Strang Cancer Prevention Institute
Dedicated to Promoting Cure by Early Detection and Research to Prevent Cancer since 1933

Prevention

Lung Cancer Awareness Month November 2022

PREVENTING LUNG CANCER

Note to Readers: Innovation is essential to cancer prevention. Genomic data support **Precision Prevention** as well as precision medicine. Strang's focus will highlight novel approaches in cancer prevention as we have the consequences of Covid.

LUNG CANCER SCREENING

Innovation

Revised low-dose computed tomography (LDCT) lung cancer screening criteria may **reduce racial disparities.** Patients screened at an urban site in Philadelphia who would have been ineligible before 2021 (age 50-54 and 20-29 cigarette pack-years) were more often African-American (54% vs. 39%) than those eligible by 2013 criteria. Average age was lower (59 vs. 65 years) and more were still smoking (65% vs. 55%)[1]

Screening isn't the only approach: A program to evaluate and treat **incidental lung nodules** found in radiological images done for non-screening reasons **found more curable cancers, increased curative surgery rates and increased survival.** Patients in the **Lung Nodule program** had benefits intermediate between LDCT screened and control patients: diagnosed at **early stage**: 61%, 60%, and 44%, respectively; **metastatic at diagnosis**: 19%, 20%, and 29%, respectively; **curative-intent surgery**: 47%, 42%, and 32%, respectively; **overall survival at 3 years**: 80%, 64%, and 49%, respectively. The lung nodule program included 2.7 times more patients and found 5 times more cancer than the LDCT screening program[2]

Blood biomarkers better identify patients for LDCT screening: Screening studies find more cancers and fewer false-positive tests when screened patients are higher-risk and low-risk patients are excluded. A **4-marker protein blood panel (4MP)** consisting of a surfactant protein B precursor, cancer antigen 125 (CA 125), carcinoembryonic antigen (CEA), and cytokeratin-19 fragment combined with a **lung cancer risk prediction model (PLCOm2012)** identified high- and low-risk patients better than the USPSTF screening criteria. In a study of patients in the PLCO screening trial, the combined marker panel and model was a **more precise** test. For participants with 10 or more pack-years, it would have **screened 9% more participants with lung cancer** and **reduced referrals of non-cancer patients by 14%.**[3]

Guidelines

Revised USPSTF LDCT screening guidelines (2021): Screen **age 50-80 if 20 or more cigarette pack-years,** quit smoking less than 15 years earlier**.** Earlier criteria (2013) age 55-80 and 30 or more cigarette pack-years. The 2013 parameters were adopted from the US National Lung Screening Trial (NLST).[4] The 2021 updated criteria came from analysis in the European NELSON trial[5] and CISNET modeling.[6]

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The Strang Cancer Prevention Cookbook

Reduce your Risk for Cancer by Eating a Healthy Diet!

Citrus Cranberry Sauce * 10 Servings

3/4 pound fresh cranberries, 1/2 cup packed brown sugar,

1 cup fresh orange juice, grated zest of 1 orange and 1 lime

In a medium saucepan combine all the ingredients. Bring to a boil, then lower the heat to simmer. Cover and cook until the cranberries burst open, about 10 minutes. Let the sauce cool and refrigerate.

Calories 70, Protein 1g, Carbohydrates 17g, Fat 0g, Cholesterol 0 mg, Dietary fiber 2g Saturated fat 1g

Major sources of Potential Cancer fighters:

Phytochemicals: plant polyphenols (flavonoids, phenolic acids) plant sterols, terpenes (carotenoids, limonene).

Recipe by Laura Pensiero, R.D., Strang Nutrition Consultant
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