OVERCOMING BARRIERS IN THE TREATMENT OF TOBACCO USE WITH YOUR CANCER PATIENTS

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Disclosure

- I have received research support from Pfizer for a study examining the use of varenicline with tobacco-dependent, breast cancer patients.
- I will not be discussing any product that is *investigational or not labeled for the use* under discussion.
Approximately 443,000 U.S. Deaths Annually Attributable to Cigarette Smoking

Source: MMRW 2008; 57 (45): 1226-1228.
Health Consequences of Smoking

- **Cancers**
  - Acute myeloid leukemia
  - Bladder and kidney
  - Cervical
  - Esophageal
  - Gastric
  - Laryngeal
  - Lung
  - Oral cavity and pharyngeal
  - Pancreatic

- **Cardiovascular diseases**
  - Abdominal aortic aneurysm
  - Coronary heart disease
  - Cerebrovascular disease
  - Peripheral arterial disease

- **Reproductive effects**
  - Impaired fertility in women
  - Poor pregnancy outcomes (e.g., low birth weight, preterm delivery)
  - Infant mortality

- **Other effects**
  - Cataract, osteoporosis, periodontitis, erectile dysfunction

Estimated Number of Cancer Survivors in the United States: 1971 to 2008

Risks of Persistent Smoking for Cancer Patients

- Reduces survival
- Increases the risk of disease recurrence
- Increases the risk of second primary cancers
- Poorer treatment response
  - Decrease in effectiveness of treatment
- Reduces quality of life
- Increases risk of other tobacco-related comorbid conditions (CVD, COPD)
  - Worsen treatment side effect (surgery, radiation, chemotherapy)
Surgical Complications

- Increased complications from general anesthesia

- Increased risk of pulmonary complications (pneumonia, reintubation, bronchospasms)

- Detrimental effects on wound healing
  - Compromised capillary blood flow
  - Increased vasoconstriction
  - Increased risk of wound infection

- Quitting smoking at least one month prior to surgery is most beneficial
Radiation Complications

- Lower treatment response rates
- Lower overall survival\textsuperscript{12}
- Greater need for hospitalization
- More frequent treatment complications (e.g., osteoradionecrosis, mucositis, poor pain control, need for feeding tube, pharyngeal stricture\textsuperscript{13}
- Impaired resumption of voice quality post-radiation\textsuperscript{14}
Chemotherapy Complications

- Diminished treatment response\textsuperscript{15-16}
  - Increased side effects (e.g., immune suppression, weight loss, fatigue, pulmonary cardiac toxicity)
  - Increases drug toxicity
  - Increases infection
Health Benefits of Smoking Cessation: Cancer-Specific

- Improved survival
- Fewer treatment complications
  - Lower risk of peri- and post-operative complications
  - Improved pulmonary health and less need for pulmonary rehabilitation
  - Improved surgical wound healing and less risk of infection
  - Greater likelihood of shorter hospitalization and surgical time
  - Less dry mouth, mucositis, tissue and bone necrosis
- Improved treatment efficacy
- Reduced risk of disease recurrence
- Reduced risk second primary cancer
- Improved mastery and control
  - Better quality of life
Smoking Prevalence in Adult Survivors by Cancer Site

Figure 1. Smoking Prevalence

Mayer et al., 2007 HINTS Data
Populations Estimates of Smoking Prevalence in Childhood and Adult Cancer Survivors

CCSS; Emmons et al., 2002
NHIS; Bellizzi et al., 2005
Persistent smoking is prevalent among cancer patients

- With much disease-specific variation, as many as 20-30% of cancer patients are estimated to be persistent tobacco users.
- Most cancer patients express interest in quitting.
- Like other smokers, nicotine addiction and psychological dependence on smoking are formidable quitting barriers.
Risk Factors for Continued Smoking in Adult Cancer Survivors

- Younger age
- Less intensive medical treatment
- Early stage disease
- Non-tobacco-related ca dx
- Heavy nicotine dependence
- Low motivation
- Low self-efficacy
- Depression/Alcohol
It is “incumbent on the cancer care community to incorporate effective tobacco cessation as an integral component of quality cancer care” (ASCO, 2009)

Smoking status recommended as core clinical and research data element

Tobacco cessation counseling recommended as standard of quality care

ASCO, 2009
Original Contribution

National Cancer Institute Conference on Treating Tobacco Dependence at Cancer Centers

By Glen Morgan, PhD, Robert A. Schnoll, PhD, Catherine M. Alfano, PhD, Sarah E. Evans, PhD, Adam Goldstein, MD, MPH, Jamie Ostroff, PhD, Elyse Richelle Park, PhD, Linda Sarna, DNSc, RN, and Lisa Sanderson Cox, PhD

- Recommended that Cancer Centers integrate assessment and treatment of tobacco use into routine clinical care
- Call for more research on developing and evaluating cost-effective cessation treatment delivery models in cancer care

Morgan, et al 2011
## Tobacco Cessation Treatment Patterns of Oncology Providers (n=74)

<table>
<thead>
<tr>
<th></th>
<th>NV</th>
<th>FV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask</td>
<td>82.4%</td>
<td>28%</td>
</tr>
<tr>
<td>Advise</td>
<td>86.5%</td>
<td>---</td>
</tr>
<tr>
<td>Assist</td>
<td>30%</td>
<td>---</td>
</tr>
<tr>
<td>Arrange</td>
<td>30%</td>
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</tr>
</tbody>
</table>

*Weaver et al 2012*
Patient-Reported Barriers for Smoking Cessation

- Pressure to quit abruptly
- High levels of nicotine dependence and severe withdrawal symptoms
- High levels of psychological distress
- Loss of a coping strategy
- Low quitting self-efficacy (confidence) due to multiple prior failed quit attempts
- Stigma
Smoking and Cancer Patients

- The good news 😊 Tobacco control policies are effective and have change social norms about smoking

- The bad news 😞 Many smokers report perceived stigma associated with reluctant disclosure of diagnosis, psychological distress, decreased help-seeking

- Tobacco dependence is a chronic relapsing condition maintained by nicotine addiction
  - Biobehavioral model of nicotine addiction
  - Genetic susceptibility
  - Historic misinformation about dangers of smoking
Provider-reported barriers and facilitators of treating tobacco dependence in cancer care settings

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Facilitators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of patient motivation</td>
<td>Health benefits</td>
</tr>
<tr>
<td>Lack of time</td>
<td>Patient wants to quit</td>
</tr>
<tr>
<td>Lack of skills</td>
<td>Expected part of my role</td>
</tr>
<tr>
<td>Lack of knowledge about how to help patients quit</td>
<td>Cessation will decrease risk of recurrence</td>
</tr>
<tr>
<td>Don’t want to add to patient’s stress</td>
<td>Cessation will decrease side effects</td>
</tr>
<tr>
<td>Don’t want patient to feel guilty</td>
<td>Confidence in ability to help people stop smoking</td>
</tr>
<tr>
<td>Poor prognosis</td>
<td>Successful past experiences</td>
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<td></td>
<td>Availability of referral sources</td>
</tr>
<tr>
<td></td>
<td>Administrative support</td>
</tr>
</tbody>
</table>

Source: Sarna et al., 2000
MSKCC Tobacco Cessation Program: Clinical Objectives

- To identify all smokers at MSKCC

- To implement a comprehensive, evidence-based tobacco cessation and relapse prevention program tailored to meet the needs of all Memorial Sloan-Kettering Cancer Center (MSKCC) patients and employees

- To monitor and implement continuous improvement in standards of care of tobacco dependence
United States PHS Guidelines:
Treating Tobacco Use and Dependence

- 1996 - Initial Guideline published
- Literature from 1975 - 1995
- Approx. 3,000 articles

- 2000 - Revised Guideline published
- Literature from 1975 - 1999
- Approx. 6,000 articles

- 2008 - Updated Guideline published
- Literature from 1975 - 2007
- Approx. 8,700 total articles
MSKCC Tobacco Cessation Program
Stepped-Care Model

STEP 1: MINIMUM INTENSITY
- Identify all current smokers
- Personalized advice
- Self-help materials

STEP 2: MODERATE INTENSITY
- First-line pharmacotherapy
- Brief motivational and cessation counseling
- Arrange referral and/or follow-up

STEP 3: MAXIMUM INTENSITY
- Clinic treatment (individual counseling)
- Address psychiatric, substance abuse comorbidity
- Combination pharmacotherapy
- Long-term follow-up and maintenance
<table>
<thead>
<tr>
<th>Year Range</th>
<th>Activities</th>
<th>Legislation/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2001</td>
<td>• Hired 1st Tobacco Treatment Specialist (TTS)</td>
<td>NYC Tobacco Tax</td>
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<tr>
<td></td>
<td>• Established case finding and referral mechanisms</td>
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<td></td>
<td>• Approval of all cessation medications on hospital formulary</td>
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<td></td>
<td>• Developed patient education cessation Medication Fact Cards</td>
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<td>2001-2003</td>
<td>• Needs assessment and Performance Improvement Project &gt;&gt; Oncology Nurses</td>
<td>Smoke Free Workplace Legislation</td>
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<tr>
<td></td>
<td>• Established Clinical Triaging Criteria</td>
<td></td>
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<tr>
<td></td>
<td>• Developed Patient Education Booklet</td>
<td></td>
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<tr>
<td>2003-2005</td>
<td>• Hired 2nd Tobacco Treatment Specialist</td>
<td>Television Ad Campaign</td>
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<td></td>
<td>• Standardized Intake and Follow-up Forms</td>
<td></td>
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<tr>
<td></td>
<td>• Translation of Patient Education Materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Spanish/Russian)</td>
<td></td>
</tr>
<tr>
<td>2005-2007</td>
<td>• Developed Smoking Cessation Database</td>
<td>NYS Tobacco Tax</td>
</tr>
<tr>
<td></td>
<td>• Developed and promoted clinical standards of care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Intensive Staff Education and Training</td>
<td></td>
</tr>
<tr>
<td>2007-2009</td>
<td>• Refined Smoking Cessation Database</td>
<td>NYC Smoke Free Hospital Legislation</td>
</tr>
<tr>
<td></td>
<td>• Improved electronic referral procedure (OMS)</td>
<td></td>
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<tr>
<td></td>
<td>• MSKQuits! Employee Tobacco Cessation Program</td>
<td></td>
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<tr>
<td>2009-</td>
<td>• Tobacco Free Hospital Policy</td>
<td>Joint Commission Metrics for Screening and Treating Tobacco Use</td>
</tr>
<tr>
<td></td>
<td>• QI Projects</td>
<td></td>
</tr>
</tbody>
</table>
Responsibilities of Tobacco Treatment Specialists in Oncology Setting

- Screen all patients for current tobacco use
- Conduct intake evaluation and tobacco use history interview
- Review chart and liaise with oncology care team
- Provide education regarding personalized risks of persistent smoking and benefits of cessation
- Review smoking cessation medications options/shared decision making (contraindications, side effects, outcomes)
- Establish quit plan/date
- Provide brief, telephone-delivered, behavioral counseling for motivational enhancement, coping with smoking urges and relapse prevention
- Make referral for intensive cessation counseling PRN
ASK: Tobacco Use Screener

In the past 30 days, have you smoked cigarettes or used any other forms of tobacco (cigars, pipe, smokeless tobacco)?

- **Every day***
- **Some days***
- Not at all

*Tobacco use screening is routinely assessed on Ambulatory and Inpatient Adult Health Screening Forms

Source: Modified BRFSS, Joint Commission “compliant” tobacco screener
ADVISE

- Provide patient with specific education about risks of persistent smoking and the benefits of quitting.

- Offer advice on the safety and efficacy of cessation medications as well the benefit of seeking behavioral counseling.
**Health Benefits for Cervical Cancer Patients Who Become Smoke-Free:**

Becoming smoke-free has health benefits for all persons diagnosed with cervical cancer, including those who are recently diagnosed, having treatment, recovering from treatment, or are cancer survivors.

Below are benefits of cessation for patients with cervical cancer:

- For women with HPV, cervical dysplasia, and without any gynecological problems, smoking increases the risk of cervical cancer.
- Cessation may reduce the size of existing mild dysplastic lesions.
- Lower risk of developing severe cervical dysplasia.
- Lower risk of developing cancer of the lung or kidney.
- Fewer symptoms of chemotherapy-related toxicities, including gastrointestinal or respiratory problems.
- Improved pulmonary health.
- May need less of certain medication.
- Can improve sense of mastery.
- Better overall adjustment.

**Health Benefits for Bladder Cancer Patients Who Become Smoke-Free:**

Becoming smoke-free has health benefits for all persons diagnosed with bladder cancer, including those who are recently diagnosed, having treatment, recovering from treatment, or are cancer survivors.

Below are benefits of cessation for patients with bladder cancer:

- Increased chance of survival.
- Lower risk of cancer progression.
- Lower chance of recurrence.
- Lower risk of developing lung cancer.
- Fewer symptoms of chemotherapy-related toxicities, including gastrointestinal or respiratory problems.
- May need less of certain medication.
- Can improve sense of mastery.
- Better overall adjustment.
- Lower risk of developing oral cancer.
- Lower disease progression.

**Health Benefits for Head and Neck Cancer Patients Who Become Smoke-Free:**

Becoming smoke-free has health benefits for all persons diagnosed with head and neck cancer, including those who are recently diagnosed, having treatment, recovering from treatment, or are cancer survivors.

Below are benefits of cessation for patients with head and neck cancer:

- Increased chance of survival.
- Lower risk of cancer progression.
- Lower chance of recurrence.
- Lower risk of developing lung cancer.
- Fewer symptoms of chemotherapy-related toxicities, including gastrointestinal or respiratory problems.
- May need less of certain medication.
- Can improve sense of mastery.
- Better overall adjustment.
- Lower risk of developing oral cancer.
- Lower disease progression.

**Sloan-Kettering Cancer Center Smoking Cessation Program**

212-535-0303
PRESCRIBE

- Use of cessation medication reduces acute nicotine withdrawal (e.g., restlessness, irritability, cravings, difficulty concentrating).

- Use of cessation medication also increases the likelihood of successful cessation.
<table>
<thead>
<tr>
<th>Pharmacotherapy</th>
<th>Dosage</th>
<th>Duration</th>
<th>Availability</th>
<th>Precautions/Contraindications</th>
<th>Adverse Effects</th>
<th>Patient Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicotine Patch</td>
<td>If smoking 11 cig/d or &gt;=: 21mg/24 hr 14 mg/24 hr 7 mg/24 hr</td>
<td>6 weeks</td>
<td>Over the Counter (OTC) Medicaid reimbursement by prescription only</td>
<td>Uncontrolled Hypertension</td>
<td>Skin irritation Redness Swelling Itching Disruption in Sleep Nightmares Vivid dreams</td>
<td>Instruct patient to rotate patch site daily Instruct patient to remove patch prior to bedtime if sleep is disrupted and bothersome.</td>
</tr>
<tr>
<td>NicoDerm CQ</td>
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<tr>
<td>Habitrol</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Nicotine Polacrilex Gum</td>
<td>2mg if smoking 24 or &lt; cig/d 4 mg if smoking 25 or &gt; cig/d</td>
<td>Up to 12 weeks</td>
<td>Over the Counter (OTC) Medicaid reimbursement by prescription only</td>
<td>Poor dentition Xerostomia</td>
<td>Hiccups Upset stomach Jaw ache</td>
<td>Chew gum on a fixed schedule &quot;Chew &amp; Park&quot; each piece of gum for 30 minutes Avoid eating/drinking anything except water 15 minutes before &amp; during chewing</td>
</tr>
<tr>
<td>Nicorette Gum</td>
<td>Do not exceed 24 pieces of gum/24 hr</td>
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<td></td>
</tr>
<tr>
<td>Nicotine Lozenge</td>
<td>2mg if smoking the first cigarette more than 30 minutes after waking up</td>
<td>Up to 12 weeks</td>
<td>Over the Counter (OTC) Medicaid reimbursement by prescription only</td>
<td>Xerostomia</td>
<td>Local irritation to mouth &amp; throat Upset stomach</td>
<td>Avoid eating/drinking anything except water 15 minutes before &amp; during when using a lozenge Each lozenge will take 20 – 30 minutes to dissolve</td>
</tr>
<tr>
<td>Commit</td>
<td>4 mg if smoking the first cigarette within 30 minutes after waking up</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nicotine Inhalation</td>
<td>Do not use more than 20 lozenges/day</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>System Nicotrol Inhaler</td>
<td>6 – 16 cartridges/day</td>
<td>Up to 6 months</td>
<td>Prescription Only</td>
<td></td>
<td>Local irritation to mouth &amp; throat Upset stomach</td>
<td>Each cartridge will take 80 – 100 inhalations over 20 minutes Instruct patient to puff on inhalers like a cigar Absorption is in the buccal mucosa</td>
</tr>
<tr>
<td>Nicotine Nasal Spray</td>
<td>0.5mg/inhalation/nostril 1-2 times/hr or PRN dosing</td>
<td>Up to 12 weeks</td>
<td>Prescription Only</td>
<td></td>
<td>Sinus infections</td>
<td>Nose/eye/upper respiratory irritation</td>
</tr>
<tr>
<td>Nicotrol NS</td>
<td></td>
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<tr>
<td>Zyban Wellbutrin SR</td>
<td>150 mg daily x 3 days THEN 150 mg BID</td>
<td>12 weeks</td>
<td>Prescription Only</td>
<td>History of seizures History of eating disorders Bulimia Anorexia</td>
<td>Insomnia Dry mouth Restlessness Dizziness</td>
<td>Overlap with smoking for 1-2 weeks Does not need to be tapered off</td>
</tr>
<tr>
<td>Varenicline Chantix</td>
<td>Days 1-3: 0.5mg pc daily THEN Days 4-7: 0.5mg pc BID THEN Days 8-End of treatment: 1mg po BID</td>
<td>12 weeks</td>
<td>Prescription Only</td>
<td>Kidney problems or undergoing dialysis Pregnant or planning of getting pregnant Breast feeding</td>
<td>Mild nausea Sleep problems Headaches</td>
<td>Take medication with a full glass of water after you eat a meal Allow 6 hours between each dose Take this medication a few hours before bedtime to avoid restlessness Overlap with smoking for 1-2 weeks Does not need to be tapered off</td>
</tr>
</tbody>
</table>
Special Considerations in Using Cessation Pharmacotherapy with Cancer Patients

- Medication recommendations should consider potential contraindications and side effects
  - Nausea and vomiting are common side effects of chemotherapy
  - Insomnia and sleep impairment are common
  - Dry mouth and oral mucositis may preclude use of NRT lozenge/gum
  - Patients scheduled for reconstructive surgery (breast, head and neck) are advised to refrain from peri-operative NRT
  - Patients with brain tumors and brain mets may be at-risk for seizures (Zyban?)
  - Patients with kidney cancer may have impaired renal function (Chantix?)

- Standard dosage recommendations are dependent upon smoking rate/patterns and patient’s prior medication use experience
Refer your patient to the
New York State Smokers’ Quitline
866-NY-QUITS (1-866-697-8487)
nysmokefree.com
or
Your local Tobacco Cessation Treatment Specialist
Strategies to Improve Uptake of Referral to Tobacco Cessation Services

- Improve quality of empathic, non-judgmental communication between provider-patient
  - Acknowledge and encourage expression of negative feelings (guilt, shame, blame)
  - Validate and normalize emotional reactions
  - Praise patient’s coping efforts
  - Express willingness to help
- Motivational counseling
Memorial Sloan-Kettering is a Tobacco-Free Institution.

This applies to any campus including sidewalks of every site owned or operated by MSKCC, including all research facilities and regional network sites.

Help us protect everyone’s health.
Smoking and Tobacco Use are Important to Address in the Oncology Setting

- Rates of current smoking at diagnosis among patients with cancer varies.
- Patients with cancers less strongly associated with smoking have lower long-term quit rates.
- Overall, up to 30-50% of cancer patients smoking at diagnosis do not quit, or relapse following initial quit attempts.
- Relapse even occurs among patients who quit ≥ 1 year earlier.

Walker et al., CEBP, 2006; Cooley et al., Lung Cancer, 2009; Gritz et al., Principles and Practice of Oncology, 8th edition, Ed(s) DeVita et al., 2008
Recommended Standard of Care for Promoting Smoking Cessation in Cancer Care Settings

- Ask about tobacco use at initial and follow-up visits
- Document current and changes in tobacco use status in medical chart
- Provide personalized advice and education about cessation benefits and risks of continued tobacco use
- Provide cessation assistance and/or refer to Tobacco Treatment Specialists (TTS)
- Document changes in smoking status and analyze utilization trends and outcomes for continuous quality improvement

ASCO, 2009
Bibliography


MMR weekly- Cigarette Smoking Among Adults- United States, 2006. 56:1157-1161. 11/09/07


