Dr. Jonathan Bricker’s new smoking-cessation program could give millions of smokers a better way to kick the habit.

PLUS: HUTCH RESEARCHERS DEVELOP QUIT-SMOKING APP | PAGE 10
Changing the behaviors that cause cancer

FIFTY YEARS AGO, the U.S. Surgeon General issued a landmark report on the link between smoking and cancer. In this half century the scientific evidence of this association has only become stronger, and new connections between smoking and cardiovascular disease also have emerged. Yet despite some inroads, smoking remains a major public health issue. How does one get people to change their behavior?

It’s a difficult question, and sustainable, workable solutions to help people quit smoking are not universally available. However, Dr. Jonathan Bricker of our Public Health Sciences Division may be on the verge of such a breakthrough.

As this issue’s cover story (Page 6) explains, Bricker has developed a smoking-cessation program that uses an innovative, psychological approach to help people quit. Early studies have shown Bricker’s programs are 50 to 300 percent more effective than traditional interventions, and his team also developed a website and smartphone app to carry his approach beyond the clinic.

If clinical trials keep proving the program is effective, it could eventually give millions of people a better way to quit smoking. What’s more, evidence suggests that Bricker’s approach also could elicit behavioral change in other areas such as obesity and alcohol abuse.

This illustrates how Fred Hutch’s Cancer Prevention Program – which was the first of its kind in the U.S. – is at the forefront of finding new ways to prevent the disease. Its progress wouldn’t be possible without donors’ generous support.

When Bricker first wanted to pursue his research, his ideas were too new and untested to attract federal funding. So the Hutch awarded him a small grant, funded entirely by private donations, to do a pilot study. That study generated preliminary data that led to a multimillion-dollar grant from the National Institutes of Health.

It’s just one of many of examples of how Fred Hutch uses private dollars to test promising ideas. Thank you for supporting this process and helping us constantly improve our approach to eliminating cancer.

Dr. Larry Corey
President and Director
Breaking addiction, preventing cancer

Dr. Jonathan Bricker is revolutionizing how people quit smoking – and his innovative approach could be the missing link that helps people overcome everything from obesity to alcoholism. BY JUSTIN MATLICK

A safer way to eradicate cancer

Dr. Phil Greenberg is using immune cells to attack cancer cells, without damaging surrounding tissue. His approach could reduce bone marrow transplants’ side effects – or replace transplants completely. BY RACHEL TOMPA AND LINDA DAHLSTROM

‘It’s so important to never give up’

Morrie Shepherd trained for last year’s Obliteride while undergoing treatment for stage 4 cancer. This year he’s gearing up to ride again and raise $10,000 to help Fred Hutch save more lives faster. BY DIANE MAPES

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It was a meeting of the mascots. The Seattle Seahawks’ beloved “Blitz” stood in Fred Hutchinson Cancer Research Center’s lobby with his wing around Max Hanson, a high school senior. Hanson describes himself as “a big football nerd,” and represents Seattle Preparatory School as its Panther mascot.

The meeting was about bringing joy to children with brain cancer. When Hanson was 8 years old, he developed searing headaches, prompting a CT scan. Hanson remembers watching his father pace back and forth in the hospital as the family waited for results. When they came, “the floor dropped out from under us,” said his mother, Erin Cordry. Hanson had a medulloblastoma, an aggressive brain tumor. He underwent surgery and started a protocol developed by Hutch researcher Dr. Jim Olson.

“That’s exactly why Blitz came to the Hutch. “A big joy for him is to get to bring a smile to kids’ faces,” said Ryan Asdourian, who calls himself Blitz’s “handler.”

Asdourian reached out to Olson after seeing a TEDx talk he gave about Project Violet, which is pursuing innovative brain cancer treatments.

Asdourian knows what it’s like to get a serious diagnosis. In 2008, he learned he had multiple sclerosis. Olson, who has three family members with MS, is committed to supporting better treatments for the degenerative disease. Each year, Asdourian helps raise money for MS research through the annual Team Blitz Pub Crawl, which will be held on April 12.

“You never know what tomorrow will bring so it’s important to live life to the fullest,” Asdourian said. “A diagnosis like this is a strong reminder.”

By Linda Dahlstrom

BRAIN CANCER

Blitz Visit

Seahawks’ mascot brings joy and inspiration to kids with cancer

The Seahawks’ “Blitz” mascot visited Fred Hutch’s campus and met survivor Max Hanson in January. Photo by Robert Hood / Fred Hutch

By Linda Dahlstrom

HUTCH NEWS

Read more at fredhutch.org/news
**IMMUNOTHERAPY**

**Accelerating Progress**

Fred Hutch, Memorial Sloan-Kettering partner on $145 million startup

In December, Fred Hutch, Memorial Sloan-Kettering Cancer Center and Seattle Children's Research Institute joined forces to launch Juno Therapeutics Inc., a new biotechnology company focused on developing immunotherapies for cancer.

Juno’s approach reprograms infection-fighting T cells to recognize and attack cancer cells. This has the potential to reduce or eliminate the need for debilitating surgery, radiation and chemotherapy.

“Joining together creates incredible potential to develop immunotherapies that help cancer patients not just in Seattle and the United States, but worldwide,” said Dr. Larry Corey, Fred Hutch’s president and director.

Juno was launched with $145 million in initial funding, making it one of the largest Series A biotech startups ever. Its founding scientists include Fred Hutch Drs. Phil Greenberg and Stanley Riddell.

That funding, and the founding institutions’ immunotherapy expertise, gives Juno the ability to bring new therapies to clinical trials more quickly.

“We all recognized that philanthropy alone wasn’t going to be sufficient to accelerate a cure,” said Paula Reynolds, chair of the Hutch board of trustees. “We needed to develop a new model that ... can more rapidly validate therapies and make them available to more patients.”  

By Deborah Bach

**PROSTATE CANCER**

**Preventing Overdiagnosis**

New tool could help men avoid debilitating treatments

Approximately one in six American men will be diagnosed with prostate cancer, but doctors can’t tell when such cancer is harmless and when it will turn lethal. This means many men will undergo surgeries and treatments they don’t need, and potentially suffer devastating side effects such as impotence and incontinence.

To prevent such collateral damage, researchers from Fred Hutch and the University of Washington have developed a new tool to determine the likelihood that a prostate cancer patient has been “overdiagnosed,” or diagnosed with a cancer that poses little risk.

The new tool is a nomogram, or specialized graphical calculating device, which uses a patient’s age, prostate-specific antigen (PSA) level and other key information to determine the chances he’s been overdiagnosed. The research team, which included Fred Hutch’s Roman Gulati and Dr. Ruth Etzioni, envisions patients and doctors using the tool to help them decide whether to pursue treatment or take a wait-and-see approach.

The initial work behind the nomogram was published recently in the Journal of the National Cancer Institute.  

By Kristen Woodward

**Cord Blood Cures**

Rod Carew’s Hutch visit showcases new treatments

Baseball Hall of Famer Rod Carew knows cancer and the swath it cuts through families.

“In September of 1995, my youngest daughter, Michelle, was diagnosed with acute myeloid leukemia,” said Carew, keynote speaker at the 49th annual Hutch Award Luncheon in January.

Carew’s 17-year-old daughter underwent chemotherapy and radiation at Children’s Hospital of Orange County in California while the family searched for a bone marrow donor. Tragically, a match couldn’t be found due to Michelle’s rare genetic composition (Carew is of Panamanian and West Indian descent and Michelle’s mother is of Russian descent). Michelle received a cord blood transplant in March of 1996 – a rare procedure at the time – but died the following month.

The transplant was starting to take effect, Carew later learned, there just hadn’t been enough time for it to work.

At the luncheon, held Jan. 30 at Safeco Field, Carew honored Hutch Award winner Raúl Ibañez, a three-time Seattle Mariner now with the Los Angeles Angels of Anaheim, who has dedicated his life to giving back. Carew and Ibañez also toured Fred Hutch labs and met several researchers, including Dr. Colleen Delaney, Cord Blood Transplant Program director.

Delaney helped pioneer a technique that expands the number of stem cells in umbilical cord blood, which can help transplants take hold more quickly. Cord blood is now an accepted source of blood stem cells for patients who can’t find a bone marrow donor.

“Through novel methods in growing cord blood stem cells developed at the Hutch, we’re ... really changing the outcome for cord blood recipients,” Delaney said. “In fact, their outcomes are as good as conventional unrelated bone marrow donors. We’ve equalized the playing field.”

By Diane Mapes
What are breast cancer’s main causes?
We don’t know what causes breast cancer, but we know what increases or decreases risk.

The risk factors include:
• Getting older, as breast cancer incidence and death rates generally increase with age; the majority of new cases and deaths from breast cancer occur in women 50 and older.
• Having a strong family history of breast cancer.
• Having breasts that show up as “dense” on mammograms.
• Having a history of certain benign breast diseases.
• Carrying a particular gene mutation that greatly increases risk (such as in one of the BRCA genes).
• Drinking more than an average of one alcoholic drink per day.
• Starting menstrual periods before age 11.
• Never getting pregnant or having a first pregnancy after age 30.
Are most cases of breast cancer potentially preventable?
Most researchers would agree that at least 80 percent of breast cancers are caused by lifestyle or environmental factors, not by a genetic predisposition inherited from your parents. However, scientists estimate that at least 25 percent of new breast cancer cases could be avoided if women kept their weight at normal levels and maintained a physically active lifestyle throughout their lives.

What lifestyle factors help prevent breast cancer?
There are a number of things women can do to reduce their risk of breast cancer:

- Stay at a healthy weight – try to keep your body-mass index under 25 (Use an online calculator to find your BMI).
- Eat a diet that’s high in vegetables and fruits, high in whole grains, lower in fat – especially saturated fats – and low in alcohol.
- Keep active – strive to at least follow the U.S. Surgeon General’s guidelines of 30 minutes a day of moderate-intensity physical activity at least five days per week. More exercise is associated with an even lower risk.
- Drink little or no alcohol – keep to an average of one drink per day or fewer.
- Don’t smoke.
- Childbearing women should breastfeed for as long as possible – ideally six months or longer.

Is it ever too late to try to reduce your risk?
It’s never too late to make positive lifestyle changes! We’ve shown in our studies that women who lose weight or take up an exercise program, even when they are in their 50s, 60s or 70s, can reduce their breast cancer risk.

What are the mechanisms behind the link between overweight/obesity and increased risk of breast cancer?
Women who are overweight or obese make excessive amounts of some hormones and other blood factors. This includes estrogens, which are produced in fat tissue after menopause. Fat tissue contains inflammation-producing cells and promotes excessive production of insulin and glucose, all of which can increase cancer risk. Losing as little as 5 percent of one’s body weight reduces these risk factors substantially.

What should a woman do if she is at high risk of breast cancer due to family history or genetic factors?
She should talk to her doctor or health care provider. High-risk women may need more frequent screening so that if a breast tumor develops, it can be caught at an earlier stage. Those at very high risk, especially women with the BRCA gene mutation, may decide to undergo removal of both breasts as a way to reduce risk.

Are there medications that reduce a woman’s odds of breast cancer?
Some medications have been shown to reduce breast cancer risk. They include tamoxifen, raloxifene and the aromatase inhibitors exemestane and anastrozole. There are some risks to these medications, so women should talk with their doctor to determine which one might be appropriate.

What about vitamins or supplements?
There are no data showing that any vitamin or supplement will reduce breast cancer risk.

Are there medications women should avoid?
Women should avoid hormone-replacement therapy to manage menopause symptoms. The Women’s Health Initiative, a landmark nationwide study coordinated here at Fred Hutch, found hormone-replacement therapy that included progesterone dramatically boosted the risk of breast cancer. As a result, millions of women stopped taking the therapy and U.S. breast cancer rates started to drop. An estimated 20,000 U.S. women per year since 2002 have been spared from developing breast cancer – with tens of thousands of additional lives spared in other countries.

Dr. Anne McTiernan was one of the first researchers to investigate how exercise and weight loss affect a person’s chances of getting cancer. Her team has made a number of landmark findings – including that regular exercise can significantly reduce cancer risk in both men and women. 

Photo by Robert Hood / Fred Hutch

Write to Kristen Woodward at kwoodward@fredhutch.org
Dr. Jonathan Bricker’s high-tech approach could revolutionize how people change behavior – and beat addictions
BRIEN THANE STARTED SMOKING AS A TEENAGER IN THE 1970S — and swore he’d quit if cigarettes ever cost $1 per pack. Then Thane promised to kick the habit before he turned 40. But by 2010, he was 53 years old and had never stayed off cigarettes for more than three weeks, even though he’d tried everything — from counseling to nicotine patches to prescription drugs — to stop his cravings. Then Thane was invited to test a new smoking-cessation program developed by Dr. Jonathan Bricker of Fred Hutchinson Cancer Research Center. It was different than anything Thane had ever tried. Instead of teaching him that his cigarette cravings were enemies to be conquered, the new method taught him to mindfully accept his urges — and let them pass. “It was like ‘Zen and the Art of Quitting Smoking’,” Thane said. “And it worked.” Thane hasn’t picked up a cigarette in the three-and-a-half years since he completed the clinical trial. It’s a huge accomplishment for someone who smoked a pack a day for more than three decades — and a sign of how Bricker’s research could revolutionize smoking cessation for millions of people struggling to quit. CONTINUED >
Part visionary scientist, part creative psychologist, Bricker and his team are building smoking-cessation programs around an innovative approach—called acceptance and commitment therapy, or ACT—and delivering them via everything from group therapy sessions to a website to a new smartphone app. Preliminary studies show that Bricker’s programs are 50 to 300 percent more effective than traditional approaches. And evidence suggests the ACT model could help adults cope with many other addictions and harmful behaviors.

“It could be the missing link that finally drives down smoking rates, and it might be a better way to overcome obesity and alcoholism ... and the health problems that go with them.”

Other experts agree Bricker’s program could be transformative. “Dr. Bricker’s ACT approach is a breakthrough in behavioral research and has major public health implications for the major causes of preventable death,” said Dr. Sean David, a leading tobacco-cessation researcher at Stanford University.

Challenging the Status Quo

In the 50 years since public health officials started a national anti-smoking effort, they’ve made tremendous progress in preventing younger generations from starting the habit but have a long way to go in helping smokers quit. About 20 percent of Americans smoke and the best smoking-cessation programs only work for 10 to 15 percent of those who try them, despite a number of concerted efforts: Taxes have driven the price of cigarettes to around $7 a pack. Movies and television shows don’t glorify smoking anymore. Awareness campaigns teach kids about smoking’s dangers.

In the United States, lung cancer is responsible for more deaths than any other cancer, and it kills more men and women than breast, colon and prostate cancers combined, according to the American Lung Association. The majority of lung cancers are related to smoking, and the lack of effective programs to help smokers quit was one reason Bricker was so intrigued by ACT when he first learned about it at a 2004 workshop.
Developed by Dr. Steven Hayes of the University of Nevada, ACT isn’t aimed at smoking. It’s a general approach that encourages people to step back, notice the thoughts and cravings that lead to destructive behaviors, and accept them. ACT teaches that if you don’t act on these urges, they will fade away. This creates space to commit to the core reasons you want to change your behavior.

When Bricker attended the workshop, he was working under Fred Hutch’s Dr. Art Peterson, testing a program that delivered traditional smoking-cessation programs over the phone. This meant using motivational counseling to inspire smokers to quit, and teaching them to avoid the people, places and activities that triggered cravings. When urges did strike, smokers were taught to distract themselves. This approach worked for about 10 percent of those who were smoking daily when they started the trial.

“I had a hunch that ACT could be a better solution, and that it was definitely worth testing,” Bricker said.

This willingness to challenge the status quo drives many scientific advances. Still, Bricker knew it was going to be hard to land the millions of dollars he would need for clinical trials to evaluate ACT. The theory was too new, too untested and too contrary to what everyone believed.

“To most people in my field, the idea of teaching people to accept their cravings seemed far-fetched and naïve,” Bricker said.

But Dr. Ross Prentice, who was then head of the Hutch’s Public Health Sciences Division, took a chance in 2008 and, along with his executive committee, awarded Bricker a small grant to do a pilot study. It’s a tried-and-true approach: use private dollars for small studies that test new ideas. Bricker knew it was his best shot at seeing whether ACT could be effective.

“If we were ever going to get federal funding,” he said, “we knew we would need solid pilot data that addressed every big question and critique.”

‘I WAS STUNNED’

Piece by piece, Bricker’s team built their case. They translated ACT, which is an abstract concept, into a straightforward program that would make sense to the general public. Then, for the pilot study, they created the first telephone-delivered smoking-cessation program based on ACT. In 2009, they found that 29 percent of that study’s participants quit smoking for at least a year.

Then Bricker collaborated on a trial that delivered ACT via group therapy sessions. Fully 30 percent of participants stayed off cigarettes for a year, compared to 13 percent of people who followed the traditional intervention.

“That’s when I knew this could actually work,” Bricker said.

Still, Bricker’s applications for National Institutes of Health funding fell flat. But he stayed the course, his research supported by funding from private donors, and kept generating promising results until 2010, when the NIH finally gave him a high score on a proposal to test the group therapy approach. It was a five-year, $3.2 million grant, and the score meant it was sure to be funded.

Bricker had been rebuffed so many times that he didn’t believe the money would come through – until months later, on a hot June afternoon in the Reno, Nev., airport. Bricker had just spoken at a conference and was waiting for a flight to Seattle. All around him, gamblers fed coins into slot machines. Bricker checked his email and saw one from the NIH, notifying him that the first payment was about to be transferred to Fred Hutch.

“It was my own jackpot,” Bricker said, “and I was stunned – just stunned – that we were going to pull this off.”

That study is now in its fourth year and Bricker has...
conducted three more clinical trials. Thane participated in one of them and attended group therapy sessions at Group Health Cooperative, one of Bricker’s research partners. Thane, who develops housing for low-income people, remembers the instructor telling him to imagine he was driving a car and that his urges were backseat drivers. Then, whenever Thane had an urge to smoke, he would remember he was the one in control, and he would recommit to his reason for quitting: to be healthier so he could enjoy every aspect of his life, including sailing the 22-foot boat he keeps docked near his home in Bellingham, Wash.

He still remembers the day he quit for good. He was leaving a barber shop when he ran out of cigarettes.

“I started toward a convenience store, then I stopped and said ‘for crying out loud, who’s driving this car’, ” Thane said. “Then I turned around and headed for my boat.” Thane hasn’t smoked since, and other people in the study have had similar success.

In a recent paper, Bricker’s team reported that 31 percent of participants quit for at least six months, compared to 22 percent of people who followed a traditional approach. People who smoked more than a pack a day did the best – 36 percent of them quit for at least six months, versus just 17 percent of those in the control group.

“In some cases, the ACT approach is more than twice as effective as traditional interventions,” Bricker said. "It shows how powerful this could be.”

DO-IT-YOURSELF SMOKING CESSATION

Bricker knows that in-person quit counseling is increasingly out of step with a world where many people prefer do-it-yourself approaches they find online. There are more than 400 quit-smoking apps on the market and the federal government’s online smoking-cessation site, smokefree.gov, attracts more than 1.5 million visitors a year. None of those apps are backed by research that proves they work, and only about 10 percent of smokefree.gov users quit for more than a month.

“We have to do better,” Bricker said. “There are just too many people who might never have access to standard counseling, especially in rural areas where people are far more likely to smoke.”

In 2010, Bricker’s team tested a potential solution: WebQuit, a free website that guides smokers through ACT-based approaches. WebQuit helps users develop personalized quit plans, offers tutorials that teach people to allow their cravings to fade away, and lets users upload photos of their families, favorite places, and anything else that illustrates their commitment to quitting.

How the SmartQuit app works

Bricker’s team developed a smartphone app, called SmartQuit, that guides users through a do-it-yourself quit-smoking program. The app includes video tutorials and a reward system that helps people overcome their cravings. It also sends “push” messages directly to users’ phones, congratulates them on their progress and reminds them to check in for help.

SmartQuit users stay motivated by tracking their progress and listening to inspiring stories. They even receive electronic “badges” to reward their hard work. SmartQuit lets users upload photos of their family, special places, or anything else that illustrates their motive to quit.

About the study

There are more than 400 quit-smoking apps on the market. Bricker’s is the first to be clinically tested to see if it actually makes a difference.
As Bricker’s team evaluated the data, they noticed some surprising results that had nothing to do with smoking. Smokers often gain weight and drink more alcohol when they quit. But in one Bricker study, participants who followed ACT lost an average of 9.2 pounds, while people in the control group gained nearly a pound on average. In that same study, only 11 percent of people in the ACT group reported they were drinking heavily after six months, compared to 22 percent in the control group. Bricker thinks this might show that participants who learn ACT apply it in ways that extend far beyond smoking. That means the smoking-cessation studies are now a gateway toward exploring whether ACT can help people overcome obesity, alcohol abuse and other behaviors that increase their risk for cancers, heart disease and other serious health problems.

Bricker is teaming up with Fred Hutch’s Dr. Shirley Beresford to obtain funding for an ACT-based weight loss program, and he is joining forces with Dr. Jaimee Heffner, a staff scientist on his team, on an intervention to curb alcohol abuse. “At least 40 percent of all cancer cases are caused by behavior, and we hope that ACT or a future innovation can help us change those behaviors and prevent those cancers,” Bricker said. “That’s part of what makes it so exciting.”

Write to Justin Matlick at jmatlick@fredhutch.org

“I was like ‘Zen and the Art of Quitting Smoking’,” Thane said. “And it worked.”

Bricker recently completed another pilot study that takes this research to the next technological level by testing a smartphone app — called SmartQuit — that his team developed with help from Seattle-based 2Morrow Inc. The app has features like push notifications that invite users to watch video tutorials or track how well they accept their cravings. Bricker is waiting to hear from the NIH about a grant to test the app on a larger scale. He envisions a day when it gives millions of smokers a better way to quit.

“If we can offer an effective app and an alternative to smokefree.gov, we could potentially save many, many people from lung cancer and other diseases,” Bricker said.
Using immune cells to fight cancer

Dr. Phil Greenberg turned to research because his patients needed better options. Nearly four decades later, he’s at the forefront of immunotherapy breakthroughs that are delivering new treatments – and new hope.
That was why he came to Fred Hutchinson Cancer Research Center in 1976. The bone marrow transplant, pioneered at Fred Hutch, is the first example of the immune system's power to cure cancer. Transplants eradicate leukemia and other blood cancers not only by replacing diseased bone marrow with healthy donor cells, as originally thought, but also by transferring immune cells that target the disease.

Bone marrow transplants are so effective in part because the donor immune cells more easily recognize any remaining cancer cells as “foreign” – the patient’s own immune system has a hard time distinguishing diseased cells. But the flipside is that transplants often carry nasty side effects such as graft-vs.-host-disease, or GVHD.

Greenberg set out to boost transplants’ power while reducing their toxic effects by fine tuning T cells to zero in on cancerous cells.

“Honestly, when I came here I thought that would be our first project,” he said. “That’s the same project we’re working on now.”

PUTTING LEUKEMIA PATIENTS INTO REMISSION

In the early ’90s, Greenberg and his team made their first big leap, showing they could tweak transplanted T cells to ward off infection by cytomegalovirus, which is often deadly to transplant patients.

Greenberg’s group is now able to re-engineer T cells’ DNA and his team recently crafted T cells that bind to a protein found on leukemia cells. Although the research is still in early stages, some leukemia patients given transplants that include these engineered cells have gone into prolonged remissions.

“It’s incredibly gratifying to treat a patient and they get better, and when it’s an experimental therapy that you’ve developed – that’s a pretty wonderful thing,” he said.

Advances like these led to December’s launch of Seattle-based Juno Therapeutics Inc. (see Page 3), a biotech company dedicated to accelerating immunotherapy development. It’s a unique partnership between Fred Hutch, New York’s Memorial Sloan-Kettering Cancer Center and Seattle Children’s Research Institute. Greenberg is one of Juno’s founders, as are Fred Hutch’s President and Director Dr. Larry Corey and Dr. Stanley Riddell – whom Greenberg mentored and is now one of the world’s top immunotherapy researchers.

COLLEGE AT 16

At Greenberg’s Long Island, N.Y., high school he had a teacher who “made biology seem the most provocative and exciting thing imaginable,” he said.

At age 16, his parents sent him by bus to college at Washington University in St. Louis where he became a pre-med student. He couldn’t afford a dorm room so he slept in the living room of a frat house, Sharon remembered.

Early in his career, Greenberg struggled to get research funding, just as he sees many young scientists doing now. “I remember not sleeping,” he said. “I was thinking ‘what am I doing?’”

But he never seriously considered giving up. He loved his work so much that he often brought it home, staying up late into the night. Corey, his longtime colleague and friend, says he often receives emails — and even the occasional phone call – from Greenberg at 3 a.m.

“Phil's passion for science is infectious,” Corey said.

Greenberg’s best friend, Fred Hutch’s Executive Vice President and Deputy Director Dr. Fred Appelbaum, says when the two of them go skiing, if Greenberg is leading, they never stay on groomed trails.

“Sometimes that leads to seeing something incredible,” Appelbaum said.

“And sometimes you find yourself at the edge of a cliff.”

“He said that spirit is reflected in Greenberg’s work. “As a scientist, he is a wonderful blend of being adventuresome and also incredibly rigorous.”

As excited as Greenberg is about the recent breakthroughs, he knows even better advances are coming down the pike. The technologies he and his colleagues have developed, he said, will lead to more precise therapies that will treat a broader array of cancers with fewer side effects.

This year, his team will start a clinical trial using immunotherapy to treat lung cancer. His next goal is to use T cells to tackle pancreas cancer.

“This is just the tip of the iceberg,” Greenberg said. “Now we can change T cells to make them function better, make them survive better, make them target the cancer better. The things we’re doing now, we couldn’t even have dreamed about back when I started.”

Opposite: Greenberg's team re-engineers T cells (shown here in purple), inserting DNA that instructs them to attack cancer cells. 

Photo by Photo Quest Ltd

Dr. Phil Greenberg, Photo by Robert Hood / Fred Hutch

Dr. Phil Greenberg.
New year, new ride

Obliteride: Accelerating discoveries, saving lives faster

Last August, nearly 700 Obliteride bicyclists together rode more than 45,000 miles. With help from “virtual riders” who raised money without touching a bike, they collected more than $1.9 million, with 100 percent of every dollar going to cancer research at Fred Hutchinson Cancer Research Center.

It was a fantastic success for Fred Hutch’s first-ever Obliteride event. And it’s going to be even better this year, with new routes, more riders and continuing sponsors like University Village, all united to end cancer.

Register now at Obliteride.org.

Ride August 8-10
Stage 4 cancer can’t stop Morrie Shepherd from training for Obliteride

BY DIANE MAPES

Last year, Morrie Shepherd went on his first training ride for Obliteride just hours after getting infused with the cancer-fighting drug Taxol. The 67-year-old, who just finished treatment for stage 4 head and neck cancer, rode 12 miles and was hooked.

“Tiger Shepherd, Photo by Robert Hood / Fred Hutch

“I’ve never been a big biker but I just had to get out and try it,” he said. “Plus it was an opportunity to give back to Fred Hutch.”

In treatment for the last four-and-a-half years (he’s gone through radiation, several rounds of chemo and has participated in Hutch clinical trials), Shepherd feels it’s crucial to support other cancer survivors.

He created an Obliteride team called U-Dub 67-68. Comprised of Shepherd, his old University of Washington college roommate, his brother-in-law and one of Shepherd’s sons, the foursome raised $7,500 through their 25-mile ride. This year, Shepherd hopes to expand the team to seven people and raise $10,000.

Shepherd also hopes to inspire other Hutch supporters to sign up to ride or simply fundraise if they’re nervous to get on a bike.

“Obliteride was just a really fulfilling event and I want to have something to look forward to,” he said. “It’s so important to never give up.”

📸 Write to Diane Mapes at dmapes@fredhutch.org
The nurse who worked with ‘Dr. Hutch’

BY LINDA DAHLSTROM

THEY CALLED HIM
Dr. Hutch.
That’s how all the nurses who worked with Dr. William Hutchinson back in the early years referred to the easygoing physician, remembers Maryjane Donaldson.

“He was my buddy. He’d hunt me down to go do rounds with him,” said Donaldson, now 82, who was a young nurse when she worked with Hutchinson during the 1950s. “All the patients worshipped him. He always treated everyone with respect. He was such a neat guy – really special.”

In those days, Hutchinson was a surgeon working at Swedish Hospital in Seattle. In the years to come, of course, he would wage a fight to try and save his beloved younger brother Fred, who died of lung cancer at age 45 in 1964. Later still, he would found the world-renowned Fred Hutchinson Cancer Research Center in his brother’s honor.

But back then, recalls Donaldson, there wasn’t a lot that could be done for patients with cancer. Sometimes Hutchinson would do “open-and-close” surgeries, when he operated on a patient only to see that the cancer was advanced beyond what surgery could do.

“I look back on it now and I think ‘How sad.’ If you had cancer, that was it, you were considered a goner,” she said. “It wasn’t like it is now.”

As with Hutchinson, the death of a sibling was the catalyst that shaped Donaldson’s career.

Donaldson was about 7 when her father asked her to watch her toddler sister Jean Anna Miller, who wasn’t feeling well, while he stepped out of the room. Donaldson reached into the crib to touch Jean’s forehead and noticed how hot it felt. Then, moments later, she was horrified when Jean had a seizure and stopped breathing. Donaldson yelled for her father, who ran into the room and began trying to perform CPR.

In that moment, Donaldson heard a clear voice saying

“You have to become a nurse.”

“My baby sister died ... and I couldn’t do anything. But as a nurse, I could take care of people and try to help,” she said.

Donaldson worked as a nurse for decades, continuing after she married and while her sons, Alan and Keith, were growing up. For many years, she worked the night shift so she could take care of her children during the day, often preparing breakfast for the boys the night before so it would be ready if they woke before she got home. “I slept standing up or leaning against the wall,” she joked.

In 1997, Donaldson became a patient herself when she was diagnosed with breast cancer, had a double mastectomy and underwent chemotherapy. She knows that some of the key advances in cancer treatments today are due to her old friend, Bill Hutchinson.

On a recent crisp winter day, as Donaldson walked around the Hutch campus, she marveled at the legacy of the man she knew. She stopped to look at a painting of Fred Hutchinson wearing his Seattle Rainiers uniform – and at plaques commemorating the three Nobel Prizes awarded to Fred Hutch researchers for discoveries that have saved countless lives.

“It’s unbelievable,” she said. “After Dr. Hutch came along, things changed.” ▶

Write to Linda Dahlstrom at ldahlstr@fredhutch.org
In the early 1990s Jim Godfrey was healthy and playing soccer in an A-league with Fred Hutch researchers Drs. Fred Appelbaum and Phil Greenberg. When Godfrey was diagnosed with non-Hodgkin follicular lymphoma in 1998, he called Appelbaum directly to start treatment at the Hutch. After a few rounds of unsuccessful chemotherapy, Godfrey received a stem cell transplant in 2001 under the care of Dr. Ollie Press. He’s been cancer-free ever since.

“Our family company’s mission is to help our residents live happier, healthier and longer lives. I’m grateful that Fred Hutch gave that to me, and we are now showing our support with an impactful gift.”

Chateau Retirement Communities is a member of the President’s Circle, a distinguished group of individuals and corporations that give $10,000 or more annually to speed the development of lifesaving innovation at Fred Hutch.

“FRED HUTCH GAVE ME MY LIFE BACK.”
— Jim Godfrey, owner and CEO of Chateau Retirement Communities

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Bringing joy to kids with brain cancer

In January, the Seahawks’ mascot, Blitz, took a break from the team’s championship run to visit Fred Hutch and bring joy to kids like Joey Saleh. While other kids high-fived Blitz, Saleh sat quietly in a nearby chair, weary from a year that included a brain cancer diagnosis, radiation and chemotherapy. Blitz approached him and gave him a gentle hug. After he walked away, Joey, who watches all the Seahawks games on TV, softly whispered, “That was so cool.”

READ MORE ABOUT BLITZ’S VISIT ON PAGE 2.