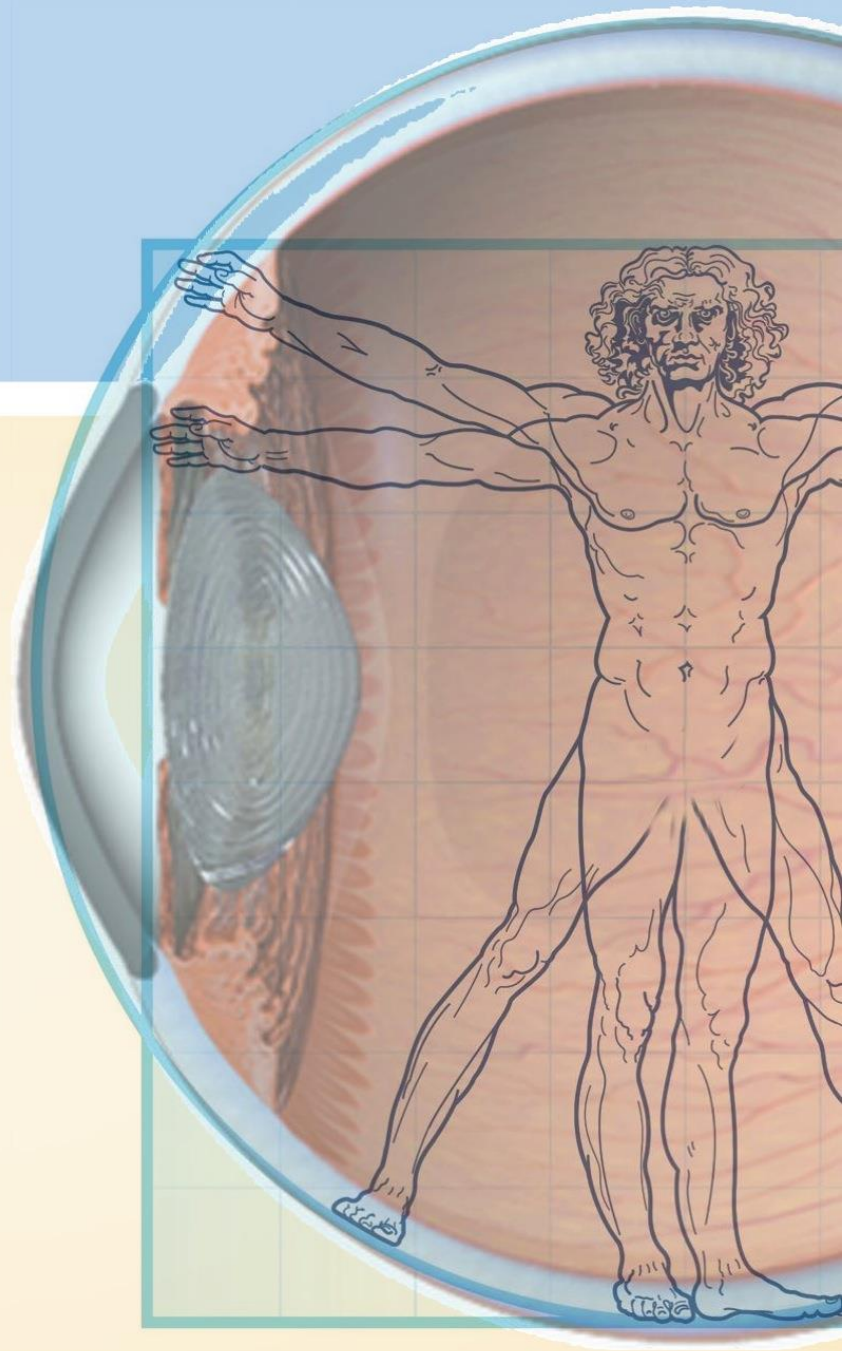




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National Summit

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New Evidence on Smoking and Vision Loss: Are We Doing Enough?

David J. Lee, PhD
Department of Public Health Sciences
University of Miami Miller School of
Medicine

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Overview

- The new report of *United States Surgeon General (2014)*: “The Health Consequences of Smoking - 50 Years of Progress”.
- The state-of-the-evidence of smoking and eye disease.
- What has been done?
- Future direction.





Smoking in the US: *The 2014 Surgeon General's Report*



- In the United States, smoking rate declined from 40% in 1994 to 18% in 2014 and about half of Americans are protected from secondhand smoke in workplaces.
- Tobacco use is still an immense burden to our nation. Nearly one-half million adults will still die prematurely because of smoking.
- The annual economic costs due to tobacco are now over \$289 billion.

USDHHS (2014). *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General.*



Time-trend for Reports Related to Eye Disease

- Epidemiologic investigation into risk factors for eye disease did not begin in earnest until the 1970s.
- *Reports of the Surgeon General* on smoking and health published before 2001 did not include eye disease.
- Eye diseases were included in the 2004 and 2014 Surgeon General's Reports.





Findings from 2004 *Surgeon General's Reports* Regarding Smoking and Eye Diseases

| Eye diseases | Causal Relationship | Suggestive but not Sufficient to Infer a Causal Relationship | No Causal Relationship | Inadequate Evidence to Infer a Causal Relationship |
|----------------------------------|---------------------|--|------------------------|--|
| Cataract | X | | | |
| Age-Related Macular Degeneration | | X | | |
| Diabetic Retinopathy | | | X | |
| Glaucoma | | | | X |
| Graves' Ophthalmopathy | | X | | |



Findings from 2014 *Surgeon General's Reports* Regarding Smoking and Eye Diseases

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New Findings From The 2014 *Surgeon General's Report*

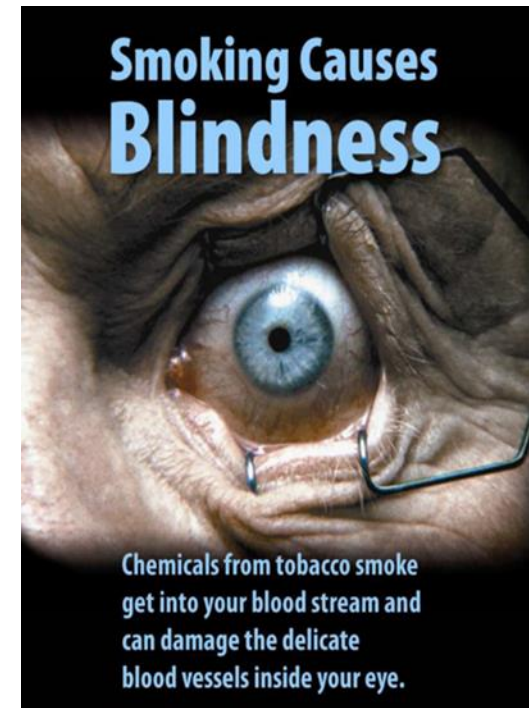
- The evidence **is sufficient** to infer a causal relationship between cigarette smoking and neovascular and atrophic forms of age-related macular degeneration.
- The evidence **is suggestive but not sufficient** to infer that smoking cessation reduces the risk of advanced age-related macular degeneration.





Public Health Implications

- Smoking is a risk factor for advanced AMD and progression of AMD.
- Because smoking causes both nuclear cataracts (USDHHS 2004) and AMD, (USDHHS 2014) it is important for ophthalmologists, optometrists, and other health care providers to assess and address the smoking status of their patients.





Other Eye Conditions That Might be Causally Linked in the Future

- Diabetic Retinopathy.
- Dry Eye Syndrome.



Diabetic Retinopathy

- Smoking can increase the risk of developing diabetes.
- Smoking can make diabetes management more difficult and lead to diabetes complications.
- Smoking may also increase diabetic retinopathy risk.



Agroiya P, et al. Association of serum lipids with diabetic retinopathy in type 2 diabetes. Indian J Endocrin Metabol. 2013;17(Suppl1): S335.

Gaedt Thorlund M, et al. Is smoking a risk factor for proliferative diabetic retinopathy in type 1 diabetes? Ophthalmologica. 2013;230:50-54.

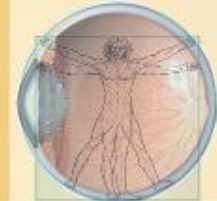


Dry Eye Syndrome

- Smokers are twice as likely to develop dry eye syndrome than non-smokers.

Galor A, Lee DJ. Effects of smoking on ocular health. Current Opin Ophthalmol. 2011;22:477.
Grus, FH, et al. Effect of smoking on tear proteins. Graefe's Arch Clin Experim Ophthalmol. 2002;240:889-892.





Healthy People 2020

ENDING THE TOBACCO EPIDEMIC

A TOBACCO CONTROL STRATEGIC
ACTION PLAN FOR THE
U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES



www.hhs.gov/ash/initiatives/tobacco/tobaccostrategicplan2010.pdf

Vision:

A society free of tobacco-related death and disease.

Main Objectives:

- Reduce cigarette smoking among adults to 12% or less by 2020.
- Increase successful cessation attempts by tobacco users.



Translating Evidence Into Reality

This Includes Two Main Strategies:

- Raising public awareness about the relationship between smoking and vision loss.
- Emphasizing the critical role of eye care professionals (ophthalmologists and optometrists) in advocating against tobacco use and motivating their patients to become tobacco-free.



Previous Efforts: Media Campaign

In 2009, the State Health Department in New York launched a \$2.5 million TV, radio and internet campaign:

“Smoking Can Lead to Vision Loss or Blindness”

Results :

- Among adult < 65 years, total calls made to the quit lines increased significantly during the campaign period (3.9% vs. 9.0%); however,
- Total calls decreased significantly after the campaign (9.0% vs. 4.5%).





The Role of Eye Care Providers (Ophthalmologists and Optometrists)

- 71% of ophthalmologists and 38% of optometrists ask their patients about tobacco use.
- Only 30% of ophthalmologists and 16% of optometrists regularly advise patients to quit smoking.
- Eye care providers are uniquely positioned to help their patients quit smoking.





How Can Eye Care Providers Help?

- Integrate smoking cessation treatment in patient management.
- Educate patients on the harmful effects of smoking on the eye.
- Apply teachable moment as fear of vision loss may serve as a powerful motivation to quit attempt.
- Assist their patients in quitting.

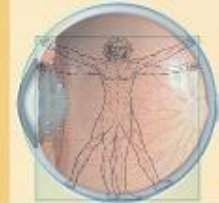




New INSIGHT Study

- The study developed by the “Innovative Network for Sight Research” Group, and will take place in the four participating eye-care institutions:
 - 1) Bascom Palmer Eye Institute (BPEI) at the University of Miami.
 - 2) Wilmer Eye Institute at Johns Hopkins University.
 - 3) Department of Ophthalmology at the University of Alabama at Birmingham.
 - 4) Wills Eye Hospital.
- The study will start at the end of July.

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Targeting Eye-care Providers with Training Program in Smoking Cessation Counseling

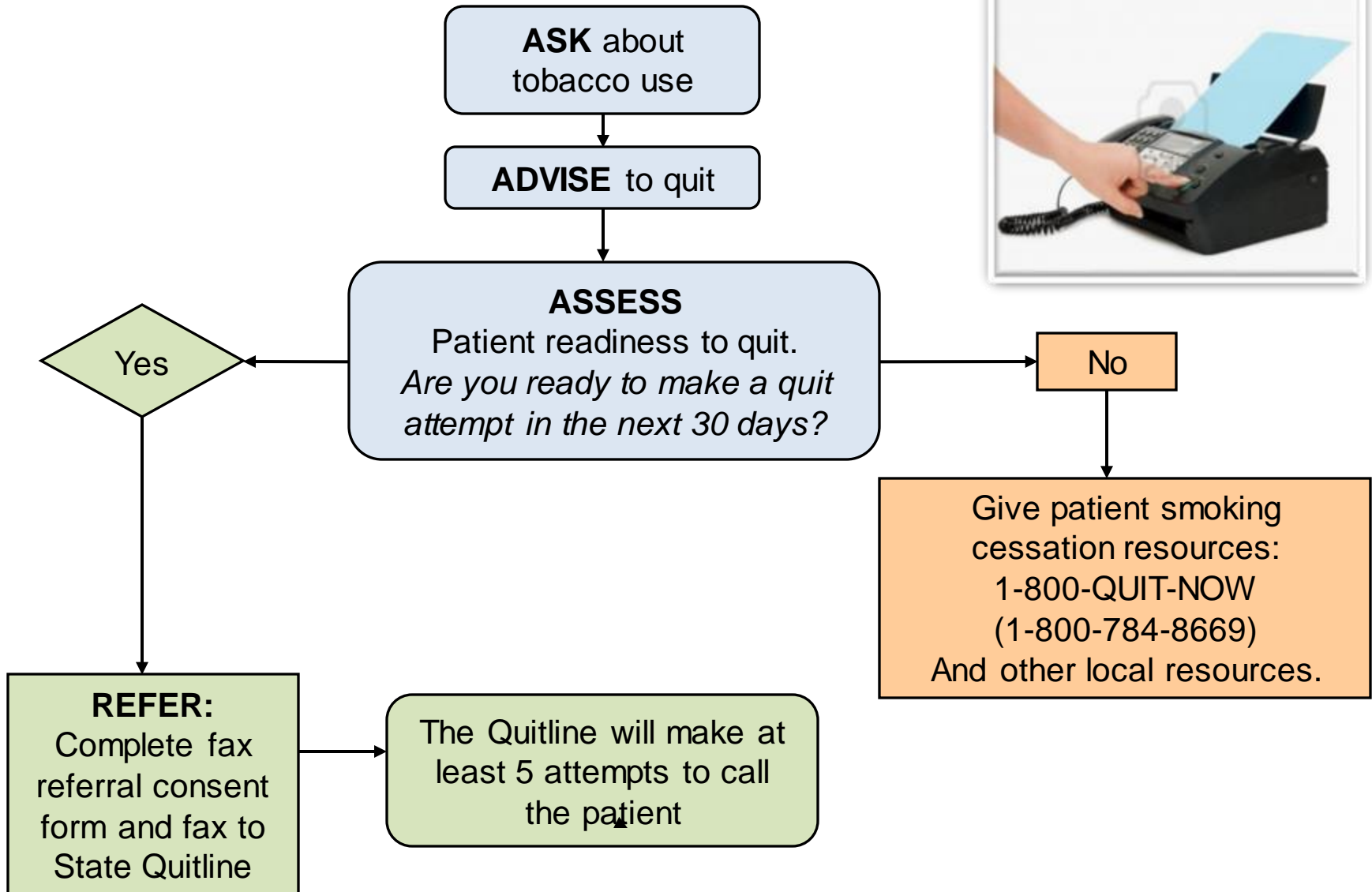
Objectives:

1. Develop a novel internet-based educational module to educate eye-care providers (ophthalmologists and optometrists and those who are in training) on how to provide a short protocol for smoking cessation.

The protocol consists of the “3AR”:

- a) Ask about tobacco use.
- b) Advise patients to quit smoking.
- c) Assess patients readiness to quit.
- d) Refer patients for assistance to a State Quit line (QL).

Tobacco Use Quitline Fax Referral Flow Chart





Objectives

2. Provide the training program to approximately 500 eye-care providers at four regional centers engaged in eye disease prevention as part of a CDC-funded initiative.
3. Evaluate the training program uptake and effectiveness by conducting pre- and post-training surveys.
4. Evaluate the long-term effect of the training program on providers' smoking intervention practices by conducting a 3-month follow-up survey.



Methods

- The training program will be made available for free in the form of a 20-minute video presentation integrated into the Wills Eye Knowledge Portal (<http://www.willseyeonline.org/>).
- Unlimited access to the training program will be provided for three months.
- Each institution will send an introductory letter by e-mail message to all its eye-care providers to introduce the study.
- The e-mail will also contain the link to enroll in the study and access the training.



Critical Next Steps

- Develop, implement, and evaluate systems-level strategies to maximize tobacco control strategies in eye care clinical settings.
- Promote and investigate changes in eye care professionals practices related to smoking cessation.
- Encourage eye health professional to advocate against tobacco use.



Other Future Directions and Implications to Public Health

- Develop a nation-wide media campaign to educate the public about the new evidence of smoking and eye disease.
- Use more novel, varied, and specific pack warnings of the impact of smoking on eyesight.



Conclusion

- Tobacco use is an important modifiable risk factor for AMD and cataract.
- Patients, health professionals, and the public will benefit from greater awareness of this causal association.
- Smoking cessation advice should be introduced and evaluated in eye care setting.
- Policy initiatives based on emerging evidence should be immediately pursued.



Thank You

David Lee, PhD
DLee@med.miami.edu

