



# TO YOUR HEALTH



Carleton-Willard Village Out-Patient Clinic - 100 Old Billerica Rd., Bedford, MA

Volume 19, Number 8

August 2014

## MORE THAN SUMMER BREEZES

by Barbara Chenoweth, NP

If only August just brought summer breezes. Instead it often brings dense, hot and humid air that comes with warnings of high air quality indexes and advice to stay indoors. Just how dangerous is air pollution? Certainly it is well-known that poor air quality has an adverse effect on people with heart and lung conditions. Less is known about the impact of air pollution on the brain.



Those most susceptible to harm are young children with fast-developing brains and older people who have been exposed to pollution for many years. Recent studies, conducted over the past ten years and reviewed by Massachusetts General Hospital, found that air pollution is a major cause of toxicity to the brain, negatively affecting the brain in a variety of ways and contributing to the development of central nervous system diseases, (*Mind, Mood & Memory*, MGH, April 2014).

Air pollution is especially harmful, because the pollutants are inhaled through the nose and pass directly into the brain. When the pollution contacts brain tissue, it increases inflammation and destruction of support cells called *Glial cells* in the brain's white matter. Links have been found between air pollution and the development of the characteristic brain changes in Alzheimer's disease.

It also is associated with damage to the brain's vascular system, leading to small brain hemorrhages that cause vascular dementia. These effects can produce symptoms of cognitive impairment, memory loss, premature brain aging and a greater risk for depression.

Especially dangerous is *ultrafine particulate matter* (UFPM) that is small enough to enter cells and trigger toxic effects. UFPM enters the brain through the nose, eventually building up and causing destruction to the nerve cells. Protecting the brain from toxic pollution is essential. The following suggestions can help:

- Avoid tobacco smoke
- Stay indoors when air pollution levels are high
- Close windows and use air conditioners to keep indoor air clean
- Limit indoor pollution from fireplaces, dusting, vacuuming or using chemical cleaners
- When traveling in traffic, use the air recirculating setting in your car
- Stay aware of the air pollution levels (Dr. Jack Rogers, Program Director of Laboratory for Neurochemistry at MGH, April 2014)

Pollution and irritants can be responsible for post-nasal drip, another common concern of many people. The nose and throat continually produce mucous, sometimes causing irritation and coughing when it is thicker and more



copious than usual. Drinking more water can help to thin the mucous secretions. Using saline nasal spray thins secretions and rinses out pollutants.



Reducing exposure to irritants such as pet dander, tobacco smoke, dust, and foods such as dairy products can reduce post-nasal drip. Keeping the nasal passages healthy and open can be a challenge when the air is thick with pollution.

Given the hazards of air pollution, is it safe to exercise outdoors when the air quality is poor? The reality is that exercise and air pollution is an unhealthy combination. During outdoor exercise, one inhales more air and breaths more deeply into the lungs. Since the air often goes through the mouth, it is not filtered by the nose. So a greater concentration of pollution goes directly to the lungs. This is why air pollution is associated with damage to the airways of the lungs, increased risk of asthma or asthma attacks, increased risk of heart attacks or strokes and increased risk of death from cardiac disease and lung cancer (*Mayo Clinic*, May 2014).

When the air pollution is at high levels, protection during exercise includes:

- Staying in tune to air pollution alerts reported on TV, radio or in newspapers
- Exercising indoors by substituting classes or the Fitness Center for outdoor exercise
- Avoiding high pollution areas
- Staying 50 feet from roads
- Avoiding exercise during rush hour



- Timing exercise to avoid pollution when pollution is at its highest
- Avoiding midday or afternoon exercise
- Reducing the intensity and duration of outdoor exercise

Because air pollution presents serious health risks, carefully protect yourself so you can safely enjoy this summer season.

## MORE COMINGS AND GOINGS



Susan Cusson, NP will begin her new position as the Clinic NP/Administrator on August 21. After Barbara Chenoweth's vacation at the end of August, she will provide orientation for Susan during the month of September. Barbara's last day will be September 30.

## BEDFORD DRUG PICK-UP

The Bedford Police will pick-up expired and unused medications on:

**Friday, August 8, 2014**

You can drop off any prescription or over-the-counter unused/expired medication at the Clinic between 8:30 am and 12 noon on Friday, August 8th.

Unfortunately, we can only accept the medicines during these times and on the date of pick-up.