extra is a publication of the OHSU Foundation for friends and supporters of Oregon Health & Science University.

extra is:
- The passion and skill of OHSU’s caregivers
- The stature of its world-class research programs
- The strength of its commitment to train tomorrow’s health and science workforce

extra is also the dedication of OHSU supporters whose investment and advocacy make extraordinary things possible.

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To the right:
Louis Picker, M.D.

On the cover:
Researchers in OHSU’s Vaccine and Gene Therapy Institute are developing new vaccines to defeat HIV and other viruses.
Last fall, Louis Picker, M.D., and his colleague, immunologist Scott Hansen, Ph.D., poured two sips from a bottle of scotch and raised their glasses for a toast. It’s a tradition the two friends observe only when they’ve made a fundamental discovery – and that day, they had reason to celebrate.

Picker and his team at OHSU’s Vaccine and Gene Therapy Institute had developed a vaccine candidate that has the ability to completely clear an AIDS-causing virus from the body.

“We’ve beaten the Death Star,” said Picker. “We’ve proven the principle. We’ve demonstrated that it’s possible to win against this virus.”

Their work has been published in the journal Nature and electrified this year’s International AIDS Conference. Most important, it offers new hope for the 34 million people worldwide who are infected with HIV today.

Tested in non-human primates at OHSU’s Oregon National Primate Research Center, the vaccine vanquished a particularly lethal form of SIV, the virus that causes AIDS in monkeys. Picker’s team vaccinated 16 monkeys and then infected them with SIV. In nine of the monkeys, the vaccine had a remarkable effect. It did not prevent initial infection, but it armed the body’s immune system to quickly overcome the virus. Within one to three years, there was no sign of infection – suggesting that the monkeys were cured.

The development is hailed as a major breakthrough. Never before has a vaccine eliminated an existing infection. “This is a first!” said leading HIV researcher David Watkins, Ph.D., professor and vice-chair of research at the University of Miami’s Miller School of Medicine.

The “just right” solution

How do you defeat a virus that mutates so quickly it has eluded all attempts at conventional vaccines? The key is a unique vaccine vector that Picker developed by retrofitting a common virus, called cytomegalovirus, or CMV, to contain SIV proteins.

Most people, and all adult monkeys, already carry CMV – a silent infection that typically causes no symptoms. Through thousands of years of co-evolution, humans and CMV have learned to co-exist. This shared history makes CMV a “Goldilocks” vector, said Picker. It’s not too hot: it doesn’t trigger an overwhelming immune assault that would exhaust the immune system. It’s not too cold: its effectiveness doesn’t wane over time. It’s just right. The altered CMV equips the immune system’s T-cells to target SIV and stimulates them to patrol the body in a constant state of readiness.

“There’s a lot to be done to take this forward and see if it works in humans,” said Picker. The next step is clinical trials to test an HIV version of the vaccine in humans – a milestone that may take two or three years to reach.

“We’ve beaten the Death Star. We’ve proven the principle. We’ve demonstrated that it’s possible to win against this virus.”

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Still unanswered is the question of why the vaccine did not work in half the monkeys. Perhaps combining Picker’s method with other approaches will increase the vaccine’s effectiveness. Or it may prove that although vaccines can improve the odds substantially, the virus could be too powerful to be beaten every time.

A life’s work, with lives in the balance

Even so, a significant reduction in AIDS cases would lead to millions of lives saved. Nowhere is that more true than in sub-Saharan Africa. Picker is well aware that advances made in Oregon have implications around the globe. His wife is South African and fought the spread of misinformation about AIDS through her work there as a journalist. Picker’s own career arc has tracked with the epidemic since he was in medical school. In the 1980s, Picker saw some of the first cases of AIDS treated at the University of California, San Francisco. As a pathology resident, he performed autopsies on some of its first victims. “As soon as I had some skills and understanding to make a difference, I began to work on this disease – and I’ve been working on it ever since,” Picker said.

The successful vaccine is the result of more than a decade of incremental progress. This leap forward has landed Picker in the spotlight, but he’s not comfortable lingering there for long. He has taken the time to field dozens of calls from reporters and to share the science at conferences. But from the moment he paused to toast this victory, Picker moved on to the next challenge. “All I can think about is what’s left to do,” he said. “There are questions left to answer, so I keep working.”

Picker believes his methods hold promise for new vaccines to protect against herpes viruses and cancers caused by viruses, such as cervical cancer. He is now developing vaccines for tuberculosis and malaria.

“Tuberculosis, AIDS, and malaria kill millions,” he said. “These are the three scourges of mankind.” With so many lives at stake, the immense promise of this research is coupled with intense pressure to move it forward quickly.

“I want to solve this problem in my lifetime,” Picker said. “We’ve made many new discoveries and crossed many hurdles, but it’s going to take a dozen fundamental discoveries before we’re done.” Picker is already in pursuit of the next breakthrough. He said, “Hopefully the scotch bottle will empty and the vaccine will be approved right around the same time.”

The vaccine candidate that has eliminated an AIDS-causing virus in monkeys is proceeding toward clinical trials in humans. Philanthropy will play a key role in advancing this research on the fastest timeline possible – and in applying this OHSU breakthrough to new avenues in vaccine research.

“The biggest thing we have to do to keep this train rolling is not a scientific issue – it’s a financial one,” said Louis Picker, M.D., associate director of OHSU’s Vaccine and Gene Therapy Institute. “In these times, it’s difficult to raise the money needed for this research. I’m grateful for the support I have gotten from the Gates Foundation and the NIH, which has enabled us to come so far. But we’re probably going to run into trouble going forward unless we can find some additional support.”

Private philanthropy is essential for enabling researchers to pursue new ideas. “If you have momentum on an already established project, it’s possible to get federal funding for it,” said Picker. “What’s not possible anymore is the ability to try new things. If you have a new idea – in this case, to try to modify the vaccine for other diseases – that’s where philanthropy is needed.”

To find out how you can support vaccine development at OHSU’s Vaccine and Gene Therapy Institute, contact Lori Sweeney at 503 494-7435 or sweeneyl@ohsu.edu.
Doernbecher Freestyle celebrates 10 years of philanthropic partnership
It all began in 2004 with a brainstorm between a Nike executive and his teenage son. Michael Doherty, Nike’s Creative Director of Global Brand Presentations and a longtime Doernbecher Children’s Hospital Foundation board member, was intrigued by his son’s idea that Nike create custom sneakers honoring the hospital’s young patients. A Nike product designer suggested that the kids themselves design the shoes, and Freestyle was born.

Paying it forward and giving back
Jake Dering is one of the seven Doernbecher patients nominated by their doctors to participate in Freestyle 2013. Jake was born with an extremely rare illness that affects bone and facial structure. His family feared he would never be able to walk. But Jake’s deep reserve of “can-do” has seen him through multiple surgeries that enable him to shoot hoops, run bases and even complete a 5K. Jake’s Freestyle

“The partnership between Doernbecher and Nike is a deep relationship that has enriched the culture of both organizations.”

– H. Stacy Nicholson, M.D., M.P.H., Doernbecher’s physician-in-chief

Jake was born with a rare genetic disorder and wasn’t expected to live. Today, the gutsy 8-year-old is unstoppable on the baseball field and dance floor.

Erin was 12 when doctors told her parents she needed heart surgery or she wouldn’t see her 30th birthday. At 26, she is a world-class competitive athlete and a second-year medical student.

Taylor was 4½ years old when he had surgery to correct a heart defect. Now in his early twenties, he is one of Nike’s talented product designers.

Triumph over life-threatening medical conditions connects these current and former OHSU Doernbecher Children’s Hospital patients. Each of them is also part of an extraordinary 10-year collaboration that is making a world of difference for kids facing serious health challenges.

A brainstorm leads to big things
Doernbecher Freestyle is a one-of-a-kind partnership between Nike and Doernbecher in which young patients work with Nike creative staff to design limited-edition shoes that are sold nationwide. Proceeds support the hospital that changed – and in many cases saved – these patients’ lives.

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While patients like Jake are paying it forward, others have their sights set on paying back the care they received years ago.

Erin Gray is a 2005 Freestyle alumna. “I was so excited when I got to design a running shoe,” she recalled. When she was 12, a heart defect threatened her long-term health and her ability to do what she most loved: competitive distance running. Doernbecher surgeons fixed the problem, and Erin went on to win medals throughout high school and college. This year she set a personal best record in the 20K racewalk at the IAAF World Athletics Championships in Moscow. Erin said she credits her positive experience as a Doernbecher patient with her interest in becoming a physician.
Unique corporate partnership helps young patients go the distance

“This program’s impact is enormous. Most importantly, these funds help Doernbecher treat and cure more kids. The Freestyle Program has also raised Doernbecher’s national profile,” said H. Stacy Nicholson, M.D., M.P.H., Doernbecher’s physician-in-chief. “The partnership between Doernbecher and Nike is a deep relationship that has enriched the culture of both organizations.”

Michael Doherty agreed. “Whether they’re designing shoes for LeBron James, Serena Williams or Tiger Woods, everyone at Nike who has been involved with Freestyle says that this is the most gratifying project they’ve ever worked on.”

Taylor Sieg, a Nike product designer, jumped at the chance to be part of this year’s program. He knows first-hand what it’s like to be a little kid in a big hospital. When Taylor was 4½ years old, OHSU doctors repaired his defective heart. He has vivid memories of his time in the hospital. “It’s traumatic; it makes you a fighter. I wanted to be a part of Freestyle to reward these kids. Every one of them said it was all about helping the people that come after them.”

Since the program’s launch, Freestyle has raised nearly $8 million. The funds help Doernbecher expand pioneering research, support clinical care, purchase state-of-the-art equipment and recruit new experts. The funds also help cover the cost of care for families who need financial support.

What started as a small collection has grown into a hot commodity, with sneakerheads nationwide tuning in for the latest release – and becoming Doernbecher fans in the process.
OHSU and the Knight Cancer Institute are launching an unprecedented campaign to make the greatest possible impact on cancer in the shortest amount of time. To change the game in cancer, we need to detect the disease at its earliest stages before it becomes lethal.

Developing next-generation tests and technologies required for early detection and targeted treatment will revolutionize cancer care and will fill the single largest unmet need as we strive to save lives and spare patients from unnecessary treatment. Cancer is a more vulnerable foe when it is caught in its earliest stages. There is no better proof than the Pap test, which has helped cut the death rate from cervical cancer dramatically. But other widely used tests do not measure up – and in some cases lead to decisions that cause harm. When screening leads to overly harsh treatments for cancers that don't pose a lethal risk, patients suffer needlessly. When tests fail to reveal what's causing a tumor to grow, physicians lack the information they need to determine the best course of treatment. OHSU will change the game by developing targeted tests that lead to better, earlier treatments and reveal important details about cancer at the molecular level. To do this, the Knight Cancer Institute will build a team of the best minds in cancer research, focus them on the greatest opportunities for discovery, and empower them to pursue bold ideas.

This vision for a quick and decisive end to cancer has inspired a landmark philanthropic commitment that will accelerate the pace toward a cure. Nike co-founder Phil Knight and his wife, Penny, have pledged to donate $500 million upon the completion of a campaign to raise $500 million for cancer care and research at OHSU by December 31, 2015. With your help, OHSU will reach this goal and save lives around the world. Here are the key details at a glance.
Since Phil and Penny Knight posed their cancer fundraising challenge, leadership and staff at the OHSU Foundation have been planning and beginning to implement a campaign to raise an unprecedented $500 million for cancer research at OHSU within two years. Following the September 20 announcement of the challenge, the Knights gave the Foundation and OHSU a 90-day period to develop and align a fundraising plan, the scientific plan, and a communications plan for the campaign, and set the fundraising deadline at December 31, 2015. The campaign will include support from individuals, families, community groups, corporations, government agencies and private foundations. It will include OHSU’s longtime partners and friends, people throughout Oregon, and many supporters across the country and around the world who care about ending cancer as we know it.

“We are launching this campaign from a position of strength,” said OHSU Foundation President L. Keith Todd. “We have a world-class vision led by a scientific pioneer. We have a half-billion-dollar stamp of approval from one of the most innovative leaders in the world of business and philanthropy. We have dedicated partners who will help us achieve our vision. Not only will we meet this fundraising challenge, I believe we can exceed it.”

Donate now using the enclosed envelope or give online at ohsu.edu/knightcancerchallenge. To find out more, visit the website or email supporttheknight@ohsu.edu.

WHERE? Here.
When great minds come to OHSU, they go farther.
OHSU is where visionaries like Brian Druker, M.D., come to do work they could not do anywhere else. OHSU is where industry leaders like Intel and FEI come to collaborate on the technologies of the future. OHSU is home to the remarkable people behind inventions like the artificial heart valve, targeted cancer therapies, and the most promising recent breakthroughs in AIDS vaccine research and stem cell production. Pioneers have shaped the history of Oregon and of OHSU, and the pioneers who join this cancer team will shape the future.

WHEN? Now.
Every moment counts, and every gift matters.
A world of new possibilities in the fight against cancer is at our doorstep, but the clock is ticking. Every moment counts between now and December 31, 2015, if we expect to raise at least $500 million. With a challenge of that scale, each and every gift counts. The goal is not merely to hit the target but to surpass it, and to do so as soon as possible in order to begin the real challenge – saving lives through targeted early cancer detection and treatment.

“People are dying because their cancer has spread before they see symptoms. People are undergoing harsh treatments that are not appropriate for their form of cancer. Our highest challenge is to do for early detection what Gleevec did for targeted treatments.”
– Brian Druker, M.D., Director, OHSU Knight Cancer Institute

INSIDE THE CAMPAIGN

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OHSU has launched an unprecedented initiative to turn the tables on pancreatic disease. With support from a landmark philanthropic pledge, a team of OHSU’s top pancreatic surgeons and Knight Cancer Institute scientists will co-develop new detection and treatment methods for pancreatic cancer while solving longstanding mysteries of pancreatic disease at the molecular level. Pancreatic cancer is currently the fourth leading cause of death from cancer and is expected to climb to the second leading cause of death by 2020.

A philanthropic partnership between Norman and Linda Brenden and the Colson Family Foundation will fund the initiative through gifts totaling $25 million over five years. The gift was announced on September 12, 2013. The two families’ shared passion for cancer research has brought them together for several previous joint and individual gifts to support OHSU’s pancreatic and breast programs. This, their largest investment to date at OHSU, ranks among the institution’s all-time top five monetary gifts.

“The donors’ investment lets us bring together and focus the efforts of the right people on the right problems,” said OHSU President Joe Robertson, M.D., M.B.A. “The Brendens and the Colson Family Foundation are exemplars of high-impact philanthropy, and OHSU is very grateful for their investment and partnership.”

According to OHSU leaders, the gift will go a long way toward breaking the scientific stalemate that has prevented any significant advances against pancreatic disease for decades.

The board of directors of The Oregon Community Foundation (OCF) made the largest discretionary grant in the organization’s 40-year history in support of OHSU’s Knight Cancer Challenge to raise money for research to combat the disease. The $1 million grant was announced in November. “Many of OCF’s donors have been generous in their individual support of the OHSU Foundation over the years,” said Max Williams, president and chief executive officer of OCF. “This grant signals our intention to honor those gifts by increasing their impact.”

Since 1949, the Elks Children’s Eye Clinic at OHSU has been dedicated to children’s vision care. In August, the Oregon State Elks celebrated a milestone of $25 million in cumulative giving to the clinic. Thanks to the Elks’ 64-year commitment, hundreds of thousands of children have been treated at the clinic, which is today housed in OHSU’s Casey Eye Institute.

An anonymous donor made a gift of $2.4 million through a charitable remainder trust to support multiple areas of OHSU: brain research at the Department of Neurology, the OHSU Center for Spatial Systems Biomedicine to support the Integrated Light and Electron Microscopy project, and hearing research at the OHSU Hearing Research Center. Gifts of this magnitude to any area of OHSU have a powerful and lasting impact on the institution and its programs.

James Brophy, M.D., and his wife, Grace, made a gift of $1.1 million through a charitable remainder trust to support the OHSU School of Medicine. The gift will help name an endowed professorship in psychiatry in memory of George Saslow, M.D., who served as chairman of the Department of Psychiatry from 1957 to 1973. James Brophy is an alumnus of the school, and he and his wife are members of the Sam Jackson Guild.

Too many women in the developing world are dying during childbirth, but a $250,000 grant will help OHSU researchers develop new methods to save mothers’ lives. The Saving Lives at Birth grant, a partnership between USAID, the Gates Foundation and others, will be used to adapt an established military first aid technology for use in treating mothers for complications during difficult childbirths. The grant supports the work of investigators from the Department of Obstetrics and Gynecology: Maria Rodriguez, M.D. M.P.H., Jeffrey Jensen, M.D., M.P.H., and Alison Edelman, M.D., M.P.H. The grant is in collaboration with colleagues at RevMedx Inc. of Wilsonville.

The ARCS Foundation (Achievement Rewards for College Scientists) donated $150,000 in support of the ARCS Scholar Awards. The women’s organization invests in outstanding U.S. scholars completing degrees in science, engineering and medical research. Since 2005, the Portland Chapter of the ARCS Foundation has provided 90 OHSU graduate students with more than $1.42 million in sponsored scholar awards.

Laura S. Meier gave $75,000 to establish the Roger and Laura Meier and Family Endowed Lectureship in Cardiovascular Medicine at the OHSU Knight Cardiovascular Institute. The lectureship will bring leaders in the field from across the nation to speak at OHSU and interact with students and faculty on an annual basis.
OHSU and the Leukemia and Lymphoma Society team up to beat AML
The Leukemia & Lymphoma Society has teamed up with the Knight Cancer Institute to launch Beat AML, a multi-institution cancer research initiative aimed at finding new treatments for people diagnosed with acute myeloid leukemia (AML). AML is a particularly deadly form of blood cancer – fewer than 25 percent of patients diagnosed with AML survive five years beyond diagnosis. Beat AML will bring together collaborators from across regions and disciplines to improve the odds for people with AML.

OHSU’s Brian Druker, M.D., will lead a team of researchers from Stanford University, University of Texas Southwestern Medical Center and Huntsman Cancer Institute at the University of Utah. Intel Corporation and Illumina are providing computational analysis and genetic sequencing expertise. The three-year project will also include pharmaceutical and biotech collaborators, such as Array BioPharma, to evaluate whether certain drugs can succeed in shutting down AML.

With a recent gift of more than $8.3 million, the Leukemia and Lymphoma Society reached a milestone of $30 million in cumulative giving to OHSU.

Public health report points to new solutions
OHSU and Portland State University partnered to produce a county-by-county public health report for Oregon. The State of Our Health project was funded entirely by private philanthropy. The findings will be used to help identify effective and sustainable solutions to critical health care problems. The report also sets the stage to innovatively prepare a public health workforce that better understands the social determinants of health over a person’s lifespan. The report is available online at ohsu.edu/servingoregon.

Southern Oregon outreach helps medically vulnerable
The OHSU School of Nursing is collaborating with community service organizations in Southern Oregon to improve the health of medically vulnerable individuals. The project is funded by a three-year grant from the Health Resources and Services Administration. Interprofessional care teams, comprising students from OHSU’s schools of Nursing, Medicine and Dentistry, the College of Pharmacy and representatives from the Global Health Center, will provide personal assistance through neighborhood centers for veterans, Latino farm workers and families.

Record year for patents at OHSU
OHSU researchers were issued a record 26 U.S. patents in the 2012-2013 fiscal year while OHSU’s Technology Transfer and Business Development office signed 81 commercialization agreements with private industry – another record and evidence of private industry’s interest in OHSU discoveries and technology.

OHSU Hospital earns top rank
OHSU Hospital ranks No. 1 in the Portland metro area, as well as statewide, according to U.S. News & World Report’s Best Hospitals 2013-14. This year, five OHSU specialties rank among the nation’s top 50: Cancer (#49), Diabetes & Endocrinology (#42), Geriatrics (#32), Gynecology (#44), and Otolaryngology/Head and Neck Surgery (#24).

POLST PROGRAM EMPOWERS PATIENTS IN TIME OF CRISIS
Physicians Orders for Life-Sustaining Treatment (POLST) empowers frail and seriously ill patients to ensure their wishes for care will be honored. The program was built entirely by private philanthropy and is housed at OHSU’s Center for Ethics in Health Care. Now replicated in many states, POLST turns a patient’s preferences for treatment into actionable medical orders. The program provides peace of mind to patients with advanced illness and lifts the burden of decision making from their families. Many patients keep the bright pink POLST form posted prominently in their homes, but a medical crisis can happen anywhere, any time. Four years ago, the Oregon Legislature funded an electronic registry that was launched in Oregon to make POLST information accessible to emergency room physicians, EMTs and other medical personnel. This fall, the registry passed a major milestone: 1,000 emergency phone calls to the registry have so far resulted in a match.

“This is a thousand people who, in a time of crisis, had their wishes respected when they probably wouldn’t have been otherwise,” said Susan Tolle, M.D., director of the Center for Ethics in Health Care. “The Center for Ethics continues to provide statewide education, conduct research and keep the POLST form up to date. The next frontier is to make access to the power of POLST truly available to all who need it.”
“Our long partnership with OHSU has given the Elks a tremendous sense of pride.”
– Don Jensen, 50-year member of the Oregon State Elks, celebrating the organization’s milestone of $25 million in cumulative giving to the Elks Children’s Eye Clinic at OHSU’s Casey Eye Institute

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