Smoking and Multiple Sclerosis

Smoking use and cessation in the General Population;

Tobacco use remains the leading preventable cause of death and disease in the United States. Tobacco cessation is one of the great public health successes of the past century, with 3 of every 5 people who have ever smoked now having quit. The current Morbidity Mortality Weekly Report (MMWR) reports that each year over half of all smokers try to quit and over 7% are successful in that quit attempt.

Smoking cessation strategies such as: pharmacologic interventions, including nicotine replacement, varenicline, and bupropion, can improve cessation rates by 50% to 150%. This study reminds us of the importance of continuing to address tobacco use during office visits and of the value of offering both counseling and pharmacologic aids for smoking cessation as part of our advice to help patients stop smoking.

The NIH recently evaluated smoking cessation rates in 2015 and compared with previous rates back to 2000. Findings:

1. Approximately two-thirds of cigarette smokers are interested in quitting, and in 2015, about half of smokers reported receiving advice to quit from a health care professional and making a quit attempt in the past year.
2. Less than one-third of smokers who tried to quit used evidence-based cessation treatments, and <1 in 10 smokers overall successfully quit in the past year.
3. 3 in 5 adults who had ever smoked had quit as of 2015.

Smoking and Multiple Sclerosis

Smoking is common in patients with Multiple sclerosis. It has general negative health effects, but in addition has been shown to have direct links to MS disease activity. At the Mellen Center we focus on guiding and assisting patients with smoking cessation as part of their comprehensive health management. Cigarette smoke contains thousands of compounds, many of which have direct toxicity to oligodendroglia and neurons, or influence immune function. People that have ever smoked (smoked or passive smoke exposure at any time of their life) are at higher risk of MS than those that have never smoked. There is not as much information on vapor cigarettes and their effects on MS.

Smoking tobacco, chewing, and passive smoking exposure have been associated with MS activity;
1. Smokers and individuals with passive smoke exposure have an increased risk of developing MS possibly due to toxins of the smoke.
2. Smoking has been associated with the delay in the diagnosis of MS due to a few reasons; not seeking medical care, seeing multiple medical providers for other medical conditions and symptoms being "masked" by other medical conditions.
3. Smokers have worsening disease progression.
4. Smokers have an increased risk of bone fracture.
5. Smokers have lower quality of life.
6. Smokers are more likely to have active MS on the MRI.

Managing vascular risk factors (such as hypertension, cholesterol, obesity, diabetes, and smoking) is not only important for cardiovascular health, but recent data shows that risk factor modification may be important in limiting MS disease severity as well. There has been extensive research showing a clear negative relationship with smoking and overall MS disease course. In fact, a recent publication showed that smoking is associated with increased brain tissue loss in MS.

Q: How many MS patients smoke?

A: Recent surveys found that 45-52% of MS patients are "ever smokers", meaning past or current smokers. Another international survey found 11% of MS patients were current smokers.

Q: Do smokers get MS more often?

A: Studies have shown that smokers get more autoimmune conditions, and MS is an autoimmune condition. In one meta-analysis it was found that the risk of MS was increased by approximately 50% in "ever smokers". There is no data on whether quitting smoking reduces the risk of getting MS in "ever smokers".

Q: Does smoking change the course of MS

A: There has been extensive research showing a clear negative relationship with smoking and overall MS disease course. There are reports showing that smoking in MS increases the timing of and occurrence of progressive disability. Lifelong smokers with MS had higher expanded disability status scale scores.

Q: Does smoking change MRI findings in multiple sclerosis?

A: Smoking is associated with; increased MS lesion volume, active brain lesions and higher risk of brain atrophy.

Q: Do MS patients have more lung disease than the average population?

A: Yes, MS patients have higher levels of comorbidities at the time of MS diagnosis. One of the comorbidities seen most commonly in MS patients is chronic lung disease. Smoking increases the risk of chronic lung diseases.

Q: Does depression or anxiety increase the risk of smoking?

A; It is common for individuals who have depression or anxiety to smoke. In a recent population-based prevalence study, it was reported that smoking rates differ between those with no history of mental health concerns (22.5%), those with some mental health concerns reported in their life time (34.8%), and those with mental health concerns in the past month (41.0%). These numbers suggest that persons with mental health concerns are approximately twice as likely to smoke as compared to those without mental health concerns. In relationship to individuals diagnosed with Multiple Sclerosis, it is estimated that up to 54 percent are also likely to be diagnosed with major depressive disorder, up to 13 percent with a bipolar disorder, up to 35 percent with an anxiety disorder, 22 percent with adjustment disorder, and 3 percent with a psychotic disorder.

There is evidence supporting that adequate treatment of depression and anxiety can help smokers quit. Behavioral medicine can help in several ways including addressing co-occurring mental health concerns, increasing individuals 'motivation and self-efficacy, identifying goals based on stage of change, applying behavioral principles such as self-monitoring and identifying trigger situations, and relapse prevention. Given the relationship between mental health concerns and smoking, it is important to address both when they co-occur to maximize the likelihood of treatment success.

Strine TW, Mokdad AH, Balluz LS. Depression and anxiety in the United States: Findings from the 2006 risk factor surveillance system. *Psych Services* (2008) 59 (12): 1383-1390.

Q: Do MS smokers get better if they stop smoking?

A: Yes, MS patients can have less disease progression after they stop smoking. Decreasing tobacco use in MS should reduce health-care needs and subsequently costs and improve quality of life. Continued smoking, once the MS diagnosis is established, is associated with the acceleration in time to secondary progressive MS. Those patients that quit smoking have less disability.
Therefore MS patients need to be educated to the risk of smoking, namely; disability progression, worsening brain lesions of MS and increase risk of comorbidities.

Q: What are some options for smoking cessation?

There are 2 options, a brief intervention as recommended per the CDC or a more comprehensive approach:

Brief Intervention for smoking cessation:

1. Ask about tobacco use at each visit
2. Advise patients to quit
3. Refer to smoking cessation resources
4. Review risk of smoking with MS disease progression.

Comprehensive Smoking cessation program:

1. Ask about tobacco use at each visit
2. Offer smoking cessation at every visit
3. Offer both counseling and medications to each patient that is willing to quit smoking
4. Offer brief interventions for smoking cessation to every patient
5. Individual, group, and telephone counseling are effective, and their effectiveness increases with treatment intensity. Two components of counseling are especially effective, and clinicians should use these when counseling patients making a quit attempt:

Practical counseling (problem-solving/skills training)
Social support delivered as part of treatment

6. Numerous effective medications are available for tobacco dependence, and clinicians should encourage their use by all patients attempting to quit smoking—except when medically contraindicated or with specific populations for which there is insufficient evidence of effectiveness (i.e., pregnant women, smokeless tobacco users, light smokers, and adolescents).

Seven first-line medications (5 nicotine and 2 non-nicotine) reliably increase long-term smoking abstinence rates:
Bupropion SR
Nicotine gum
Nicotine inhaler
Nicotine lozenge
Nicotine nasal spray
Nicotine patch
Varenicline

7. Counseling and medication are effective when used by themselves for treating tobacco dependence. The combination of counseling and medication, however, is more effective than either alone. Thus, clinicians should encourage all individuals making a quit attempt to use both counseling and medication.

8. Telephone quit line counseling is effective with diverse populations and has broad reach. Therefore, both clinicians and health care delivery systems should ensure patient access to quit lines and promote quit line use.

9. If a tobacco user currently is unwilling to make a quit attempt, clinicians should use the motivational treatments shown to increase rate of future quit attempts.

10. Tobacco dependence treatments are both clinically effective and highly cost-effective relative to interventions for other clinical disorders. Providing coverage for these treatments increases quit rates. Insurers and purchasers should ensure that all insurance plans include the counseling and medication identified as effective as covered benefits.

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National MS Society
http://main.nationalmssociety.org/site/MessageViewer?em_id=209955.0&dlv_id=271300

The Cleveland Clinic Smoking Cessation program works with anyone hoping to stop smoking. They can be contacted at 216 444 8111.

State smoking cessation programs
Ohio quit line; http://map.naquitline.org/profile/usa/oh/
National quit line: http://map.naquitline.org/

Online quit smoking programs:

For service in English
Telephone: 1-800-QUIT-NOW (1-800-784-8669)
Website: www.smokefree.gov

For service in Spanish
Telephone: 1-855-DEJELO-YA (1-855-335-3569)
Website: http://espanol.smokefree.gov/

http://www.mdedge.com/ccjm/clinical-edge/summary/addiction-medicine/smoking-cessation-among-us-adults

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