

American Cancer Society Research Program

10 RECENT CANCER INSIGHTS

Every day, American Cancer Society researchers and grantees are working to find cancer cures – and better ways to treat and prevent the disease. Below are highlights from 10 recent cancer research projects conducted or funded by the Society.



1. Tiny tech could be the future of cancer monitoring: Nanoscale technology is infiltrating everything from computers to cars to clothing. Such tiny tech – 80,000 to 100,000 times smaller than a single strand of human hair – may also become the basis for a next-generation cancer detection and monitoring system. Society grantee Daniel Roxbury, PhD, a research fellow at the Sloan-Kettering Institute for Cancer Research, is developing a device just one nanometer in diameter that can be inserted under the skin. His hope is that one day the device may be able to signal the onset, progression, or spread of cancer, and alert doctors so they can take action more quickly.



5. Cancer death rates down: The rate of death from cancer in the United States continues to decline among both men and women, among all major racial and ethnic groups, and for the most common types of cancer. Society researchers estimate that 1.5 million cancer deaths have been averted since the early 1990s due to effective early detection, cancer treatment, and cancer prevention efforts.



6. Vitamin D-based cancer drugs in the works: Early research suggests that vitamin D, a compound the human body makes naturally when exposed to the sun and essential to healthy bones, has the potential to be used as a starting point in the creation of new drugs to treat skin cancer. Society grantee and University of Connecticut chemist and researcher Kyle Hadden, PhD, is trying to create chemical compounds based on vitamin D that could help treat basal cell cancer.



2. Investigating immunotherapy's promise: The cancer research world is dedicating increasing energy to a rapidly evolving type of treatment that has the potential to be more effective – and in some cases less toxic – than many of today's existing options. Using the body's own natural system for fighting disease, immunotherapy may also offer a lifeline for patients with certain types of cancer who have exhausted other treatment options. Immunotherapy is “providing options for people out of options,” says Catherine Diefenbach, MD, an oncologist at the NYU Langone Medical Center. With the help of a Society research grant, she is studying a new immunotherapy treatment for patients with relapsed Hodgkin lymphoma.



7. Lung cancer Dream Team formed: More than 35 of the top lung cancer researchers in the United States, dubbed the lung cancer Dream Team, are coming together to work on one of the most difficult-to-treat lung cancers – those that have a mutation in a gene called KRAS. The Dream Team is being funded by a \$20 million grant from the American Cancer Society and Stand Up To Cancer (SU2C).



8. Working to increase colon cancer screening rates: Jennifer Weiss, MD, a researcher and physician at the University of Wisconsin, is in the process of conducting research, funded by the Society, to help health systems nationwide increase their colorectal cancer screening rates – and help save more lives.



3. New lung cancer mutations found: The identification of four new types of genetic mutations in the most common form of lung cancer could open the door for targeted treatment options for many more patients. This discovery – made in part by Society-funded researcher Alice Berger, PhD, of the Dana-Farber Cancer Institute – adds to the existing scope of known lung cancer mutations.



9. Putting cancer data in the hands of decision makers: The American Cancer Society, the International Agency for Research on Cancer, and the Union for International Cancer Control collaborated on *The Cancer Atlas, Second Edition*, and a new interactive website – cancer.org/canceratlas – to allow global leaders to better understand the cancer landscape and take action to reduce the burden worldwide.



4. Getting breast cancer cells to stop multiplying: Society-funded researcher Xiaoting Zhang, PhD, is investigating ways to lull breast cancer cells into a permanent sleep, known as senescence, which could potentially stop a tumor in its tracks.



10. Fighting back against the tobacco epidemic: The American Cancer Society and the World Lung Foundation launched *The Tobacco Atlas, Fifth Edition*, and its companion website tobaccoatlas.org, which graphically details the scale of the tobacco epidemic; the progress being made in tobacco control; and opportunities to increase tobacco control globally.