




SPECTRUM HEALTH 

Helping Patient Commit to Quit


Courtney Lane DNP, NP-BC



SPECTRUM HEALTH 


Disclosures

Nothing to disclose

SPECTRUM HEALTH 


Objectives

- Understand general trends in smoking and cancer.
- Be able to state the benefits of quitting smoking for cancer patient.
- Understand the neurobiology of addiction.
- Learn useful tips for brief interventions for smoking cessation.
- Gain understanding to share reliable information with patients about electronic cigarettes.

SPECTRUM HEALTH 

Definitions

- Tobacco- grows naturally, plant contains nicotine




Nicotine-

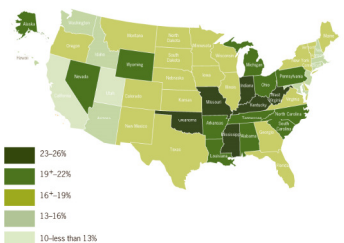
- Doesn't cause cancer
- Highly addictive drug
- Stimulant

Cigarettes- tobacco wrapped in paper


Cigars- wrapped in tobacco leaf

SPECTRUM HEALTH 

Smoking Across the US

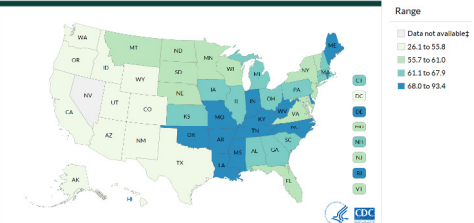


CDC, 2010


SPECTRUM HEALTH 

Lung cancer across the US

Lung and Bronchus Cancer
Incidence Rates* by State, 2011†




*Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.

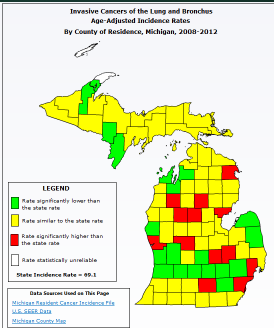
SPECTRUM HEALTH 

Smoking and Lung cancer


- Tobacco smoke contains a deadly mix of more than 7,000 chemicals; hundreds are harmful, and about 70 are known to cause cancer.^{1,4}
- In 2014 167,000 cancer death were caused by smoking, which is 29% of cancer deaths overall (29.8% in Michigan)
- 90% of lung cancer can be attributed to smoking.
- 3rd most common cancer. Most common cause of cancer death.
- 50% of lung cancer are diagnosed advanced stage.
- Stage Lung cancer has a 17% survival rate at 5 years.

SPECTRUM HEALTH 

Lung Cancer in Michigan



MDHHS,

SPECTRUM HEALTH 

Not just lung cancer...

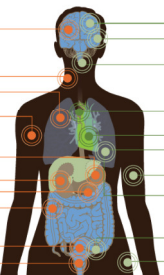
Risks from Smoking
Smoking can damage every part of the body

Cancers


- Head or Neck
- Lung
- Leukemia
- Stomach
- Kidney
- Pancreas
- Colon
- Bladder
- Cervix

Chronic Diseases

- Stroke
- Blindness
- Gum infection
- Aortic rupture
- Heart disease
- Pneumonia
- Hardening of the arteries
- Chronic lung disease & asthma
- Reduced fertility
- Hip fracture




CDC, 2010

SPECTRUM HEALTH 


Mortality of Smoker

- Smokers have a decreased life expectancy of about 15 years.
- Quitting smoking can improve life expectancy
 - For people age 25-34: adds 10 years of life expectancy
 - For people age 35-44: adds 9 years of life expectancy
 - For people age 45-54: adds 6 years of life expectancy
 - For people age 55-64: adds 4 years of life expectancy

Thun et al, NEJM 368;351,2013

SPECTRUM HEALTH 


70 % of the people who are smoking want to quit.


SPECTRUM HEALTH 

I already have Cancer what is the point?

- May not respond as well to treatment
 - Decrease response rates (45% vs 74%) and 2 year survival (39% vs 66%) in Head and Neck cancer
 - Small cell lung cancer who continued to smoke had the poorest survival.


(PDQ Supportive and Palliative Care Editorial Board, 2014)




SPECTRUM HEALTH 

Benefits of quitting with cancer


- Worsen side effects of treatment
 - Extended Mucositis
 - Poor voice quality for treatment of larynx cancer
- More complications
 - AML sever pulmonary infection during induction 26% vs 18%
 - Bleomycin or Carmustine higher rates of pulmonary fibrosis and RLD



SPECTRUM HEALTH 


Benefits cont.

- Reduced risk and complication during surgery
 - Slower wound healing
 - History of smoking double the likelihood of complication in lung cancer surgery
- Increase risk for reoccurrence and secondary malignancy
 - Recurrence in Prostate cancer 34.3 % current smokers vs 14.8% of former smokers
 - Hodgkins lymphoma survivor who smoke 20.2 relative risk for lung cancer

SPECTRUM HEALTH 

Benefits of quitting during cancer care


- Respond better to treatment
- Experience few symptom, less complications
- Do better in surgery
- Lower risk of recurrence or secondary malignancy

SPECTRUM HEALTH 

Health improvement after


- **20 minutes:** heart rate and blood pressure drop
- **12 hours:** Carbon monoxide levels in you blood drop to normal
- **2 weeks-3 months:** Circulation improves, lung function increases
- **1-9 months:** coughing and shortness of breath decreases
- **1 year:** risk of CAD is reduced by half
- **5 years:** Decrease risk of mouth, throat, esophagus and bladder cancer reduced by half. Cervical cancer, and stoke risk = that of a nonsmoker.
- **10 year:** Risk of dying of lung cancer reduced by half
- **15 year:** Risk of CAD = that of a non-smoker

<http://www.cancer.org/healthy/stayawayfromtobacco/benefits-of-quitting-smoking-over-time>

SPECTRUM HEALTH 

How to help our patients

- *The majority of Americans that are smoking want to quit.*
- *The way in which you talk with patients about their health can substantially influence their personal motivation for behavior change. (Rollnick, Miller & Butler, 2008, p. 6)*
- "Not a bad person with a bad habit but a Good Person with a difficult disease" Tom Gauvin NDC Counselor
- Brief interventions are effective
- Non- judgmental, choose your attitude

SPECTRUM HEALTH 

Understanding addiction


DSM criteria for addition is 3 or more of following:

#1 Tolerance, #2 Takes in larger amount for longer then intended, #3 Persistent desire or unsuccessful attempts to quit or cut down, #4 Spend great amount of time to obtain, use or recover from effects.

Habit vs. Addition

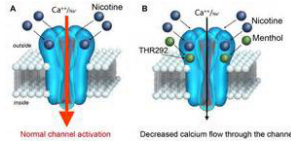
Nicotine is not a carcinogen, but creates the motivation for smoking

Nicotine "kick" is due to concentration of nicotine in blood stream


SPECTRUM HEALTH 

Addiction

- Nicotine circulates to the brain within 7-10 seconds (quicker than IV)
- Upregulation of Nicotine receptors which release Dopamine
- Nicotine actions: induce stimulation, pleasure, reduce stress and anxiety, improve concentration, reaction time and task performance, prevents withdrawal symptoms
- Genetic factors influence addiction



The diagram illustrates the effect of menthol on a calcium channel. Part A shows 'Normal channel activation' where a red arrow indicates a high flow of Ca²⁺ ions through the channel. Part B shows 'Decreased calcium flow through the channel' where a blue arrow indicates a significantly reduced flow of Ca²⁺ ions. Menthol is shown binding to the channel, and the THK202 protein is also indicated.

SPECTRUM HEALTH 

Nicotine withdrawal


Withdrawal last a few weeks

Cravings are frequent and intense early but lessen and less frequent over time.


Pharmacology double chance of success

80% of smoker relapse at 1 month

3% remain abstinent at 6 months




A cartoon illustration shows a person on a boat labeled 'Pharmacology Program' navigating through a turbulent sea. The sea is filled with waves and a large, dark, swirling mass representing addiction. The person is holding a sign that says 'Pharmacology Program'.


SPECTRUM HEALTH 

Brief interventions

- As little of 3 minutes of counseling increase the chances of quitting
- USPHS 10 recommendations brief tobacco dependence treatment works
 - 5As
 - Elicit –Provide- Elicit




A photograph showing a healthcare professional in blue scrubs sitting at the side of a hospital bed, talking to an elderly patient who is lying in bed. The patient is looking up at the professional.

SPECTRUM HEALTH 

5As / 3As / 2As &R


- Ask: About tobacco every time
- Advise: urge tobacco users to quit
- Assess: Determine willingness to make a quit attempt
- **Assist: provide help to be successful**
- **Arrange: Follow up contact**

Always ask and DO SOMETHING ABOUT IT

SPECTRUM HEALTH 


Motivational Interviewing

- Spirit of Motivational interviewing: **Partnership, Acceptance, Compassion, and Evocation**
- Elicit
 - "Tell me about your smoking?" "Why do YOU want to quit?" "What has motivated you to quit in the past?"
- Provide:
 - Ask to provide information
- Elicit
 - "What are your thought?" "Can I help in some way?"

SPECTRUM HEALTH 

Medications

- Nicotine Replacement Therapy (NRT)
 - Long acting: Nicotine Patch
 - Short acting: Gum, Lozenge, Inhaler, Nasal spray
 - If used in combination is almost as effective as Varenicline
- Varenicline (Chantix)
 - 2.5 times more likely to quit smoking
 - Side effects Vivid dream, nausea
- Bupropion (Wellbutrin)
 - 1.5 times more likely to quit smoking



© G. ASBERG © Randy G. Scheraga / gscheraga.com


"Tobacco is a green, leafy plant...but a cigarette does not count as salad!"

SPECTRUM HEALTH 

E-Cigarettes




(DailyMail.com, 2014)

SPECTRUM HEALTH 


E-Cigarettes


- AKA: Vaporizing, E-Cigarettes and Electronic Nicotine Delivery systems (ENDS)
- August 2016 FDA finalized a rule to extend tobacco regulation to cover ENDS
- FDA found Nicotine present in 17 of 18 of 0.0% nicotine cartridges (FDA.gov)
- Systemic review found: high levels of variability in nicotine content, cytotoxicity and carcinogens, etal and particles (Pisinger & Dossing, 2014)
- High levels of formaldehyde, associated with airway resistance (Varlat, et al. 2015)

SPECTRUM HEALTH 

E-cigarette trend


- Different rules than Cigarettes: Aloud to be flavored, and does not need to be face to face sales
- Increase prevalence 24.2% per year. Growing in Middle schoolers and High schoolers
- E-Cigarettes as a way to quit
 - Higher rates of relapse
 - As effective as nicotine replacement.
 - England Public health encourages it use as a safer alternative to smoking.
- The Verdict is still out.




SPECTRUM HEALTH 

Take away points

- 70% of smokers want to quit.
- Many health benefits to quitting during cancer care.
- Smokers are people with an addiction.
- Need to be asking about e-cigarette use.
- We do a poor job helping people quit.

SPECTRUM HEALTH 

Questions?

SPECTRUM HEALTH 

References

American Cancer Society. Cancer Facts & Figure 2013. Atlanta, GA: American Cancer Society; 2013. Accessed at www.cancer.org/research/cancerfactsfigures/cancerfactsfigures/cancer-facts-figures-2013 on 21 November 2013.

<https://www.advisory.com/apps/dailybriefing/m71-1A0A30D3A-0100-44AA-8A48-C6AF94F51442>

Centers for Disease Control. (September, 2010). [Graphic illustration of smoking effects on the body]. National center for chronic disease prevention and control. retrieved from : <http://www.cdc.gov/tobacco/TobaccoUseSmoking20Graphic.html>

Centers for Disease Control. (September, 2010). [Graphic illustration of smoking across the US]. National center for chronic disease prevention and control. retrieved from : <http://www.cdc.gov/tobacco/TobaccoUseSmoking20Graphic.html>

Dailymail.com. 2014 retrieved from: <http://www.dailymail.co.uk/health/2014/07/25/25072511-eonard-DiCaprio-Julie-Louis-Dreyfus-puff-away-INSIDE-60000-Cigarettes.html>


PDO Supportive and Palliative Care Editorial Board. PDE Smoking in Cancer Care. Bethesda, MD: National Cancer Institute. Updated 06/27/2014. Available at: <http://www.cancer.gov/about-cancer/causes-prevention/risk/tobacco/smoking-cessation-pdq>. Accessed 12/30/2016 [PMID: 26386200]

Rolnick, S., Miller, W.R., & Butler, C.C. (2008). *Motivational Interviewing in Health Care: Helping Patients Change Behavior*. New York: Guilford Press.

Centers for Disease Control and Prevention. *Benefits of Quitting*. July 20, 2015. Accessed at www.cdc.gov/tobacco/quit_smoking/how_to_quit/benefits/index.html on September 9, 2016.

Mahmud A, Feely J. Effect of smoking on arterial stiffness and pulse pressure amplification. *Hypertension*. 2003;41(1):163-167.

Jha P, Ramasundaramethige C, Landsman V, et al. 21st century hazards of smoking and benefits of cessation in the United States . *N Engl J Med*. 2013;368(4):341-350.

SPECTRUM HEALTH 

US Department of Health and Human Services. *How Tobacco Smoke Causes Disease - The Biology and Behavioral Basis for Smoking-Attributable Disease Fact Sheet: A Report of the Surgeon General*. 2010. Accessed at www.surgeongeneral.gov/library/reports/ on September 9, 2016.

US Department of Health and Human Services. *The Health Consequences of Smoking: Nicotine Addiction: A Report of the Surgeon General*. 1988. Accessed at www.surgeongeneral.gov/library/reports/ on September 9, 2016.

US Department of Health and Human Services. *The Health Benefits of Smoking Cessation: A Report of the Surgeon General*. 1990. Accessed at www.surgeongeneral.gov/library/reports/ on September 9, 2016.

US Department of Health and Human Services. *Let's Make the Next Generation Tobacco-free. Your Guide to the 50th Anniversary Surgeon General's Report on Smoking and Health*. Accessed at <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html> on September 9, 2016.

World Health Organization. *Tobacco Control: Reversal of Risk After Quitting Smoking*. IARC Handbooks of Cancer Prevention, Vol. 11. 2007.
