



# Prevention

Cervical Cancer Awareness Month January 2017

## CERVICAL CANCER AWARENESS MONTH

Nearly 80 million people in the U.S. (1 in every 4) have been infected with at least one strain of human papilloma-virus (HPV), a group of over 100 infectious viruses. In most people, the body is able to clear the virus, but persistent infection with certain types of HPV is associated with several different types of cancers and several other diseases.

Two safe and effective vaccines are available to protect against infection with the two most prevalent cancer-causing HPV types.

Widespread vaccination against HPV could significantly reduce the number of cervical and other cancers and conditions caused by the virus. This goal will be achieved only if HPV vaccine uptake increases dramatically. With the numbers of some HPV-associated cancers rising, we cannot afford to wait to protect our young people from future HPV infections.

The vast majority of HPV infections are cleared by the immune system within two years. However, if the virus is not cleared, certain HPV types can cause abnormal growths, including several cancers, genital warts, and noncancerous but serious tumors in the respiratory tract called recurrent respiratory papillomatosis (RRP).

Cervical cancer is the most common cancer caused by HPV, although the viruses also play a significant causative role in cancers of the vulva, vagina, anus, penis, and oropharynx.

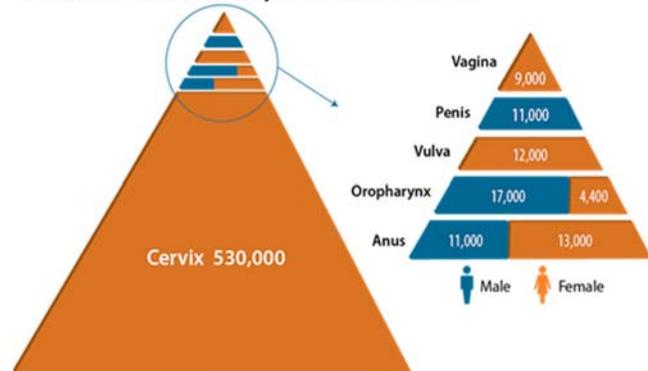
The discovery that infectious agents can cause cancers opened the door for a new cancer prevention strategy—vaccination. Vaccines against infectious agents have been one of the greatest success stories in public health, leading to eradication of smallpox and drastically reducing the incidence and severity of many other deadly diseases attributable to infectious agents.

Vaccines capable of preventing cancers have been a goal for many years, but until recently, only one had been developed—a vaccine against hepatitis B, a leading cause of liver cancer.

### THE CASE FOR THE HPV VACCINATION

Worldwide, about 2 million new cancer cases are caused by infectious diseases every year. More than 600,000 of these are caused by human papillomaviruses.

Numbers of Cancers Caused by HPV Worldwide Each Year



Two vaccines—Cervarix® and Gardasil®—are approved by the U.S. Food and Drug Administration (FDA) to prevent several HPV-associated diseases. These vaccines prevent infections by the two most prevalent types of cancer-causing HPV: HPV16 and HPV18.

Together, these types are responsible for more than 400,000 cases of cancer around the world each year, including 22,000 in the United States. Gardasil® also prevents infection by two types of HPV that cause genital warts and RRP: HPV6 and HPV11.

The vaccines are recommended by the U.S. Advisory Committee on Immunization Practices (ACIP) for males and females ages 11-12 with "catch-up" doses for females up to age 26 and for males up to age 21 who were not vaccinated earlier in adolescence.

Receiving the HPV vaccine at ages 11-12 offers earlier protection against infection, and immune response to the vaccine is better in younger age groups than among older women and men.

# URGENCY FOR ACTION

HPV vaccination has not kept pace with that of other adolescent vaccines and has stalled in the past few years. In 2012, only about one-third of 13- to 17-year-old girls received all three recommended doses. These levels fall considerably short of the U.S. Department of Health and Human Services *Healthy People 2020* goal of having 80 percent of 13- to 15-year-old girls fully vaccinated against HPV.

Immunization rates for U.S. boys are even lower than for girls. Less than 7 percent of boys ages 13 to 17 completed the vaccination schedule in 2012. This low rate is in large part because the ACIP recommendation for routine vaccination of boys was not made until 2011. However, it is even lower than what was observed for girls in 2007—the first year following the recommendation for girls — suggesting that concerted efforts are needed to promote HPV vaccination of males.

The Centers for Disease Control and Prevention (CDC) estimates that increasing HPV vaccination rates from current levels to 80 percent would prevent an additional 53,000 future cervical cancer cases in the United States among girls who now are 12 years old or younger over the course of their lifetimes.

Thousands of cases of other HPV-associated cancers in the U.S. also likely would be prevented within the same timeframe. A growing proportion of these cancers—most notably, oropharyngeal cancers—will occur in males, who currently are vaccinated at very low rates.

## ACCELERATING HPV VACCINE UPTAKE IN THE UNITED STATES

There are three critical goals that must be achieved to increase HPV vaccine uptake in the United States, with the ultimate goal being completion of the full three-dose vaccine series by all age-eligible adolescents for whom the vaccine is not contraindicated.

### 1. REDUCE MISSED CLINICAL OPPORTUNITIES TO RECOMMEND AND ADMINISTER HPV VACCINES

According to CDC, missed clinical opportunities are the most important reason why the U.S. has not achieved high rates of HPV vaccine uptake. Many vaccine-eligible adolescents do not receive HPV vaccines during visits with their healthcare providers. As many as two-thirds of 11- and 12-year-old vaccine-eligible girls may not be receiving HPV vaccines at visits at which they receive at least one other vaccine.

Targeted efforts should be made to address factors that keep providers from strongly recommending HPV vaccines. Overcoming these obstacles could substantially reduce the number of missed opportunities to recommend and administer HPV vaccines.

### 2. INCREASE PARENTS', CAREGIVERS', AND ADOLESCENTS' ACCEPTANCE OF HPV VACCINES

Parents' and other caregivers' knowledge, attitudes, and beliefs affect whether their children receive vaccines, including HPV vaccines. Most parents believe that vaccines protect their children from potentially life-threatening diseases, but some refuse one or more recommended vaccines based on concerns about safety and other factors.

Studies have provided insight into parents' views, including that parents are more likely to refuse HPV vaccines than other recommended vaccines and that parents of young adolescents may feel that they can wait to vaccinate their children against HPV. Targeted efforts should be made to increase HPV vaccine acceptance among parents, caregivers, and adolescents.

### 3. MAXIMIZE ACCESS TO HPV VACCINATION SERVICES

Vaccines should be available where adolescents receive healthcare. It should be convenient to initiate and complete the HPV vaccine series, and cost should not be a barrier.

Doctors' offices are the optimal environment for administering HPV vaccines, particularly the first dose, because they provide opportunities to educate parents and adolescents and to deliver other important preventive care services. Reducing missed clinical opportunities for HPV vaccination in doctors' offices will go a long way toward increasing HPV vaccine uptake. Providing additional venue choices may increase the likelihood that adolescents will receive all three doses of HPV vaccine.

# INCREASING GLOBAL HPV VACCINATION

The burden of HPV-associated cancers extends beyond the borders of the United States, affecting populations in every country. Patterns of HPV-associated cancers differ by region. Cervical cancer is the most common HPV-associated cancer globally. In less developed regions, the large majority of HPV-attributed cancers are cervical cancers. In the United States and other more developed regions, other sites account for a significant proportion of HPV-associated cancers.

While the prevalence of HPV infections and distribution of HPV types vary by region, research has found consistently that HPV16 and HPV18, the cancer-causing strains HPV vaccines protect against, are responsible for at least two-thirds of cervical cancer cases in populations around the world. This provides a strong indication that HPV vaccines will be effective virtually everywhere.

As with cervical cancer screening programs, HPV vaccination programs have been implemented primarily in high-resource areas. Some of the most successful vaccination programs are in Australia, the United Kingdom, and parts of Canada. The U.S. can learn from successful HPV vaccination programs in these and other countries that in some cases have already led to measurable public health benefits.

Addressing the global burden of HPV-associated cancers requires implementation of HPV vaccination programs in low- and middle-income countries, where the majority of HPV-associated cancer cases occur.

The World Health Organization recommends that HPV vaccines be introduced into national immunization programs where prevention of cervical cancer is a public health priority and vaccine introduction is feasible and sustainable. The United States should collaborate with global partners to support HPV vaccine uptake and other cancer prevention and control activities worldwide.

## HIGH-PRIORITY RESEARCH TO ADVANCE PREVENTION OF HPV-ASSOCIATED CANCERS

HPV vaccines and their public health benefits were enabled by decades of laboratory, clinical, and population-based research. Additional research in several areas could increase the impact of HPV vaccination. Confirmation that extended dosing schedules and/or fewer vaccine doses adequately protect against HPV infections would have enormous implications for HPV vaccine programs in both high- and low-resource settings. Other areas of investigation include improved ways to communicate about HPV vaccines. Finally, it is not too early to anticipate the time when HPV vaccination is disseminated widely across populations and to ask how cervical cancer screening guidelines will need to be changed.

## High-Priority Research Areas

- ★ Investigate more convenient dosing schedules for current vaccines.
- ★ Develop next-generation vaccines that provide broader protection and/or are easier to store and administer.
- ★ Explain the natural history of oropharyngeal HPV infections.
- ★ Develop more effective ways to communicate about HPV-associated diseases and HPV vaccines.
- ★ Determine how best to integrate HPV vaccination with cervical cancer screening.

Source: Presidents Cancer Panel Report

For further information about cervical cancer please visit [www.strang.org](http://www.strang.org)

# The Strang Cancer Prevention Cookbook

## Roasted Eggplant Dip

Reduce Your Risk for Cancer by Eating a Healthy Diet!

8 Servings

1 medium eggplant (about 1 1/4 pounds) halved lengthwise  
1 tablespoon olive oil  
2 garlic cloves peeled  
1 medium potato (about 6 ounces), baked or microwaved and peeled  
½ cup 1% cottage cheese or 2 ounces lite silken tofu  
2 tablespoons tahini (toasted sesame paste)  
1 teaspoon lemon juice  
1 teaspoon cayenne pepper  
2 teaspoons toasted sesame oil  
salt



Preheat the oven to 350 degrees F

Brush the flesh of the halved eggplant with 1 teaspoon of the olive oil. Place on a non stick baking pan, cut side down, and roast for 20 to 30 minutes. Remove from the oven and let cool. Scoop the pulp from the skin of the eggplant and place in the bowl of a food processor. Add the roasted garlic and potato and puree. Then add the cottage cheese, tahini, lemon juice, and cayenne and puree again until smooth. With the motor running, drizzle in the sesame oil and remaining 2 teaspoons olive oil. Season to taste with salt and transfer to an attractive serving bowl.

Calories 110, protein 4g, carbs 15g, fat 4g, cholesterol 1mg, dietary fiber 2g, saturated fat 1g

### MAJOR SOURCES OF POTENTIAL CANCER FIGHTERS

**Phytochemicals: allium compounds, plant polyphenols, (flavonoids, phenolic acids), phytic acids, plant sterols, terpenes (monoterpenes)**

Recipe by Laura Pensiero, R.D. Owner Gigi Trattoria, Rhinebeck, New York



January is Cervical Cancer Awareness Month



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