

WORKING WITH PULMONARY PATIENTS

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NORTHWEST HOSPITAL CENTER

- Community based and a non-profit hospital
- 171 acute beds, 21 sub-acute beds, dedicated Outpatient Center and Emergency Room
- Located in Northwest Baltimore County
- Part of the LifeBridge Health along with Sinai Hospital of Baltimore, Levindale and Jewish Convalescent Center





PULMONARY REHABILITATION PROGRAM

- First year of program 1995
- Respiratory Care Services supervises the program
- 6 week exercise program with weekly education inservice
- Designed for patients suffering from chronic lung disease such as COPD (Chronic Obstructive Pulmonary Disease), asthma, interstitial lung disease etc.

PROGRAM CONTENT

- Exercise portion of the program consists of three one-hour sessions every week for six weeks to increase patient stamina.
- Education program covers topics such as anatomy & physiology, proper nutrition, medications, stress reduction, relaxation techniques and activities of daily living.



Activities of Daily Living

- Energy conservation techniques
- Self care tips
- Lifestyle awareness
 - cigarette use
 - recognition of exacerbation of disease
 - internal pollution
 - external pollution

External Pollution

- Air Quality Issues
 - Awareness of color coded days (May to Sept)
 - Understanding the importance to pulmonary patients
 - Designing a day around “Code Red” status

OZONE AND THE ELDERLY

“Increases in air pollution levels in the summer months were associated with a rise in the daily number of hospital emergency room visits by elderly people.”

American Journal of Respiratory and Critical Care Medicine®

“Ozone presents an increased risk to the elderly because it can aggravate existing respiratory diseases. Also, the elderly experience reduced sensitivity to symptoms of ozone; therefore, early warning signs of the harmful effects of ozone may be ignored.”

United States Environmental Protection Agency

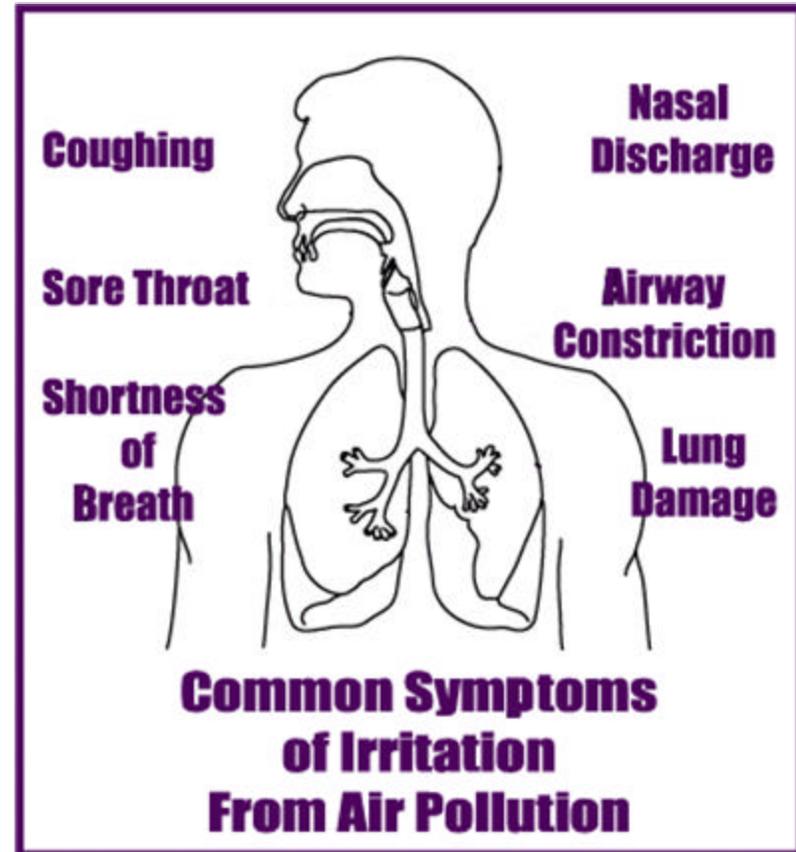
People at Risk from Ozone

- Children
- Adults who are active outdoors
- People with respiratory diseases
- People with unusual susceptibility to ozone



Health Effects of Ozone Pollution

- Ozone interferes with normal lung functioning, aggravates respiratory diseases, and causes eye irritation.
- Most common symptom is that breathing starts to feel uncomfortable.
- Long term exposure to ozone may lead to premature aging of the lungs.



Air Quality Index

| AIR QUALITY | | RECOMMENDED ACTIONS |
|--------------------|---------------------------------------|---|
| CODE RED | Unhealthy | <p>During CODE RED:</p> <ul style="list-style-type: none"> • Children should reduce outdoor activities. • Healthy individuals should limit strenuous or prolonged outdoor work or exercise. • Individuals with respiratory ailments, such as emphysema, asthma, or chronic bronchitis should limit their outdoor activities. If breathing becomes difficult, move indoors. <p>Residents are strongly urged to:</p> <ul style="list-style-type: none"> • Limit driving and refuel cars after dusk. • Avoid mowing lawns with gas powered mowers. • Put off any painting until later. • Don't use aerosol consumer products. • Barbecue only with propane gas |
| CODE ORANGE | Unhealthy For Sensitive Groups | <p>The following people should limit prolonged outdoor activities:</p> <ul style="list-style-type: none"> • Children and adults who experience difficulty breathing outdoors. • Those with respiratory ailments. <p>All residents are urged to:</p> <ul style="list-style-type: none"> • Limit driving and refuel cars after dusk. • Avoid using aerosol products. • Share a ride, use transit, or drive only their best maintained, most fuel efficient vehicle. |
| CODE YELLOW | Moderate | <p>Residents should:</p> <ul style="list-style-type: none"> • Consolidate trips and errands. • Limit car idling when possible. • Conserve electricity and set air conditioners to 78° F. |
| CODE GREEN | Good | <p>Residents should try to:</p> <ul style="list-style-type: none"> • Carpool, use transit, bike, or walk. • Keep cars and boats tuned. • Use environmentally safe paints and cleaning products. |

Air Quality Information Sheets

- Color Coded Days
 - Best time for outdoor activities (early AM or late PM)
 - What to do if pulmonary problems develop
 - Watch the Noon news and listen to the weather outlook- most stations list the Air Quality Code for the day.

Forecasting and Faxing

- MDE sends air quality forecast daily
- Northwest Hospital Center posts forecast on bulletin board, lobby display, etc...
- Integrate air quality information into treatment plans
- Pass out air quality brochures to patients...

***** Forecast valid through sunset, July 17, 1999*****



Air Quality Forecast

Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224
Contact: Randy Mosier (410) 631-3003

*For Immediate Release
July 16, 1999*

"CODE RED" Ozone Forecast for July 17, 1999
Air Quality Expected to be UNHEALTHY

12:53 PM, Baltimore, MD

Tomorrow's Forecast: A **CODE RED** forecast has been issued for the Baltimore metropolitan region. Air quality is expected to be **UNHEALTHY**.

Today's Conditions: As of 3:00 p.m. today, today's air quality in the Baltimore metropolitan region was unhealthy for sensitive individuals.

Health Warning: Ground level ozone can cause lung damage, eye irritation, breathing difficulties, coughing, and chest pain. Should air quality exceed the federal health standard, a **Code Red Health Advisory** will be issued advising the following precautions:

- Children should reduce outdoor activities.
- Healthy individuals should limit strenuous outdoor work or exercise.
- Individuals with respiratory and heart ailments, emphysema, asthma, or chronic bronchitis should limit their outdoor activities. If breathing becomes difficult, move indoors.

Prevention Tip: About 90-70% of pollutants that cause ground-level ozone are created from vehicles, lawnmowers, other garden equipment, and consumer household products. In order to prevent high levels of ozone from forming, residents are strongly urged to:

- Limit driving and, when possible, combine errands.
- Use area bus and rail lines, or share a ride to work.
- Avoid mowing lawns with gasoline-powered mowers.
- Refuel vehicles after dark.

Forecast Updates: MDE provides the daily air quality conditions and next-day forecast at 3:30 p.m. during the summer ozone season. For more information, call the Air Quality Hotline at (410) 631-3247.



Improvements to the Process

- Public meetings to discuss the Air Quality Issues
 - Attend Senior Centers and provide inservice to “Senior” population (many have co-existing medical conditions that limit their activities)
 - Attend schools/Day care centers to also provide inservices to this population (young children with asthma who need to limit their activities)
 - Public service announcements on radio and TV