Leslie “Butch” Levendosky never could wait around for life to come to him. He learned from his father, who worked hard, sometimes crawling on his belly, scraping coal from West Virginia mine shafts only 30 inches high. You do what you need to do.

Levendosky couldn’t help but take that sense of purpose to Vietnam, and by the spring of 1969 he’d about had enough. One day the Viet Cong would shell the base with rockets, slip back into underground tunnels, and vanish into the 60 square miles of treacherous jungle above Saigon that made up the Iron Triangle. The next day Levendosky, a helicopter inspector, would find himself bored and imbibing the warm Miller he bought for $2 a case. Two months into his tour of duty, some 20
of his 1st Cavalry unit's 27 helicopters had been shot down. It was enough to drive a man nuts. So Levendosky volunteered to lead search and rescue missions.

One day around Christmas, yet another helicopter went down, and Levendosky set out to find it. In a rescue helicopter above a jungle so often sprayed with Agent Orange that the carcinogen resembled a sheet of rain, Levendosky called back to his gunner. The guy was new in country, and Levendosky wanted him to know exactly what to do so no one on his team got killed. Above the cacophony of the chopper blades Levendosky shouted, "You're gonna have to put down ground fire to cover our butts!" The gunner nodded.

At the crash site, the Viet Cong were still firing from the tree line. The pilot put the helicopter down, the rescue team hit the ground, and the gunner pulled the trigger on his M-60. It jammed. Levendosky was still 50 yards from safety. With bullets zipping by, he ducked and ran, somehow making the tree line unscathed. Inside the jungle, the downed helicopter was mangled so badly it looked like a mashed Volkswagen beetle. The pilot and gunner were dead; the radioman was alive but dazed. Levendosky got the survivor out and called in commandos to blow up the helicopter so the enemy couldn’t find salvage. A voice shot back over the radio: No. The general, in Saigon, wants to see it. Bring it back. Levendosky shook his head at the absurdity of it all and grabbed a cargo net to wrap around the wreckage.

"I got a Bronze Star for that," he says, chuckling from a hospital bed at UPMC Montefiore. He wears black jeans and a blue button-down shirt. Black wire-framed glasses snugly fit on the bridge of his nose. More than 30 years later, Levendosky is 56 and the manager of quality control for a pharmaceutical company. Time has turned his hair gray, his eyebrows bushy, and his colon and liver, and maybe now his lungs, into a factory of cancer cells.

A nurse will soon draw blood, to be tested for a protein that will indicate whether or not his damaged liver is processing the drug he has been taking for two weeks. The drug is so new no one knows how his body will respond to it. Levendosky is a volunteer for one of 3,000 human subject investigations conducted annually at the University of Pittsburgh, which range from psychology surveys to trials of new cancer drugs.

When the nurse comes, Levendosky tells her, "Tomorrow's the 31st [of October]. Dracula must be calling every half-hour and saying, 'I need a new shipment.'" His wife, Emily, calls him a "great role model" for other cancer patients. But the jokes come naturally to the soldier who rescued that dazed radioman in a place seemingly gone mad. He isn’t about to wait around for death to get the upper hand just yet.

About 15 patients in the Pitt segment of a multicenter Phase I clinical trial for Gleevec will take increasing doses of the drug for up to eight months. Participants suffer from chronic myelogenous leukemia or another form of cancer; all have liver dysfunction. Dosages start at 200 milligrams a day and end at 800 milligrams a day. Investigators, led by Ramesh K. Ramanathan (above), want to establish maximum dosage levels for cancer patients with liver problems.

Participants suffer from chronic myelogenous leukemia for up to eight months. Phase I clinical trial for Gleevec will take increasing doses of the drug for up to eight months.

"Clinical trials are the way we get answers, the quickest way we get the most accurate answers. Everybody should want to participate in trials."
“People say, ‘Boy you got an attitude for cancer,’ and I say, ‘Well it don’t bother me.’ I’ve been through it all.

This day.] Two years later he pulled his Triumph motorcycle into the garage, turned to his girl behind him, and said out of the blue, “Hey, want to get married?” They’ve been together ever since, and have reared two children. Levendosky also returned to his job as a bench chemist, often mixing with unprotected hands organic solvents like benzene that today are linked to cancer. Back then he and his buddies at work used to leave the lab saying, “Boy my liver’s gonna swell by the time I’m 50.” They were joking; no one knew then that such chemicals could be deadly.

It’s more fun for Levendosky to talk about his hunting trips—like the time he went after big game with his brother in Canada in 1995. He remembers pulling the trigger to shoot a caribou, but his rifle, a Browning 300 Magnum, wouldn’t fire. Cursing, he aimed in the air and fired again. Blam. Then he leveled the scope’s crosshairs at the caribou and...click...nothing. He pointed at the sky...blam. At the caribou...click. At the sky...blam. Levendosky had failed to seat a trigger spring the last time he cleaned the rifle, leaving the rifle to fire only when aided on her kitchen table, which holds pills that are either placebo or Fosamax. The drug Fosamax inhibits the work of osteoclasts, cells that excavate pits in the bone. After osteoclasts mine bone, another bone cell, an osteoblast, rebuilds new bone in the same place—ideally. Yet as we age, osteoblasts, the bone builders, can’t keep up with osteoclasts, particularly women’s. Often, women will lose 20 percent of their bone mass during menopause, much of the damage occurring in the hips and spine.

When osteoporosis sets in, the bones become porous and brittle. It is a silent process. Some women won’t find out they have the disease until they fracture a hip. Then, it might be too late. More than 20 percent of hip fracture patients aged 50 and over die within a year of an accident. The process, fortunately, is preventable and partially reversible. Drugs like Fosamax can prevent bone loss. In this study, Susan Greenspan, MD and director of the Osteoporosis Prevention and Treatment Center at Pitt, postulates that the drug, in combination with a supplement of parathyroid hormone, could boost bone mass significantly.

Finally, Levendosky looks up. In September a CT scan showed a tumor in his liver, he reports. A month later it had grown to five centimeters in diameter. There were spots on his lungs, too. Levendosky told his doctor: “I’d like to live a little longer.”

The doctor enrolled him in a Phase I clinical trial for a new cancer drug called Gleevec. As it turns out, the trial is not designed to test a cure for his condition, though it could help. This treatment, in some respects, is a last resort. Levendosky accepts that: “If it helps somebody else, then I’ve done my job. I hope it helps me, but if it don’t, it don’t. At least [the doctors] will learn something from it.”

Dorothy Hank is patient XXXX. An impersonal four-digit patient identifier marks the white plastic bottle sitting on her kitchen table, which holds pills...
Clinical trials being what they are—research designed to find out whether or not something works—not even the nurses who record data about Hank know exactly what she’s taking. Hence the impersonal “patient XXXX” printed on her bottle of pills. In the first year of this multicenter study, funded by the National Institutes of Health, each of the trial participants received Fosamax or the parathyroid hormone therapy or both. In the second year, which began in September, patients in three groups receive Fosamax; patients in group four get placebo.

Greenspan, principal investigator of the Phase III trial—the last step before a potential therapy receives a thumbs up or down from the Food and Drug Administration (FDA)—hopes to pinpoint any differences in bone-mass gain among the study groups. This will also tell her if the effects of the drugs last long enough so that women can stop taking them for a while.

“I don’t think as physicians we really think about what happens when women stop therapy,” Greenspan says. “It’s an important question.” In short: Why continue to take a drug if you don’t need to?

Every morning Levendosky takes 200 milligrams of Gleevec. Approved by the FDA in May to treat patients with chronic myelogenous leukemia (CML), it is the first of a new class of molecular targeting drugs. Gleevec is known to shut down a signaling protein called bcr-abl, which scientists believe causes CML. The protein is one of about 90 tyrosine kinases, and tyrosine kinases have been linked to many human cancers. In one study, Gleevec put CML into remission in 90 percent of participants. Not only that, but those patients experienced few side effects, since the therapy doesn’t seem to destroy much healthy cell matter, unlike traditional chemotherapy. Essentially Gleevec is designed to jam signaling proteins, forcing cancer cells to trigger their self-destruct mechanism.

Ramesh K. Ramanathan, director of the Gastrointestinal Cancer Center at Pitt, saw the drug’s potential, wondered if Gleevec blocked other tyrosine kinases, and offered the University of Pittsburgh Cancer Institute as the coordinating point for a 10-center trial sponsored by the National Cancer Institute. The eventual goal is to determine if Gleevec can treat other carcinomas, such as breast, lung, prostate, and colon cancers. But first, scientists want to learn if the livers of cancer patients with liver dysfunction can even process the drug, since so often cancer spreads to the liver. That’s why Levendosky, who doesn’t have CML, is eligible for the trial.

“We are looking to see how much of the drug stays in the blood, and for how long,” Ramanathan says. Then, his team can begin to see if the drug inhibits the tyrosine kinase associated with colon cancer. “There’s really little information available about how the drug is metabolized,” the doctor explains.

Hank, now 73, learned recently that Ellen Roche, a healthy young volunteer in a trial at Johns Hopkins University, died in June after inhaling a chemical that caused her lungs and kidneys to fail. Roche’s death led to a federal investigation that temporarily shut down most of the institution’s 2,800 human subject trials and is likely to influence how research is conducted nationwide. But for Hank, that sad incident would not figure into her decision to be a human subject at Pitt.

“What’s meant to be, will be. It’s not going to hurt me,” she says. “If I didn’t do it, who else would? Someone has to be in the program. There are a lot of people out there younger than me who need to know what to take.”

As for Levendosky, well, he made it through Vietnam. He worked his way up to management at the pharmaceutical company. He raised two children, one a National Merit Scholar, the other a clinical coordinator. He’s not about to start blaming anyone for his cancer, or to slow down because of it.

“People say, ‘Boy, you got an attitude for cancer,’ and I say, ‘Well, it don’t bother me.’ I’ve been through it all.” What he means is that he’s not finished yet. He has been thinking. He never has had a chance to hunt with that Ruger since he cancelled the mountain goat trip after his 1998 diagnosis. Maybe a visit to Saskatchewan with his brother will do him good. Maybe this year will be the perfect time.

This is the first of a two-part series on clinical trials. In our April issue, readers will meet others who play quiet roles that lead to new therapies.
This woman is one of thousands of volunteers who make clinical investigations possible at Pitt. Dorothy Hank (not her real name) is participating in an osteoporosis trial.