

PEOPLE



Erasmus University Medical Center

Bob Löwenberg, MD, PhD, assumed the role of editor-in-chief of *Blood*, the journal of the American Society of Hematology, in Washington, DC, in

January. He succeeds Cynthia Dunbar, MD, head of the molecular hemato-poiesis section of the National Heart, Lung, and Blood Institute.

Löwenberg is a professor of hematology at Erasmus University Medical School in Rotterdam, the Netherlands. He has published approximately 700 papers in leading scientific journals and has served on the editorial boards of several publications, including *Blood*, the *New England Journal of Medicine*, the *Journal of Clinical Oncology*, *Leukemia*, and the *British Journal of Haematology*. His research focuses on experimental hematology, stem cell transplantation, and the treatment and pathology of leukemia.



Sanford-Burnham Medical Research Institute

John C. Reed, MD, PhD, chief executive officer of Sanford-Burnham Medical Research Institute in La Jolla, CA, has been named head of Pharma Research

and Early Development at Roche, based in Basel, Switzerland. He begins his new role on April 2. Kristiina Vuori, MD, PhD, Sanford-Burnham's president and director of its cancer center, will take over as chief executive on an interim basis.

Reed earned his medical and doctoral degrees at the University of Pennsylvania School of Medicine in Philadelphia. An internationally regarded biomedical scientist, he focuses his research on mechanisms that regulate apoptosis and how defects in apoptosis contribute to disease.

An author of several hundred research papers, Reed serves on the editorial board of several journals. Also, he holds more than 100 patents and has played a role in founding a number of biotechnology companies.

Pap Tests May Detect Other Cancers

Researchers at Johns Hopkins Kimmel Cancer Center in Baltimore, MD, have developed an experimental technique in which DNA from endometrial and ovarian tumors can be detected in material obtained during a routine liquid-based cervical smear. The discovery could lead to earlier diagnosis of gynecologic malignancies, especially ovarian cancers, which often escape notice until they are quite advanced (*Sci Transl Med* 2013;5:167ra4).

During a Pap test, cells are collected from the cervix by inserting a small brush into the cervical canal and then examined for microscopic signs of cancer. The test has been credited with dramatically reducing the incidence and mortality of cervical cancer. Such routine screening isn't available for endometrial and ovarian cancers, a contributing factor in the deaths of 23,000 women in the United States in 2012.

For this study, the researchers hypothesized that cells shed by endometrial and ovarian tumors might accumulate at the cervix, where they could be swept up as part of a Pap test. Cells from these tissues usually can't be distinguished from one another visually. However, cellular DNA could be sequenced and checked for somatic mutations associated with the malignancies, the researchers reasoned.

To test their theory, the team compiled a list of the most frequently mutated genes in both diseases and then sequenced tumor DNA from 24 patients with endometrial cancer and 22 patients with ovarian cancer to confirm that every sample harbored at least one of the frequently mutated genes. Using massively parallel sequencing, they identified the same mutations in the DNA from Pap specimens in 100% of the endometrial cancers and 41% of the ovarian cancers.

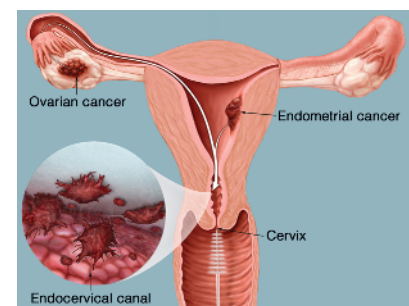
Finally, the researchers developed a prototype test dubbed PapGene to spot DNA mutations in 12 genes. They used the test to assess Pap specimens from 14 patients with

endometrial and ovarian tumors and 14 healthy women. It detected at least one expected mutation in the Pap specimens from all of the women with cancer and detected no mutations in the specimens from the cancer-free control subjects.

"There are very few things in science that are 100%," says Chetan Bettegowda, MD, PhD, an associate professor of neurosurgery and study author. "When we saw the numbers for endometrial cancer, we were in disbelief." Luis Diaz, MD, associate professor of oncology, and Bert Vogelstein, MD, professor of oncology, codirected the study.

Next up, says MD-PhD candidate Isaac Kinde, is a larger study that will assess 100 to 200 samples from patients with cancer and a similar number of healthy volunteers to confirm the group's earlier findings. They also want to improve the test's sensitivity in detecting ovarian cancer, which could be affected by the woman's menstrual cycle, the way the cells are collected, and the location of the ovaries. "Cells from the ovaries have a relatively long way to travel to reach the cervical opening compared with the endometrium," Kinde notes.

"We're excited to push forward and get this test out to women in the clinic," says Yuxuan Wang, another MD-PhD candidate on the Johns Hopkins team. "If we could detect even half of early-stage ovarian tumors so that they could be surgically removed, that would be a huge benefit." ■



Elizabeth Cook

Sloughed-off cancer cells and cellular fragments drain into the endocervical canal, where they can be swept up as part of a modified Pap test. The experimental technique could lead to earlier diagnosis of endometrial and ovarian cancers.