Welcome to the IPLAN Web-Conference

Lung Cancer: An Overview of the Disease and Prevention
Presenters

- Beth Phelps, Southern Illinois University Cancer Institute
- Julie Doetsch, Illinois Department of Public Health
- Lynda Preckwinkle, American Lung Association of Illinois-Iowa
- Babs Frederking, Washington County Health Department
- Angela Tin, American Lung Association of Illinois
- Barbara Sorgatz, Illinois Department of Human Services
Lung Cancer

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- Coordinator Thoracic Oncology Program
  Simmons-Cooper Cancer Institute
- 1-888-SIU-LUNG
- bphelps@siumed.edu
- Website: http://www.siumed.edu/cancer/clinicspages/lungclinic.html
Lung cancer is the leading cause of cancer death in both men and women, and accounted for approximately 27% of all cancer deaths in Illinois from 1999-2003. Alarmingly, 87% of lung cancer deaths could be prevented by eliminating tobacco abuse.”

Lung Cancer: Incidence

  - Male 5,030
  - Female 4,050

- Estimated Deaths from lung cancer, Illinois
  - Male 3,990
  - Female 3,090

- More deaths from lung cancer than prostate, breast and colorectal cancers combined

Lung Cancer: Women

- Account for 12% of all new cases
- More deaths from lung cancer than breast, ovarian, and uterine cancers combined.
- Women are more susceptible to tobacco effects. 1.5 times more likely to develop lung cancer than men with similar smoking patterns.

Lung Cancer: What is it?

- Cell mutation causes uncontrollable growth and replication
- These rapidly growing cells begin to invade adjacent tissues
- Microscopic cells travel through the lymph system to other areas of lung and body. (Metastatic Disease)

(Site-Specific Cancer Series: Lung Cancer, 2004)
Lymphoid Organs

Central to the body’s defense

Tonsils
Spleen
Thymus gland
Lung Cancer: Causes

- Smoking
  - Leading cause of lung cancer
  - 87% of lung cancers related to smoking
  - Risk is related to the amount of exposure
Lung Cancer: Causes

- Radiation Exposure
- Environmental/Occupational Exposures
  - Asbestos
  - Radon
  - Passive Smoke
Lung Cancer: Symptoms

- Cough
- Dyspnea
- Hemoptysis
- Recurrent infections
- Chest pain
Lung Cancer: Symptoms

- Symptoms related to distant metastases
  - Pain
  - Organ-related

- General Symptoms
  - Weight loss
  - Fatigue
Lung Cancer: Screening

- No proven effective screening tool to date
- Numerous studies in progress to determine most effective screening for lung cancer
  - Chest X-ray
  - CT scan
  - Sputum analysis
Lung Cancer: Diagnosis

- Chest X-ray
- Bronchoscopy
- CT Scans
- Needle Biopsy
- PET/CT Scans
- Surgical Biopsy
Bronchoscopy
Bronchoscopy
Bronchoscopy
PET/CT Scans
Biopsy
Lung Cancer: Metastatic Sites

- Lymph Nodes
- Brain
- Bones
- Liver
- Lung/Pleura
- Adrenal Gland
Lung Cancer: Metastases
Lung Cancer: Types

Non Small Cell Lung Cancer (NSCLC)

Small Cell Lung Cancer (SCLC)
Non Small Cell Lung Cancer

- 80% of all lung cancers are NSCLC
- Survival is improved when found at an early stage
- Three distinct types of NSCLC
- Treatments are the same
NSCLC: Types

- Adenocarcinoma
- Squamous Cell Carcinoma
- Large Cell Carcinoma
NSCLC: TNM Staging

- Stages are 1-4; with 4 being the worst
- Stage is determined by looking at 3 separate components
  - T = Tumor size
  - N = Lymph node involvement
  - M = Absence or presence of metastases
<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Treatment Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Single Tumor</td>
<td>Surgery</td>
</tr>
<tr>
<td>Stage II</td>
<td>Spread to the lymph nodes of the lung</td>
<td>Surgery</td>
</tr>
<tr>
<td>Stage IIIa</td>
<td>Spread to lymph nodes in the tracheal area, chest wall or diaphragm</td>
<td>Chemotherapy followed by radiation or surgery</td>
</tr>
<tr>
<td>Stage IIIb</td>
<td>Spread to lymph nodes of opposite lung or in the neck</td>
<td>Combination of chemotherapy and radiation</td>
</tr>
<tr>
<td>Stage IV</td>
<td>Tumor had spread beyond the chest</td>
<td>Chemotherapy and/or palliative care</td>
</tr>
</tbody>
</table>
## NSCLC: Survival

<table>
<thead>
<tr>
<th>Stage</th>
<th>5-year Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>60-80%</td>
</tr>
<tr>
<td>II</td>
<td>40-50%</td>
</tr>
<tr>
<td>IIIa</td>
<td>25-30%</td>
</tr>
<tr>
<td>IIIb</td>
<td>5-10%</td>
</tr>
<tr>
<td>IV</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>
Surgery
Surgery

- Surgery is done if there is an increased life expectancy after the procedure.
- Surgery is not for metastatic lung cancer.
- The earlier a cancer is caught the more likely that surgery will be curative.
Advances in Surgery

- More procedures done using minimally invasive techniques
- Clinical trials are looking at diagnostic protocols
- Surgeons are looking at new techniques to decrease local recurrence rates

http://www.cancer.gov/nlst
Small Cell Lung Cancer (SCLC)

- Most aggressive type of lung cancer
- Responds to chemotherapy and radiation
- Recurrence rates are high
SCLC: Types

- Oat Cell
- Intermediate
- Combined
SCLC: Staging

- **Limited**
  - Tumor is in one lung, the mediastinum, and lymph nodes that can be radiated using a single radiation port.

- **Extensive**
  - Tumor has spread beyond one lung, the mediastinum and local lymph nodes.
SCLC: Treatment

- Limited Disease
  - Chemotherapy
  - Concomitant Radiation
  - Prophylactic Cranial Radiation

- Extensive Disease
  - Chemotherapy
  - Palliative Radiation
SCLC: Chemotherapy

- A combination of chemotherapeutic agents is used
- Goal: improve disease-free interval and length of survival
- Research is ongoing
  - New agents
  - Vaccines
  - Radiation protocols
SCLC: Survival

- **Limited Disease:**
  - Median survival 18-20 months
  - 5-year survival 10%

- **Extensive Disease:**
  - Median survival 10-12 months
  - 5-year survival 1-2%
Figure 1. 3D conformal radiation treatment planning. Multiple fields of radiation are shaped to treat a lung tumor. The use of multiple beams (Beams 1−4) also allows normal tissues such as the heart, spinal cord and normal lung to be spared from high radiation doses.
“Intensity-modulated radiation therapy (IMRT) is an advanced mode of high-precision radiotherapy that utilizes computer-controlled x-ray accelerators to deliver precise radiation doses to a malignant tumor or specific areas within the tumor.”

Lung Cancer: The Future
Advances

- Public awareness of the link between smoking and lung cancer has increased
- Therapy has moved away from one size fits all
- People with lung cancer are living longer
The End
References


References

Targeting Interventions to Populations with Tobacco-use Disparities

Julie B. Doetsch, M.A.
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Definition of populations with tobacco-related disparities:

- “Differences in patterns, prevention, and treatment of tobacco use;
- differences in the risk, incidence, morbidity, mortality, and burden of tobacco-related illness that exist among specific population groups…;
- and related differences in capacity and infrastructure, access to resources, and environmental tobacco smoke exposure.”

(Source: CDC. Best Practices for Comprehensive Tobacco Control Programs – 2007. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; October 2007.)
Where are populations with tobacco use disparities?

- Everywhere!
Illinois Department of Public Health
Percent Smokers by County
Illinois County Behavioral Risk Factor Surveys
Round III (2004 - 2006)

Smoking Prevalence
Round III BRFSS (2004 - 2006)
Percentage
- 11.7 - 19.0
- 19.0 - 23.5
- 23.6 - 27.0
- 27.1 - 31.6
- No data available

Illinois Smoking Rate
2004**: 22.2%
2005**: 18.9%
2006**: 16.5%

U.S. (States & D.C.) Smoking Rate***
2004: 20.9%
2005: 20.6%
2006: 20.1%

**Illinois Behavioral Risk Factor Surveillance System (BRFSS), IDPH, Illinois Center for Health Statistics.
***National Behavioral Risk Factor Surveillance System, National Center for Chronic Disease Prevention & Health Promotion, U.S. Centers for Disease Control & Prevention.

Data Source:
- IDPH, Illinois Department of Public Health
- BRFSS, Centers for Disease Control and Prevention

Created by: Data Unit, IDPH, Division of Chronic Disease Prevention & Control; May 2, 2007
Who? Populations with tobacco use disparities in Illinois

- Males
- Age:
  - 18 to 24 year olds
  - 25 to 34 year olds
  - 35 to 44 year olds
- Lower educational attainment:
  - Some high school no degree
  - GED
- Lower income
- Homosexuals and bisexuals
- Pregnant women with no or late access to prenatal care
- Middle East immigrants
- Native Hawaiian/Pacific Islanders
- People residing in rural areas
Data available to identify populations with tobacco use disparities

- County Behavioral Risk Factor System
  - [http://app.idph.state.il.us/brfss/](http://app.idph.state.il.us/brfss/)
  - Smoking rates by demographic characteristics

- Adult Tobacco Survey
  - [www.idph.state.il.us/TobaccoWebSite/ILATS2007.pdf](http://www.idph.state.il.us/TobaccoWebSite/ILATS2007.pdf)

- IPLAN Data System
  - [http://app.idph.state.il.us/](http://app.idph.state.il.us/)
  - Income, educational attainment, rurality, Medicaid

- U.S. Census
  - [www.census.gov](http://www.census.gov)

- Local data sources
Recommendations

- CDC Best Practices recommends that a comprehensive tobacco control program include identifying and eliminating tobacco-related disparities among population groups by:
  - Preventing smoking initiation
  - Reducing exposure to secondhand smoke
  - Assisting smokers to quit smoking

Available at:  www.cdc.gov/tobacco/tobacco_control_programs/stateandcommunity/best_practices/
Approaches: Reducing exposure to secondhand smoke

- Smoke-free Illinois Act [PA 95-0017]
  - Information available at:
    - www.smoke-free.illinois.gov
Approaches: Cessation

- Local cessation programs
- Illinois Tobacco Quitline:
Lynda Preckwinkle, BA, RRT
Director, ALA Helpline and Tobacco Quitline
American Lung Association of Illinois-Iowa
lynda@lunghelpline.org
217-787-5864 x 261
PLAN TO QUIT...

QUIT TO WIN!!!
Purpose

The Illinois Tobacco Quitline is here for one reason . . .

to help people quit tobacco.
Why Should Tobacco Dependence be Treated?

- Tobacco causes premature death of almost half a million Americans each year.
- 1/3 of all tobacco users in this country will die prematurely from tobacco dependence losing an average of 14 years.
- 70% of smokers see a physician each year.
- 70% of smokers want to quit.
The Cost of Tobacco Dependence in Illinois

- Nearly 17,000 deaths each year are attributable to tobacco use
- $6.7 billion in added health care costs/year and lost productivity
Addictions...

- Stopping smoking is difficult because, in order to quit, a person needs to:
  - Overcome addiction to nicotine
    - Physical Addiction
  - Change the habits of lighting up and inhaling smoke
    - Psychological Addiction
Many Methods of Quitting

- “Cold Turkey”
- “Cutting Back”
- Hypnosis
- Laser Therapy/Auricular Therapy
- Acupuncture
- Nicotine Replacement
- Prescription Medications
"Gasp! - New nicotine patch...New nicotine patch..."
Behavioral Modifications
Effective Strategies

- Medications
- Ongoing Support
1-866-QUIT-YES

ILLINOIS TOBACCO QUITLINE
ILLINOIS DEPARTMENT OF PUBLIC HEALTH
AMERICAN LUNG ASSOCIATION OF ILLINOIS
Where Quitters Always Win!
Resources

- Cessation Guide and Information mailed
- Cessation Program is tailored to the callers needs
- One-on-one counseling in Spanish
- Interpretation services for more than 150+ languages
- Telecommunication Line for the Deaf 1-800-501-1068
- Line capacity to handle hundreds of calls per day
Qualified, Experienced Staff

- Registered Nurses
- Registered Respiratory Therapists
- Certified Tobacco Cessation Counselors
- Medical Advisory Board
Hours of Operation

Open Extended Business Hours
7 a.m. to 9 p.m. Monday through Friday

Calls received outside of these times are taken by voice mail – responded to the next working day
Services

- Dual Function
  - *Stand Alone* Counseling Cessation Program
    - one-on-one over the phone
  - *Alongside* or in *Follow Up* to other cessation efforts

- Reactive Services: Client phones ➔ Counselor weekly

- Proactive Services: Counselor phones ➔ Client, at scheduled intervals

- Unlimited Services
How does it work?

- Clients are educated in the newest techniques

- *Individualized* quitting plans are developed and may include:
  - Behavioral Modification Techniques
  - Nicotine Replacement Products
  - Medication Therapy
All the tools are there...
Tobacco Cessation Information Packet is provided:

- nicotine replacement
- prescription medication
- behavior modification
- the recovery process
- withdrawal symptoms
- tips for cravings, coping, stress management
Benefits

Quitline staff offer encouragement and support throughout the quitting process.

Quitlines can increase success by up to 56%!
5 Steps to Helping People Quit

- **The 5 A’s**

- **ASK** about tobacco use.
- **ADVISE** to quit.
- **ASSESS** willingness to make a quit attempt.
- **ASSIST** in quit attempt.
- **ARRANGE** for follow-up
Free Promotional Tools

…promote through company intranet, use print materials in break rooms, offer enrollment forms through company nurse or during routine health screenings…

- Coasters Tear Off Style Pads
- Brochures (English & Spanish)
- Window Clings
- Posters
- Magnets
- Enrollment Forms
- Power Point Presentation
- Print Ads
The Illinois Tobacco Quitline

The Quitline’s knowledgeable staff is waiting to serve you.

ILLINOIS TOBACCO QUITLINE SERVICES:
The Quitline staff offers encouragement and support throughout the quitting process and can help you:

- Develop a clear plan for quitting
- Select the best strategies for you
- Determine the proper dosage of nicotine products
- Work on healthy behaviors to help prevent relapse

Use of QUITLINE services can improve success rates up to 56%!

Telecommunication Line for the Deaf: 1-800-501-1068
Break the Habit

Babs Frederking, RN
Health Educator/Tobacco Coordinator
Washington County Health Dept.
618-327-3644
wchd191@yahoo.com
Break the Habit

• WHAT IS BREAK THE HABIT??????
  • In the beginning there was IDPH Office of Health Promotion Division of Chronic Disease Prevention & Control – whew!
  • Then there was Tobacco Settlement Funds
  • Then there was Illinois Tobacco Free Communities Grants
  • And then there was Break the Habit!
Break the Habit

- Washington County Health Department was the first to pilot the Break the Habit Program in 2001-2002.
- The following year 2 other counties jumped on board.
- Break the Habit offered state wide for FY 2006 ITFC grantees.
- Counties that now offer break the habit have grown tremendously!
Break the Habit

• HOW THE PROGRAM WORKS
• Individuals are referred
• Individuals are then screened for funding. If approved, agreement is signed
• Now it’s on to the ITQ – Illinois Tobacco Quitline
• ITQ makes contact with health department via e-mail
Break the Habit

• HD makes contact with participant for further instructions
• HD notifies pharmacy of new participant
• Educational material is given to participant
• Participants are followed up at 3, 6, & 12 months.
• In a nutshell
Break the Habit

• SUCCESS RATES
• This will be brief!!
• From FY 04 to date, 20 – 25% of our participants were tobacco free at the 1 year follow up contact.
• ITQ calls for Washington County FY 04
Break the Habit

• WRAP IT UP!
• Flexible program
• What helps make the program work

• Thank you so much for your time. Please feel free to contact me.

HAVE A WONDERFUL DAY!!!
Improving Life, One Breath at a Time

MISSION: A WORLD FREE OF LUNG DISEASE
RADON: ARE YOU AT RISK?

Angela Tin, M.S.
Director of Environmental Programs
American Lung Association of Illinois
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RADON: ARE YOU AT RISK?

- Where do we spend most of our time?
- What is radon?
- How do we measure exposure?
- What is the level of concern?
- How and why does it come into my home?
- How does radon affect the lungs?
- How and where can I sample for radon?
- What if there is radon in my home?
- What can local health departments do?
National Human Activity Pattern Survey: Time Spent Indoors

What is Radon?

- Naturally occurring
- Tasteless
- Odorless
- Colorless
- Radioactive decay of uranium in rock soil and water

Radon
- 3.8 days

Radium
- 1,600 years

Uranium
- 4.5 billion years
U.S. Radon Potential

EPA Map of Radon Zones

Legend
- Zone 1
- Zone 2
- Zone 3

Zone designation for Puerto Rico is under development.

The purpose of this map is to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. This map is not intended to be used to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones. All homes should be tested regardless of geographic location.

IMPORTANT: Consult the EPA Map of Radon Zones document (EPA-402-R-93-071) before using this map. This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.
Radon Facts

- All homes have some levels of radon
- High levels in every county / every state
- Influenced by nature outside the home
- Controlled by man once inside the home
- Primary exposure through inhalation
- Secondary exposure through water supply
How Do We Measure Exposure?

- Radioactive alpha radiation on lung tissue
- Class A human carcinogen
- Greatest source of radiation to public
- Historical miner studies
- More likely to die from radon - accidents, drowning, or fires
What is the Level of Concern?

- EPA estimates 21,000 (or 12%) lung cancer deaths per year attributable to radon
- Average indoor radon concentration 1.3 pCi/L
- EPA action level is 4.0 pCi/L
- USEPA estimates that ¼ of all radon related lung cancers can be averted by lowering radon levels below the 4.0 pCi/L
- More than 40,000 homes in Illinois have been tested in the last two years
- Over 40% of homes above EPA action level
How is Radon Influenced by Cigarette Smoke?

- Radon binds - dust particles or cigarette smoke
- Indoor smoke increases the amount of dust in a room as much as 600 times
- Health effects - multiplied with cigarette smoke
- Leading cause of cancer in non-smokers
How Does Radon Enter the Home?

- Natural source
  - Soil and rock
  - Ground water supply
- Man made
  - Utilities and plumbing
  - Foundation cracks
  - Building material
How Does Radon Affect the Lungs?

- Radon decays into radioactive particles known as radon decay products.
- These particles are easily inhaled and deposited in the lungs where they can damage sensitive lung tissue.
How is Radon Distributed?

- Radon enters from beneath foundation and travels upward.
  - Diluted with outdoor air infiltrating building

- If radon is less than 4 pCi/L in lower level, upper floors are probably less than 4 pCi/L.
How Can I Sample For Radon?

- Most homes/apos should be tested
- At least once every two years
- Foundation footprint
- Illinois – free residential test kits
- Closed house conditions
- Seasonal effects
- Short term - activated charcoal
- Long term - more sensitive
- Water sampling (well)
What if Radon Is Above the EPA Action Levels?

- Licensing - Illinois Emergency Management Agency
- Licensed measurement professional
- Licensed mitigation professional
- Mitigation standards and requirements
- Equipment /installation costs $1000 - $1500
- On-going operating cost of fan
- Side benefit of moisture and odor removal
Sub slab (sub-membrane) depressurization is a means of removing radon beneath the foundation and venting the gas away from the building. One or more suction pipes are placed through the ground or soil and a fan is attached to facilitate the ventilation process.
New Homes Built
With Radon Control Systems

Radon Resistant New Construction

- This involves techniques that reduce radon entry as well as make radon removal easier and less costly. These methods vary with different foundations and site requirements, but basic elements are:

A. Gas Permeable Layer  
B. Plastic Sheeting  
C. Sealing and Caulking  
D. Vent Pipe  
E. Junction Box
Legislation, Rules, and Regulations

- Radon Industry Licensing Act (420 ILCS 44)
- Radon Awareness Act (420 ILCS 46) (1/1/08)
  - Residential testing disclosure
- Proposed Radon Resistant New Construction Requirements
What can Local Health Departments Do In Their Communities to Impact Radon?

- Raise awareness regarding health effects
- Provide education - additive effects of tobacco
- Include radon as an element of tobacco programs
- Several LHD’s are currently providing test-kits through grant from Illinois EMA
- Participate in radon forums – expanding to awareness of medical community
Radon Websites and Resources

- Mike Murphy - USEPA
  www.epa.gov/radon

- Pat Daniels – Il Emergency Management Agency
  www.radon.illinois.gov

- ALA online requests for test kits
  www.lung.il.org/environment/radon.cfm

- May 9, 2009 Medical Forum in Schaumburg, IL
Barbara Sorgatz, B.S.
Lung Cancer Survivor
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Radon Induced Lung Cancer Survivor

- Diagnosis
- Treatment
- Prognosis
- Life Afterwards
Lynda Preckwinkle, BA, RRT
Director, ALA Helpline and Tobacco Quitline
American Lung Association of Illinois-Iowa
lynda@lunghelpline.org
217-787-5864 x 261
Resources

www.lungil.org/tobacco/clinics.cfm - Listing of cessation clinics in Illinois
www.quityes.org  Illinois Tobacco Quitline Website
www.lungusa.org  American Lung Association Website
www.lungcanceralliance.org  Lung Cancer Alliance
www.cancer.org  American Cancer Society
www.cancer.gov  National Cancer Institute
www.thewellnesscommunity.org  The Wellness Community
www.pprx.org  Partnership for Prescription Assistance
www.chestnet.org  American College of Chest Physicians
Feedback

- Thank you for participating!
- Your feedback is VERY important. Please complete the online evaluation survey:

- If you registered for a group, please ask them to complete the evaluation also.
- We will use this information to plan future sessions and continually improve.
Question and Answer Session

• Please join us now for a LIVE Q & A Session with the presenters:
  – Dial 1(877) 411-9748
  – Enter the access code: 3467868#
  – Mute your phone (*6 to mute or un-mute).

• If you have a question that is not addressed on the conference call, please email the question to Laurie Call at LLC1185@msn.com.
THANK YOU