the biotech company OsteoScreen and the University of Texas Health Science Center in San Antonio showed that statins—cholesterol-lowering drugs taken by more than 12 million people in the United States alone—dramatically boosted new bone growth in mice and rats (*Science*, 3 December 1999, p. 1946). But no one knew whether they would work in humans.

The new studies suggest—but do not prove—that they do. In the largest of the four studies, a team led by Herschel Jick of Boston University School of Medicine in Lexington, Massachusetts, compared the medical records of 3940 British patients aged 50 and over who had suffered fractures with those of 23,379 control subjects who had not, by matching each patient to controls of the same age and sex who saw the same doctor. After adjusting for the effects of other factors that affect bone strength, they reported in *JAMA* that statin users were 45% less likely to have suffered fractures than subjects who were not taking these drugs. "We were amazed," Jick says. "Life is usually not that simple."

Two other teams conducted similar case-control studies, with similar results. In the same issue of *JAMA*, a team led by pharmacoepidemiologist Jerry Avorn and Philip Wang of Brigham and Women's Hospital in Boston showed that subjects over age 65 who used statins were half as likely as nonusers to suffer hip fractures, even after adjusting for the effects of race, smoking, other diseases, and other drugs. And in *The Lancet*, a separate team at the same hospital led by pharmacoepidemiologist K. Arnold Chan reports equally encouraging findings.

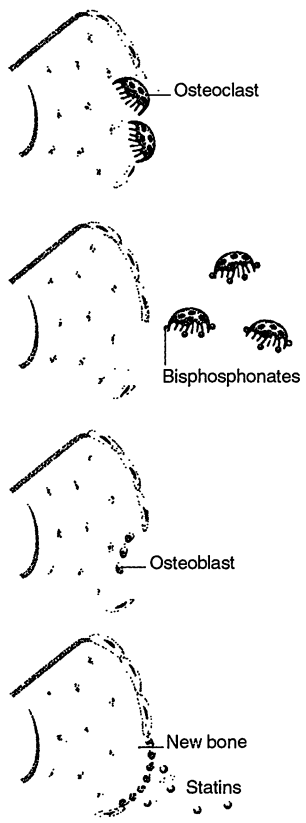
By examining medical data from six health maintenance organizations in different regions of the United States, they found that women over 60 who used statins regularly were half as likely to suffer a hip, vertebra, or wrist fracture as similar women who didn't take the drugs. What's more, a team led by rheumatologist Tim Spector of St. Thomas' Hospital in London showed in *The Lancet* that statins seem to boost bone density significantly—a key measure of bone strength. After excluding the effects of hormone replacement therapy, age, height, and weight, the researchers found that the bones of women who took statins had 8% more mass than the bones of those who didn't.

Johnston and other experts caution that it's too soon for doctors to prescribe statins to treat osteoporosis. To prove that statins really strengthen human bones and prevent fractures, researchers need to perform large clinical trials in which patients are randomly assigned to take statins or placebos. "They've done a good job [controlling for] everything you'd expect, but maybe there's some difference between people who take statins and people who don't," says Johnston.

Whether or not statins pan out in clinical trials, rhPTH already has. Last week at the Endocrine Society meeting in Toronto, Robert Neer, director of the Osteoporosis Center at Massachusetts General Hospital in Boston, presented results of a randomized trial that show that rhPTH reduces the risk of recurring fractures in women. Subjects who had already suffered vertebral fractures were 65% less likely to suffer a second spine fracture and 54% less likely than controls to suffer nonspine fractures after self-injecting rhPTH for 1 to 2 years. The drug also seems to enhance the bone-preserving benefits of hormone replacement therapy, according to trial results presented 2 weeks ago at the World Congress on Osteoporosis by Felicia Cosman of Helen Hayes Hospital in West Haverstraw, New York, and her colleagues.

But on the downside, rhPTH, unlike statins, must be injected. "Patients generally don't like to give themselves an injection every day," says epidemiologist Steven Cummings of the University of California, San Francisco. "We need options." And despite the plethora of auspicious results, he cautions that it's too early to abandon bisphosphonate drugs, which have passed muster in several large, randomized trials. Even so, the new findings are generating quite a buzz among both researchers and clinicians. "It all looks very promising," says Johnston. "We may have a lot of good drugs before long. **–DAN FERBER**

Dan Ferber is a writer in Urbana, Illinois.



Repair crew. Today's drugs, such as the bisphosphonates, block osteoclasts from breaking down bone; statins may stimulate osteoblasts to build new bone.

EUROPEAN SCIENCE

Bug Bastille to Open Under New Management

PARIS—In the next few weeks, Europe's most advanced high-security pathogen lab is expected to open for business in the southern French city of Lyons. A striking glass-and-steel structure built on stilts over an existing building, the lab will join a handful of facilities around the world capable of handling the most dangerous human pathogens—such as the Ebola and Lassa fever viruses (*Science*, 26 May, p. 1320). But the long-anticipated debut of this "hot" lab is not turning out to be a joyous occasion for some of those involved.

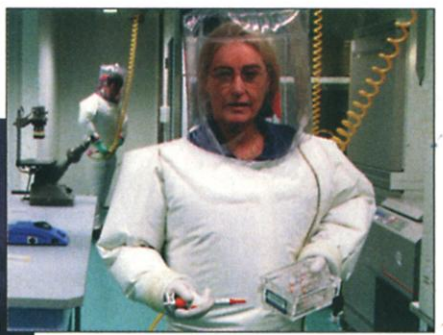
Last week, the Marcel Mérieux Foundation, which paid for the lab's construction, announced that the Pasteur Institute will take over its "scientific direction." The arrangement, which took a consortium of researchers planning to use the lab by surprise, gives Pasteur the authority to name the lab's director. The leading candidate is a Pasteur scientist, and that would leave the lab's current director, virologist Susan Fisher-Hoch, out in the cold. Fisher-Hoch says she's a victim of a smear campaign aimed at shunting her aside.

This inauspicious spat is the latest twist in a long saga. In 1996, physician Charles Mérieux, patriarch of the Lyons-based family of vaccine producers and creator of the foundation bearing the name of his father, a student of Louis Pasteur, decided to build the lab privately after agencies in Europe balked at its $8 million price tag. Mérieux hired Fisher-Hoch, who had spent much of her career in a biosafety level 4 (BSL-4) facility at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, to design and build the lab (*Science*, 13 March 1998, p. 1630). Technical glitches and safety concerns have delayed the lab's opening, originally planned for late 1998.

Putting the Pasteur in charge of the lab's science makes sense for both Mérieux and the Pasteur. The European Union and French agencies turned down repeated requests to help cover the estimated $1.4 million per year to keep the lab running; the foundation and Pasteur are now negotiating the institute's financial contributions to the lab. "The Pasteur Institute was a logical choice," says David Heymann, director of the World Health Organization's division of emerging and other communicable diseases in Geneva. And Pasteur Director-General Philippe Kourilsky says the arrangement allows Pasteur to run a BSL-4 facility without the hassle and expense of trying to build one on its already cramped campus in the heart of Paris.

ILLUSTRATION: C. CAIN

But some members of the Lyons-based European Center for Research in Virology and Immunology (CERVI)—a federation of teams associated with the BSL-4 facility—are left wondering how their plans will be affected. "None of the directors [of the CERVI research units] were consulted, and we do not know what [Pasteur's] scientific program is going to be," says CERVI member Jean-Luc Darlix, head of a human virology lab run by the biomedical research agency INSERM.



In the hot seat. Europe's premier pathogens lab is about to come online with the Pasteur Institute—not Susan Fisher-Hoch (*right*), it appears—at the helm.

Fisher-Hoch is even less certain about her future at the lab. Confidential documents from CERVI and the foundation obtained by *Science* indicate that Pasteur and foundation officials intend to appoint Pasteur virologist Vincent Deubel as the new director, effective this fall. Deubel has searched in Africa for reservoirs of the deadly Ebola virus, although Darlix and others say that he has no experience in a BSL-4 lab. Deubel declined to comment, but Kourilsky defends the putative appointment of a Pasteur scientist: "If the Pasteur Institute is associated with the [BSL-4 facility]," he says, "it is normal that the scientific direction would be assured by a Pasteurian."

Fisher-Hoch sees darker forces at work. For the past several months, articles in Lyons newspapers and in the national press have suggested that the lab might pose a health threat to the local community. A story in the 30 March issue of the weekly magazine *L'Express*, for example, reported that Fisher-Hoch last fall was given a number of possibly virally infected blood samples from Sierra Leone by her husband, Joseph McCormick, and that she violated safety procedures by putting them in a freezer in a BSL-2 lab, which has fewer safeguards than a BSL-4 lab. (McCormick, also a former CDC virus hunter who works at the Lyons-based drug company Aventis-Pasteur, has had his own troubles with Pasteur; see *Science*, 13 November 1998, p. 1241.) Charles Mérieux refers repeatedly to this alleged incident in letters to the WHO's Heymann this spring, in which he asks for help in replacing Fisher-Hoch. Mérieux also complained about Fisher-Hoch in letters to Kourilsky. (Heymann says he did not respond to the request, and Kourilsky declined to comment, saying the issue is an internal foundation matter.)

Fisher-Hoch and McCormick dispute the press accounts. They say the samples were from healthy Western donors, including themselves, and were drawn during a workshop they conducted in Liberia—not Sierra Leone—to teach medical personnel how to perform diagnostic tests for Lassa fever. Fisher-Hoch says she laid this out in an 11 April letter to Mérieux, explaining that she intended to use the uninfected samples as controls in future work on lethal viruses. Mérieux, 93, told *Science* that whether or not the alleged incidents were true, they "created a bad image of the [BSL-4 facility]" in the press which "I cannot tolerate." Fisher-Hoch's contract to direct the lab runs until February 2002, although foundation officials say she will now be asked to accept a lesser role. But she speculates that once the lab was ready to come online it was too tempting a prize: "As the French say, the cake was too beautiful, everyone wanted to eat it." –MICHAEL BALTER

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OBESITY

Enzyme Blocker Prompts Mice to Shed Weight

When it comes to body fat, the laws of thermodynamics hold weight: Take in more calories than the body burns to produce energy, and the excess will be shunted into fat. To regulate this thermodynamic system, the body somehow keeps the brain apprised of the energy balance so it can dampen our appetites if we are overeating. Now, a multidisciplinary team from Johns Hopkins University may have discovered an important new clue about how the body performs this feat of calorie—and thus weight—control.

The team, led by pathologist Francis Kuhajda, chemist Craig Townsend, bio-

ScienceScope

Money Trouble Scientists are blasting the South African government for offering expense-paid trips to 45 members of a controversial advisory panel that is revisiting HIV's role in AIDS. South African President Thabo Mbeki—who has said his government can't afford the relatively cheap drugs that prevent mothers from infecting their babies with HIV—was lambasted by critics in May when he expressed doubts that HIV caused AIDS and convened a review panel that includes prominent HIV skeptic Peter Duesberg of the University of California, Berkeley (*Science*, 28 April, p. 590). Now, even some panelists who live outside South Africa are enraged that the government is offering generous per diems, business-class air tickets, and swank hotels to the group for its final meeting in Johannesburg on 3 to 4 July, before a major international AIDS conference in Durban.

But panelist Stefano Vella, president-elect of the International AIDS Society, believes that the money will be well spent if the panel convinces Mbeki that HIV causes AIDS. "We can't skip dealing with him," says Vella. "South Africa is seen as a leading country in Africa." A government official who sent the invitation did not respond to *Science*'s inquiries.

Genetic Variety Forty Japanese drug firms will fund a $10 million program to explore single-nucleotide polymorphisms (SNPs), the single-base variations in a person's genetic code that influence disease risk and treatment reactions. University scientists involved in the program, set to begin next year, will analyze blood samples from 1000 Japanese individuals and make the data freely available to other researchers.

The project will run in parallel with two existing efforts funded by the government and an international consortium. Backers of the $45 million SNPs Consortium, supported by European and U.S. firms, hoped that Japanese companies would join their effort (*Science*, 16 April 1999, p. 406). But a spokesperson for the Japan Pharmaceutical Manufacturers Association said that the group felt it needed its own program, although future cooperation is possible. And how the private effort, which has an applied focus, will coordinate with Japan's more basic research–oriented public program isn't clear, says Yusuke Nakamura of the University of Tokyo, who heads the government-funded effort. But he agrees that Japan "definitely needs its own [SNPs] database."

Contributors: Christine Mlot, Michael Balter, Jon Cohen, Dennis Normile