ABOUT RESPIRATORY HEALTH

• Two specific types of respiratory diseases that can restrict breathing are asthma and chronic obstructive pulmonary disease (COPD).

• Asthma is a chronic inflammatory disorder of the airways characterized by episodes of breathing problems. While it cannot be cured, its symptoms can be controlled.

• COPD is characterized by airflow limitation. The limitation is usually progressive and is associated with an abnormal inflammatory response of the lungs to noxious particles or gases, such as those in cigarette smoke.

• The term COPD includes two main conditions: emphysema (in which the air sacs of the lung are damaged and enlarged), and chronic bronchitis (a long-lasting cough caused by chronic inflammation of the bronchi). Most people with COPD have both conditions.

• Veterans who develop respiratory cancer (cancer of the lung, bronchus, larynx, or trachea) and were exposed to Agent Orange or other herbicides during military service do not have to prove a connection between their disease and their service to be eligible to receive VA health care and disability compensation.

VA RESEARCH ON RESPIRATORY HEALTH: OVERVIEW

• VA researchers are advancing the understanding, prevention, and treatment of numerous respiratory illnesses, ranging from the common cold and pneumonia to major public health threats such as tuberculosis and lung cancer.

• VA’s Office of Public Health (OPH) works with all levels of government to prepare for possible pandemic influenza (flu) outbreaks.

• Respiratory problems are the leading cause of death in Veterans and others who have spinal cord injury (SCI). VA’s Center of Excellence on the Medical Consequences of Spinal Cord Injury (SCI), located in the Bronx, N.Y., is studying ways to treat complications of SCI, including breathing difficulties.

SELECTED MILESTONES AND MAJOR EVENTS

1946 – Developed and tested effective therapies for tuberculosis through multicenter clinical trials that led to the development of the VA Cooperative Studies Program

1950 – Concluded there is “strong circumstantial evidence” linking cigarette smoking with respiratory tract cancers

2013 – Found that sleep apnea and poor sleep quality predicted diabetes, independent of other diabetes risk factors or mental health status.

2014 – Learned that treatment for pneumonia that included the antibiotic azithromycin (Zithromax) was associated with a significantly lower risk of death and a slightly increased risk of heart attack.

2016 – Developed a blood test to determine the causes of upper respiratory illness, to help ensure antibiotics are used appropriately.

RECENT STUDIES: SELECTED HIGHLIGHTS

• COPD is a progressive disease that makes it hard to breathe. Patients with COPD have a variety of bacterial pathogens in their lungs. Researchers at the VA Western New York Healthcare System and the University of Buffalo demonstrated that COPD patients experience significant respiratory symptoms when their lungs are colonized by bacteria, even when they are not having acute respiratory problems.
VA researchers are advancing the understanding, prevention, and treatment of numerous respiratory illnesses, ranging from the common cold and pneumonia to major public health threats such as tuberculosis and lung cancer.

Treating bacterial infections should therefore help improve their quality of life. *(Annals of the American Thoracic Society, March 2014)*

- Smoking marijuana is not as bad as smoking cigarettes when it comes to lung disease, researchers with the Central Arkansas Veterans Healthcare System in Little Rock and the University of Arkansas have found. The team found a clear linkage between marijuana use and chronic bronchitis and large airway inflammation, conditions that make breathing difficult. However, they found no links to emphysema, a chronic disease in which the air sacs in the lungs are gradually damaged, and only weak, if any, links to lung cancer. The researchers concluded, however, that there is unequivocal evidence that habitual or regular marijuana use is not harmless, and that doctors should caution patients about possible lung damage from regular heavy marijuana use. *(Current Opinion in Pulmonary Medicine, March 2014)*

- Medical imaging techniques often used to diagnose lung cancer are not as good at detecting that cancer in regions where there is endemic infectious lung disease, compared with regions where such disease is not widespread. Positron emission tomography (PET) is a medical imaging technique that produces 3-D images showing differences between healthy and diseased tissue. PET commonly uses a radioactive tracer called FDG (fluorodeoxyglucose), so the test is sometimes called an FDG-PET scan. They are often used in combination with computed tomography (CT) scans. In regions where lung diseases like histoplasmosis and blastomycosis are common, these diseases may sometimes be mistaken for cancer on these imaging tests. *(Journal of the American Medical Association, Sept. 24, 2014)*

- An algorithm to help hospitals and public health officials determine the earliest stages of flu season has been developed by researchers with VA and other health care institutions throughout the nation. The algorithm, called the Above Local Elevated Respiratory Illness Threshold (ALERT), uses routine information, such as the number of influenza cases confirmed per week in a region, to determine where and when the flu needs to be combatted. Having this information could help public health officials preserve resources while combating the virus. *(Clinical Infectious Diseases, Feb. 15, 2015)*

- The standard dose of flu vaccine works just as well as a higher dose version for patients between the ages of 65 to 84, according to researchers at the Philadelphia VA Medical Center and the University of Pennsylvania. However, for Veterans 85 and older, the higher dose was better in terms of avoiding hospitalization for the flu or pneumonia. *(Clinical Infectious Diseases, July 15, 2015)*

- Lung cancer screening can actually lower smokers’ motivation to quit smoking, according to investigators with the VA Puget Sound Health Care System and the University of Seattle. The team interviewed smokers who had just undergone lung cancer screening. Nearly half found some reason to believe that just being screened meant that they did not need to stop smoking. This assumption is false, as is the assumption many study participants had that lung cancer was the only potential lethal effect of smoking. *(JAMA Internal Medicine, September 2015)*

For more information on VA studies on respiratory health and other key topics relating to Veterans’ health, please visit www.research.va.gov/topics