occasionally because of faulty equipment.

The number of fatalities in the United States from lab accidents is unknown, as there is no requirement to report lab accidents or cases of illness caused by them to government authorities. Thirty years ago, a University of Texas microbiologist attempted to count all known laboratory-acquired infections worldwide. He found 3,921 -- 4.2 percent of them fatal -- with most occurring before the 1960s.

Improvements in lab equipment and technique since, as well as development of vaccines against some of the more dangerous microbes, have greatly reduced lab hazards. But infections still occur, and not just from SARS. Russian health officials recently reported that a scientist working on Ebola virus at the Vector State Research Center of Virology and Biotechnology in Siberia died after sticking herself on May 5 with a contaminated needle. A team of experts from the World Health Organization is investigating China's lab-associated SARS cases. It has not announced its findings or any recommendations. But the problem goes far beyond what happened in the Beijing lab, some experts say.

"Does the WHO know how many laboratories in the world have this organism?" Robert Webster, a virologist at St. Jude Children's Research Hospital in Memphis, said of SARS. "It would seem to be time to collect this information. It really is time that the whole world, not just China, rounded up these things and put them away."

Webster has helped research numerous new strains of influenza, including the H5N1 strain of avian flu that killed millions of birds and 19 people last winter. He thinks lab stocks of dangerous influenza strains, as well as SARS virus samples, are a major but largely unrecognized threat to public health.

In the wake of the SARS epidemic, WHO recommended that the virus be handled only in laboratories rated "biosafety level 3," or "BSL-3." Such labs limit access, and their workers must handle microbes in sealed or vented cabinets and wear protective clothing. Only BSL-4 labs, where technicians and scientists must wear spacesuits that have their own air supply, are more restrictive.

BSL-4 labs, however, are rare and expensive to operate. The United States has four. SARS was designated a BSL-3 pathogen in part for practical reasons.

"We put the virus at a level appropriate to avoid its accidental release, but also at a level at which enough work could be done on it. If we'd put it on Level 4, it would restrict it to just a handful of laboratories worldwide," said John Mackenzie, a scientist at Curtin University of Technology in Australia, who helped formulate the WHO guidelines.

The three SARS lab outbreaks appear to have had distinct causes.

In Singapore in September, a sample of West Nile virus contaminated with SARS virus infected a 27-year-old lab worker at the Environmental Health Institute. The lab was not known to have stocks of SARS, but it had been pressed into service during the epidemic, which is presumably when the contamination occurred. Although the lab claimed a BSL-3 rating, a WHO inspection team found it did not meet those standards.

The Taiwan case happened in a BSL-4 lab when a 44-year-old military scientist failed to follow procedures in cleaning up a spill of SARS-containing fluid. It was judged to be a case of individual carelessness or a failure of training.

The Beijing case is the most mysterious and troubling. There, a 26-year-old graduate student developed SARS in late March, just two weeks after she started working at the virology institute. In mid-April, a 31-year-old man in the same lab also came down with the disease. Neither had been working with the SARS virus.

The graduate student went home to Anhui province, where she infected her mother, who died. The student then became ill enough to be hospitalized and infected a nurse. The nurse, in turn, infected five others -- three relatives, a patient and a relative of that patient -- in a "third generation" of infection. When the outbreak became known, Taiwan and Australia instituted health alerts, screening visitors from China or ordering special surveillance of recent travelers who became ill.

What the latest accident "has done beyond a shadow of a doubt is show that we do need some international agreement as to what a Biocontainment Level 3 lab is," Mackenzie said. "Unless everyone has the same standards, we may be talking about chalk and cheese." He said he and several others are calling for an international system to "accredit the laboratories and accredit the training of the people working in them."

Larry Anderson, chief of respiratory pathogens at the Centers for Disease Control and Prevention, said safe handling of SARS requires the right lab design, personal equipment, adequate training of workers, proper technique and medical surveillance of people at risk of exposure. Since the virus emerged, the CDC has distributed samples of it to 56 laboratories at universities, government departments and companies. Fourteen are overseas. Anderson would not name any of them and said he does not think the large number is inherently unsafe.

"I think one lab that is working with it inappropriately is too many. Fifty-six working with it appropriately is not a problem," he said.

The Beijing incident is reminiscent of a notorious smallpox release in Birmingham, England, in August 1978 -- 10 months after the last wild infection occurred in Somalia.

Henry S. Bedson, head of the microbiology department at a medical school, was rushing to finish his experiments before the deadline to turn in or destroy his stocks of smallpox. The lab's containment had been judged unsatisfactory by WHO inspectors, but they did not have the power to close it.

The smallpox virus apparently became aerosolized in Bedson's lab and traveled up one floor through air ducts to the school's photographic studio and darkroom. A 40-year-old photographer became infected

and died, even though she had been vaccinated 12 years earlier. She transmitted the virus to her mother, who also became ill but survived. Her father did not become infected but had a fatal heart attack.

Bedson, despondent, slashed his throat in his potting shed, leaving a note in which he said, "I am sorry to have misplaced the trust which so many of my friends have placed in me and my work."

The leaders of the effort to eradicate polio, who hope to finish the task this year or next, have been working since 1999 to ensure that no such tragedy mars that historic achievement. They have asked nearly 200,000 labs around the world whether they hold polio virus. To date, 833 have said they do, either in pure form or in fecal samples, Christopher Wolff, a WHO scientist, said recently. About 50 have since destroyed their stocks, and many more expect to do so once the disease disappears.

The biggest disease outbreak that may have arisen from a laboratory was the mini-pandemic of "Russian flu" in 1977 and 1978.

Despite its name, that strain of influenza virus appeared in Tientsin, China, in May 1977. It spread around the world, causing mild infection that almost exclusively hit people younger than 20. Millions of people became ill, although overall flu mortality did not increase.

What is curious is that this virus had a genetic fingerprint virtually identical to a strain that had last circulated in 1950. Flu viruses evolve at a fairly predictable rate "and it is extremely difficult to explain why the . . . strains . . . are so strikingly familiar," a team of scientists wrote in 1978.

There are two possible explanations. The first is that the 1950 virus was somehow "genetically frozen" in nature -- possibly in ice or perhaps in some human or animal carrier that has never been discovered. The second is that it escaped from a laboratory in China.

Many scientists think the second is the more probable ([Washington Post, 2004](#)).

**Title:** Researchers In Oakland Accidentally Exposed To Live Anthrax

**Date:** June 10, 2004

**Source:** [AP](#)

**Abstract:** At least five workers developing an anthrax vaccine at a children's hospital research lab in Oakland were accidentally exposed to the deadly bacterium because of a shipping foul up, officials reported Thursday.

Officials with the Children's Hospital Oakland Research Institute said none of the researchers has shown symptoms of infection since the first exposure perhaps two weeks ago, but each is being treated with precautionary antibiotics.

The researchers believed they were working with syringes full of a dead version of anthrax, hospital spokeswoman Bev Mikalonis said. Instead, according to Mikalonis, they were shipped live anthrax by a lab of the Southern Research Institute in the Frederick, Md.

Anthrax produces severe flu-like symptoms in most of its victims. If inhaled, ingested or otherwise introduced into the body, it can kill.

Other workers may also have been exposed while the researchers handled the live anthrax, Mikalonis said, a possibility that federal, state and local officials - including the FBI - are investigating.

Though the five workers were exposed, state health officials and the hospital don't believe anyone was infected because researchers took proper safety precautions.

The exposure doesn't pose a threat to patients because the Oakland lab is located about one mile from the hospital, according to officials.

"We do not see a threat or a danger to anyone in the community," said Dr. Richard Jackson, the California public health officer. "This really has been very well controlled."

The researchers are working with dead bacteria to develop an anthrax vaccine for children. Mail-borne anthrax attacks killed five people and sickened 17 others in 2001. While no one has ever been arrested for those killings, the attacks spurred research into better vaccines and treatments.

Mikalonis said the Oakland researchers received and stored the shipment from the Southern Research Institute, also known as SRI, about three months ago.

The researchers first used the tainted batch May 28 on lab mice which died soon after, hospital officials said at a news conference Thursday afternoon. But hospital officials said the head of the lab wasn't notified.

Then, last week, the researchers injected the anthrax into more mice. On Monday, those mice were found dead.

The researchers started their own investigation, and on Wednesday night, California state health officials confirmed their worst fears - live anthrax was in the syringes. Agents with the FBI's bioterrorism unit removed the samples from the lab Wednesday, according to a hospital new release.

"The facility here has handled it extremely well," said hospital researcher Amy Morgan. "Our concern is what went wrong at SRI."

Southern Research Institute's Thomas Voss, who is in charge of homeland security and emerging infectious disease, said the Birmingham, Ala.-based nonprofit company is investigating. Voss said it's still unclear whether the institute did ship live anthrax to Oakland.

"We aren't totally sure of the sequence of events," Voss said.

The Southern Research Institute has two highly secure "hot labs" that store some of the world's deadliest diseases. Labs and researchers from around the country that need data about those nasty diseases but don't - or can't - handle them contract SRI to do that work.

Voss said the institute's labs in Frederick and Birmingham handle just about every "select agent" listed with the Centers for Disease Control and Prevention. The institute is one of 350 entities registered with the CDC to handle live anthrax. It employs 600 people nationwide and has about \$75 million in revenue a year, Voss said.

While the institute receives many shipments of live diseases, some from the government, it rarely ships them out, Voss said.

"On our end, we ship very infrequently," Voss said. "I can't even recall shipping live agents."

The mishap will likely be seized on by critics of the government's effort to combat biological terrorism by paying for the construction or expansion of 18 high-containment labs nationwide. Supporters of the building boom said the additional lab space is needed to combat emerging global threats, but critics said such expansion increases the likelihood of accidents such as this one.

"This is exactly the kind of thing that a lot groups that oppose this spate of construction fear," said Edward Hammond of the Sunshine Project, a chemical and biological weapons watchdog group. "This is the type of accident that has concerned them a lot" ([AP, 2004](#)).

**Title:** Institute Responsible For Anthrax Accident In California, In Charge Of Safety And Security At Chicago Biodefense Laboratory

**Date:** June 22, 2004

**Source:** [Sunshine Project](#)

**Abstract: Non-Profit Watchdogs Renew Call for a Moratorium on Construction of Biodefense "Hot Zones"**

Southern Research Institute, the military biodefense contractor recently in the news for sending live anthrax to the Children's Hospital of Oakland (CA), is also in charge of safety and security for a major new \$30 million biodefense facility being built at the Department of Energy's Argonne National Laboratory near Chicago.

The new Ricketts Regional Biocontainment Laboratory is funded by the National Institute of Allergy and Infectious Disease (NIAID) and is named after Howard T. Ricketts, a celebrated pathologist who acquired typhus in the course of research and died at age 39. It will begin biodefense work with studies of anthrax (Ames strain) and *Yersinia pestis*, the causative agent of plague.

Southern Research Institute, with major labs of its own in Frederick, Maryland and Birmingham, Alabama, has a \$75 million annual budget including biodefense contracts from an impressive roster of Pentagon agencies. Its Frederick, Maryland facility is located near the Army's biological weapons research headquarters at Fort Detrick, yet despite its biodefense prominence, Southern Research in Frederick does not maintain an institutional biosafety committee that complies with federal research rules. (And Southern Research in Birmingham has not honored requests for records of its institutional biosafety committee.)

"Southern Research's incompetence is plain to see. Its own house is in dangerous disarray and does not comply with federal research rules," said Edward Hammond, Director of the Sunshine Project. "That threat is bad enough; but even after leaking anthrax, the institute is still developing biosafety and operating procedures for new high containment labs."

According to a national coalition of biodefense watchdogs, formed in 2002 to monitor the US biodefense program, the Southern Research situation epitomizes their concern that biodefense laboratories are proliferating unsafely and with unsound planning, and that this could result in health, environment, and international security problems.

The watchdogs also point to Southern Research's links to classified biodefense research. (Southern Research's facilities and personnel have "secret" clearance.) "Public interest groups seeking information about military biodefense programs are being stonewalled by the Army and other agencies," says Steve Erickson of Citizen's Education Project in Salt Lake City, which monitors the Army's Dugway Proving Ground. "That Southern Research and other secretive military contractors are also insinuating themselves into civilian biodefense programs is cause for concern that we are witnessing a steady erosion of openness and accountability, not only at Pentagon labs; but at academic institutions and in work funded by the National Institutes of Health."

Two other Department of Energy (DOE) labs that design and develop the nation's nuclear weapons are also building new biosafety level three biodefense facilities. Both Lawrence Livermore and Los Alamos Labs have been sued by local community groups under the National Environmental Policy Act (NEPA). Inga Olson, Program Director at Tri-Valley CAREs, one of the groups that sued DOE, warns "Biodefense dollars are flowing like champagne at a wedding - into everywhere from nuclear weapons labs to

children's hospitals - everyone wants a piece of the action. But a far more sober look is needed at whether the rapid spread of labs, pathogens, and bioweapons knowledge poses a greater threat than the problem we are trying to solve."

"After all," says Mary Wulff of Citizens for a Safe Lab in Hamilton, Montana (where NIH is building a new biosafety level four facility), "the Bush administration continues to rely on fear generated by the anthrax attacks and shaky allegations against other countries, like Iraq, to push billions and billions through Congress. Instead of an informed national discussion, the government's actions are based on fear and unsound information. The importance of reigning in knee-jerk reactions is underscored by the nearly tragic exposure of workers at Children's Hospital in Oakland, California."

The national coalition of nonprofit groups is calling for a moratorium on new biodefense labs until comprehensive national assessment is conducted, and transparency guarantees in place, and a binding and open federal system exists to review dual-use research with biological weapons agents ([Sunshine Project, 2004](#)).