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

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NYS Collaborative Conference Call
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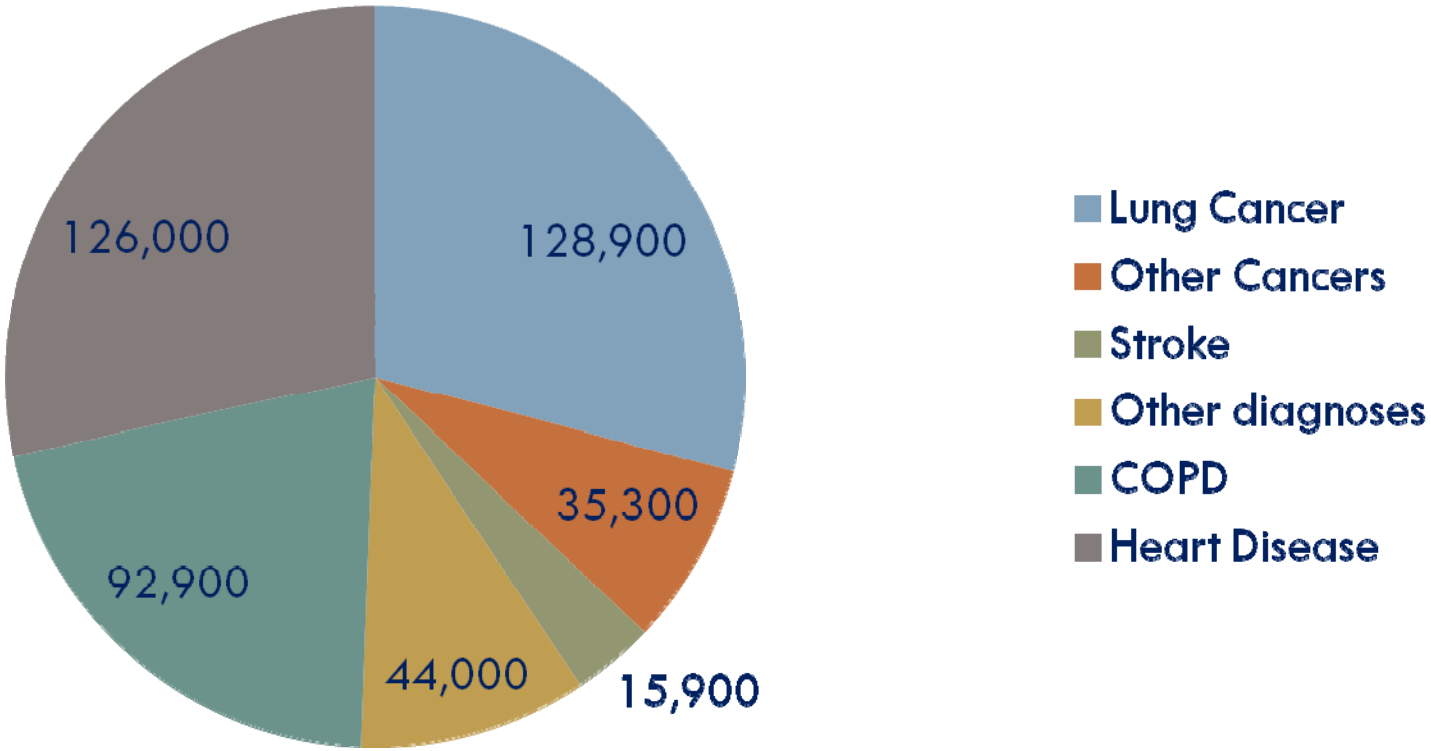
Disclosure

- 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



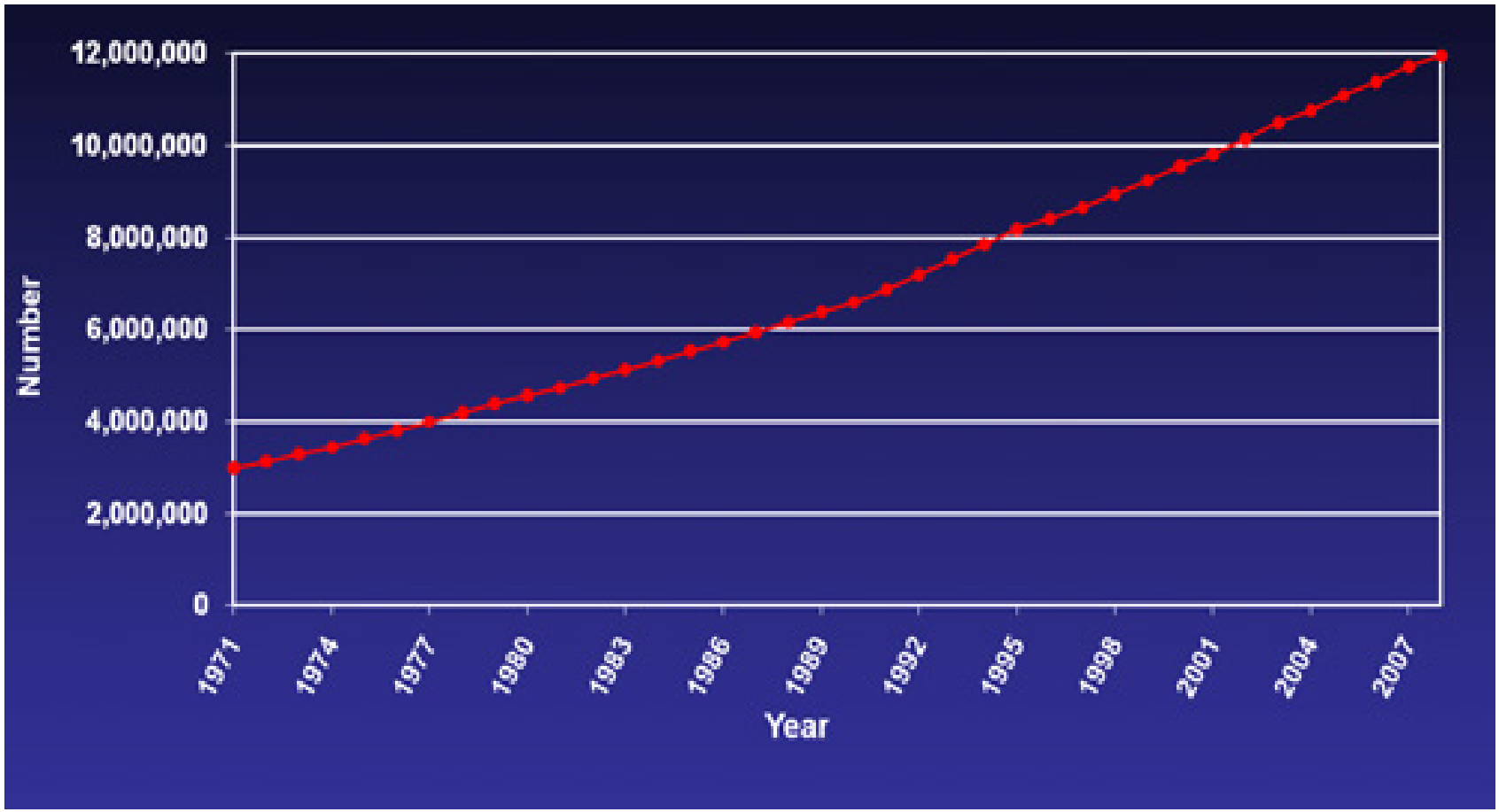
Source: MMRW 2008; 57 (45): 1226-1228.

Health Consequences of Smoking

- Cancers
  - Acute myeloid leukemia
  - Bladder and kidney
  - Cervical
  - Esophageal
  - Gastric
  - Laryngeal
  - Lung
  - Oral cavity and pharyngeal
  - Pancreatic
- Pulmonary diseases
  - Acute (e.g., pneumonia)
  - Chronic (e.g., COPD)
- 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

U.S. Department of Health and Human Services. (2004). *The Health Consequences of Smoking: A Report of the Surgeon General.*

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



Source: SEER Cancer Statistics Review, 1975-2008, National Cancer Institute.

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[12]
- Greater need for hospitalization
- More frequent treatment complications (e.g., osteoradionecrosis, mucositis, poor pain control, need for feeding tube, pharyngeal stricture[13]
- Impaired resumption of voice quality post-radiation[14]

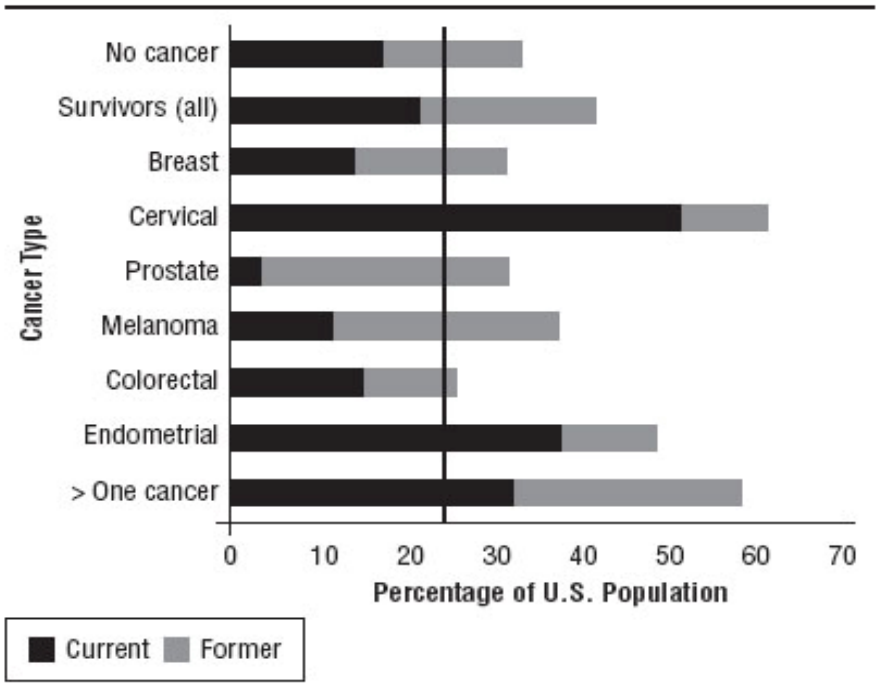
Chemotherapy Complications

- Diminished treatment response [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

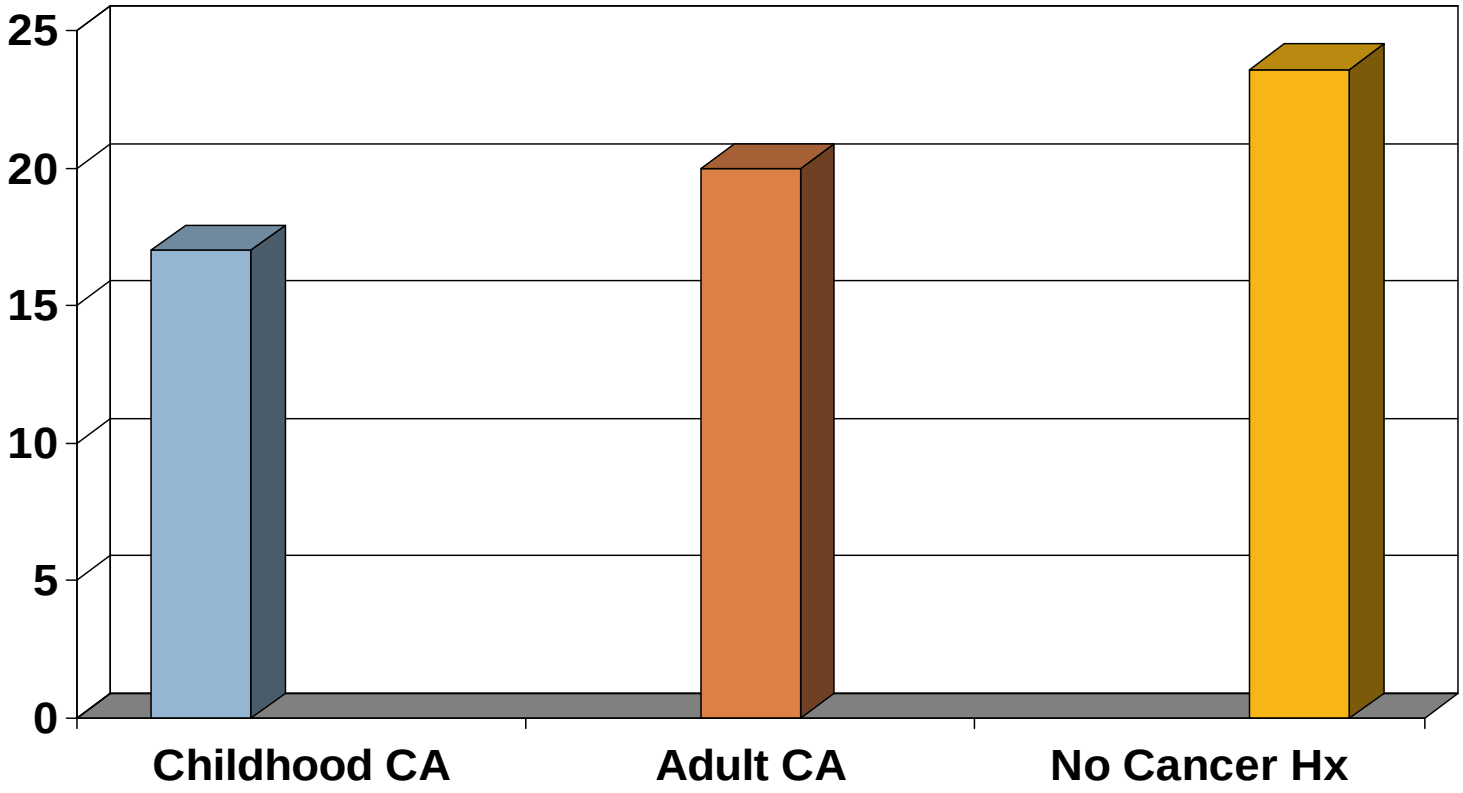


Note. The vertical line represents the 2003 Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention, 2007a) national average for adult current smokers (22%). No significiant differences (p = 0.3) existed in smoking prevalence between those with and without cancer.

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

Tobacco Cessation and Quality Cancer Care

- 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)

	NV	FV
Ask	82.4%	28%
Advise	86.5%	---
Assist	30%	---
Arrange	30%	---

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

Barriers

- Lack of patient motivation
- Lack of time
- Lack of skills
- Lack of knowledge about how to help patients quit
- Don't want to add to patient's stress
- Don't want patient to feel guilty
- Poor prognosis

Facilitators

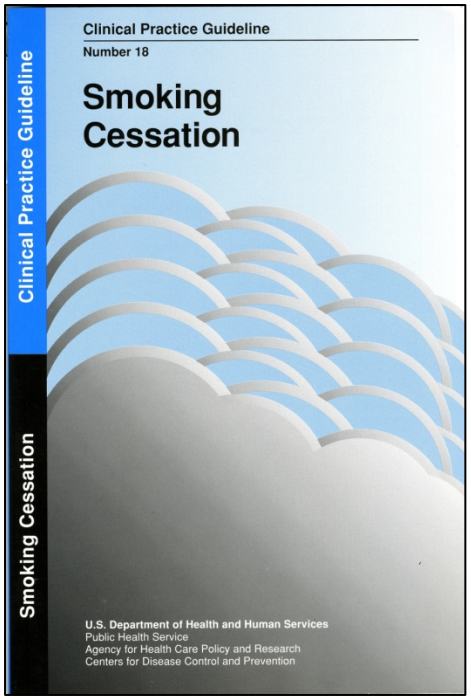
- Health benefits
- Patient wants to quit
- Expected part of my role
- Cessation will decrease risk of recurrence
- Cessation will decrease side effects
- Confidence in ability to help people stop smoking
- Successful past experiences
- Availability of referral sources
- Administrative support

Source: Sarna et al., 2000

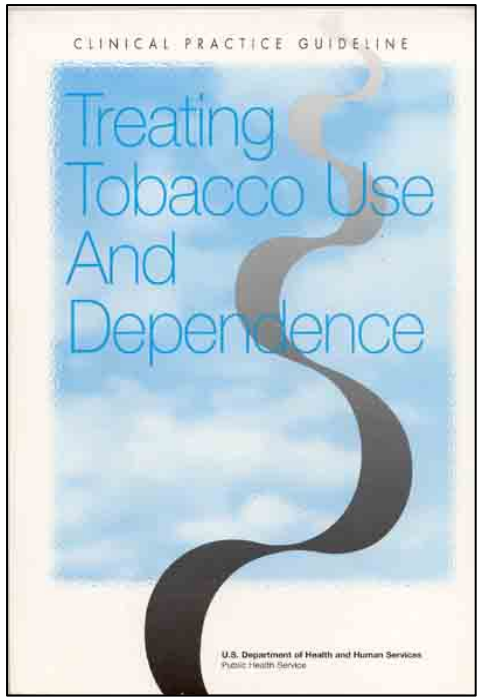
MSKCC Tobacco Cessation Program: Clinical Objectives

- 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

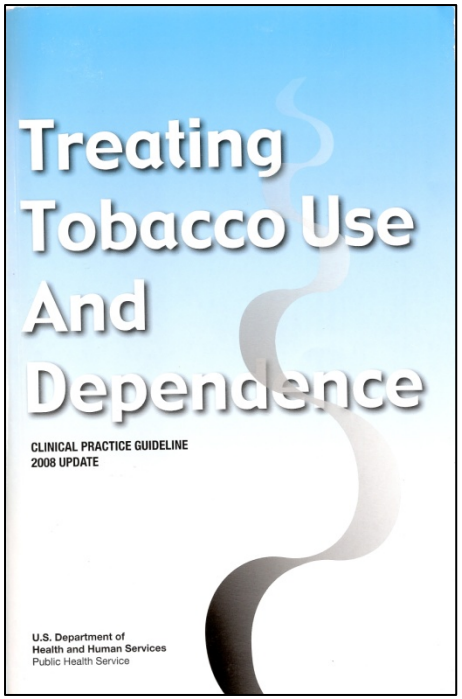
United States PHS Guidelines: Treating Tobacco Use and Dependence



- 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

MSKCC Tobacco Cessation Program Timeline

1999-2001

- Hired 1st Tobacco Treatment Specialist (TTS)
- Established case finding and referral mechanisms
- Approval of all cessation medications on hospital formulary
- Developed patient education cessation Medication Fact Cards

NYC Tobacco Tax

2001-2003

- Needs assessment and Performance Improvement Project >> Oncology Nurses
- Established Clinical Triaging Criteria
- Developed Patient Education Booklet

Smoke Free Workplace Legislation

2003-2005

- Hired 2nd Tobacco Treatment Specialist
- Standardized Intake and Follow-up Forms
- Translation of Patient Education Materials (Spanish/Russian)

Television Ad Campaign

2005-2007

- Developed Smoking Cessation Database
- Developed and promoted clinical standards of care
- Intensive Staff Education and Training

NYS Tobacco Tax

2007-2009

- Refined Smoking Cessation Database
- Improved electronic referral procedure (OMS)
- MSKQuits! Employee Tobacco Cessation Program

NYC Smoke Free Hospital Legislation

2009-

- Tobacco Free Hospital Policy
- QI Projects

Joint Commission Metrics for Screening and Treating Tobacco Use

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

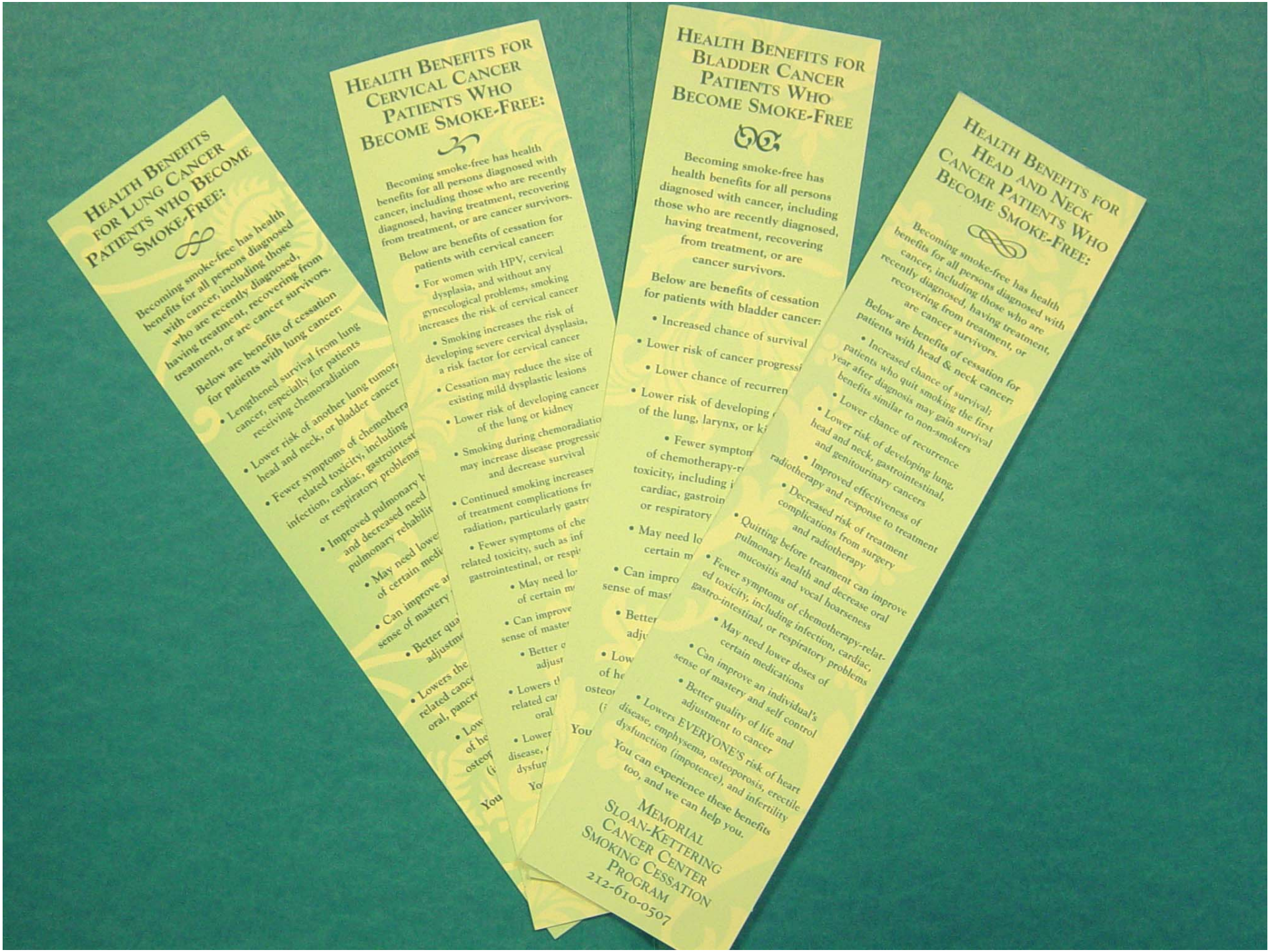
*Tobacco use screening is routinely assessed on Ambulatory and Inpatient Adult Health Screening Forms

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 Lung Cancer Patients who Become Smoke-Free:
Becoming smoke-free has health benefits for all persons diagnosed with cancer, including those who are recently diagnosed, having treatment, recovering from treatment, or are cancer survivors.
Below are benefits of cessation for patients with lung cancer:
• Lengthened survival from lung cancer, especially for patients receiving chemoradiation
• Lower risk of another lung tumor, head and neck, or bladder cancer
• Fewer symptoms of chemothera related toxicity, including infection, cardiac, gastrointest or respiratory problems
• Improved pulmonary b and decreased need pulmonary rehabilit
• May need lowe of certain medi
• Can improve a sense of mastery
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• Lowers the related cance oral, pancre
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You
Health Benefits for Cervical Cancer Patients Who Become Smoke-Free:
Becoming smoke-free has health benefits for all persons diagnosed with 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
• Smoking increases the risk of developing severe cervical dysplasia, a risk factor for cervical cancer
• Cessation may reduce the size of existing mild dysplastic lesions
• Lower risk of developing cancer of the lung or kidney
• Smoking during chemoradiatio may increase disease progressio and decrease survival
• Continued smoking increases of treatment complications fr radiation, particularly gastr
• Fewer symptoms of che related toxicity, such as inf gastrointestinal, or respi
• May need lo of certain m
• Can improve sense of maste
• Better adju
• Lowers t related ca oral
• Lower disease, dysfun
You
Health Benefits for Bladder Cancer Patients Who Become Smoke-Free
Becoming smoke-free has health benefits for all persons diagnosed with 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 progressi
• Lower chance of recurren
• Lower risk of developing of the lung, larynx, or ki
• Fewer symptom of chemotherapy-r toxicity, including cardiac, gastroin or respiratory
• May need lo certain m
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You
Memorial Sloan-Kettering Cancer Center Smoking Cessation Program 212-610-0507
Health Benefits for Head and Neck Cancer Patients Who Become Smoke-Free:
Becoming smoke-free has health benefits for all persons diagnosed with cancer, including those who are recently diagnosed, having treatment, or recovering from treatment, or are cancer survivors.
Below are benefits of cessation for patients with head & neck cancer:
• Increased chance of survival; patients who quit smoking the first year after diagnosis may gain survival benefits similar to non-smokers
• Lower chance of recurrence
• Lower risk of developing lung, head and neck, gastrointestinal, and genitourinary cancers
• Improved effectiveness of radiotherapy and response to treatment
• Decreased risk of treatment complications from surgery and radiotherapy
• Quitting before treatment can improve pulmonary health and decrease oral mucositis and vocal hoarseness
• Fewer symptoms of chemotherapy-relat- ed toxicity, including infection, cardiac, gastro-intestinal, or respiratory problems
• May need lower doses of certain medications
• Can improve an individual's sense of mastery and self control
• Better quality of life and adjustment to cancer
• Lowers EVERYONE'S risk of heart disease, emphysema, osteoporosis, erectile dysfunction (impotence), and infertility
You can experience these benefits too, and we can help you.

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.

Smoking Cessation Pharmacotherapy Guidelines

Pharmacotherapy	Dosage	Duration	Availability	Precautions/Contraindications	Adverse Effects	Patient Education
◆ Nicotine Patch **NicoDerm CQ®** **Habitrol®**	**If smoking 11cig/d or >:** ◆ 21mg/24 hr ◆ 14 mg/24 hr ◆ 7 mg/24 hr **If smoking 10 cig/d or <:** ◆ 14 mg/24 hr ◆ 7 mg/24 hr	◆ 6 weeks ◆ 2 weeks ◆ 2 weeks ◆ 6 weeks ◆ 2 weeks	◆ Over the Counter **(OTC)** ◆ Medicaid reimbursement by prescription only	◆ Uncontrolled Hypertension	◆ Skin irritation Redness Swelling Itching ◆ Disruption in Sleep Nightmares Vivid dreams	◆ Instruct patient to rotate patch site daily ◆ Instruct patient to remove patch prior to bedtime if sleep is disrupted and bothersome.
◆ Nicotine Polacrilex Gum **Nicorette Gum®**	◆ **2mg** if smoking **24 or < cig/d** ◆ **4 mg if smoking 25 or > cig/d** ◆ Do not exceed 24 pieces of gum/24 hr	◆ Up to 12 weeks	◆ Over the Counter **(OTC)** ◆ Medicaid reimbursement by prescription only	◆ Poor dentition ◆ Xerostomia	◆ Hiccups ◆ Upset stomach ◆ Jaw ache	◆ Chew gum on a fixed schedule ◆ "Chew & Park" each piece of gum for 30 minutes ◆ Avoid eating/drinking anything except water 15 minutes before & during chewing
◆ Nicotine Lozenge **Commit®**	◆ **2mg** if smoking the first cigarette ***more than*** 30 minutes after waking up ◆ **4 mg** if smoking the first cigarette ***within*** 30 minutes after waking up ◆ Do not use more than 20 lozenges/day	◆ Up to 12 weeks	◆ Over the Counter **(OTC)** ◆ Medicaid reimbursement by prescription only	◆ Xerostomia	◆ Local irritation to mouth & throat ◆ Upset stomach	◆ Avoid eating/drinking anything except water 15 minutes before & during when using a lozenge ◆ Each lozenge will take 20 – 30 minutes to dissolve
◆ Nicotine Inhalation System **Nicotrol Inhaler®**	◆ 6 – 16 cartridges/day	◆ Up to 6 months	◆ Prescription Only		◆ Local irritation to mouth & throat ◆ Upset stomach	◆ 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.
◆ Nicotine Nasal Spray **Nicotrol NS®**	◆ **0.5mg**/inhalation/nostril 1-2 times/hr or PRN dosing	◆ Up to 12 weeks	◆ Prescription Only	◆ Sinus infections	◆ Nose/eye/upper respiratory irritation	
◆ Bupropion **Zyban®** **Wellbutrin SR®**	◆ 150 mg daily x 3 days **THEN** ◆ 150 mg BID	◆ 12 weeks	◆ Prescription Only	◆ History of seizures ◆ History of eating disorders Bulimia Anorexia	◆ Insomnia ◆ Dry mouth ◆ Restlessness ◆ Dizziness	◆ Overlap with smoking for 1-2 weeks ◆ Does not need to be tapered off
◆ Varenicline **Chantix®**	◆ Days 1-3: 0.5mg po daily THEN ◆ Days 4-7: 0.5mg po BID THEN ◆ Days 8-End of treatment: 1mg po BID	◆ 12 weeks ◆ If the patient has quit smoking, may be given another 12 weeks of treatment	◆ Prescription Only	◆ Kidney problems or undergoing dialysis ◆ Pregnant or planning of getting pregnant ◆ Breast feeding	◆ Mild nausea ◆ Sleep problems ◆ Headaches	◆ Take medication with a full glass of water after you eat a meal. ◆ Allow 8 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

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

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.

Memorial Sloan-Kettering Cancer Center

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

Tobacco cessation and quality cancer care. J Oncol Pract, 2009. **5**(1): p. 2-5.

Morgan, G., et al., National Cancer Institute Conference on Treating Tobacco Dependence at Cancer Centers. Journal of Oncology Practice, 2011. 7 (3): p 178-182.

NCI: Smoking cessation and continued risk in cancer patients (PDQ). http://www.cancer.gov/cancertopics/pdq/supportivecare/smokingcessation/HealthProfessional

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

Bellizzi, K., et al., Health behaviors of cancer survivors: examining opportunities for cancer interventions. Journal of Clinical Oncology, 2005, 23(24): pg. 8884-8893

Browman, G.P., et al., *Influence of cigarette smoking on the efficacy of radiation therapy in head and neck cancer*. N Engl J Med, 1993. **328**(3): p. 159-63.

Daniell, H.W., *A worse prognosis for smokers with prostate cancer*. J Urol, 1995. **154**(1): p. 153-7.

Mason, D.P., et al., *Impact of smoking cessation before resection of lung cancer: a Society of Thoracic Surgeons General Thoracic Surgery Database study*. Ann Thorac Surg, 2009. **88**(2): p. 362-70; discussion 370-1.

Browman, G.P., et al., *Influence of cigarette smoking on the efficacy of radiation therapy in head and neck cancer*. N Engl J Med, 1993. **328**(3): p. 159-63.

Zevallos, J.P., et al., *Complications of radiotherapy in laryngopharyngeal cancer: effects of a prospective smoking cessation program*. Cancer, 2009. **115**(19): p. 4636-44.

Karim, A.B., et al., *The quality of voice in patients irradiated for laryngeal carcinoma*. Cancer, 1983. **51**(1): p. 47-9.

Zhang, J., et al., *Nicotine induces resistance to chemotherapy by modulating mitochondrial signaling in lung cancer*. Am J Respir Cell Mol Biol, 2009. **40**(2): p. 135-46.