The Impact of Tobacco on Oral Health and Tobacco Cessation.

Dr. Fiona M Collins

Tobacco Use

- Single largest cause of death in the US
- Impacts oral and systemic health
- Significant morbidity and mortality
- Proven cause and effect relationship
- Smoked and smokeless tobacco

Systemic Health and Smoking

- 90% of lung cancer cases
- Strong risk factor for other cancers
- 80% and 90% of COPD deaths
- x2 risk for hypercholesterolemia
- High blood pressure
- Stroke and heart attack

Systemic Health and Smoking

- Linked to Alzheimers disease
- Use during pregnancy endangers mother and fetus
  - Premature births
  - Miscarriage
  - Association with cleft lip and palate

What About Smokeless?

- Increases CVS risk
- Twice the risk of dying from CVS
- Hypercholesterolemia
- No increase in atherosclerosis
- Physical activity unimpaired

Oral Impact of Tobacco Use

- Oral cancer and mucosal lesions
- Periodontal disease
- Impaired healing
- Caries
- Abrasion
- Xerostomia
- Halitosis
- Staining

Genetics

- Transcription of groups of genes
- Genetic polymorphisms
- Adhesion molecule changes
- Tobacco metabolism
Environmental Smoke

- Affects CVD and pulmonary disease
- Leading cause of premature death after tobacco and alcohol use
- Associated with pediatric caries – increased primary DF
- One study shows also associated with adolescent caries

Prevalence in Teenagers

- 23% occasionally smoke
- 9% frequent smokers
- 14% of male and 2% of female high school students are spit tobacco users

Centers for Disease Control, 2005

Systemic and Oral Health

- Year 1
  - Cardiovascular improvements
  - Social and sensory improvements
  - Rapid improvement in periodontal status
  - Regression of oral mucosal lesions
  - Reduced caries risk

- Year 10
  - Cardiovascular improvements
  - Reduced risk of cancers
  - Reduced incidence of leukoplakia
  - Reduced risk of tooth loss
  - Reduced caries risk

Drop in heart rate, BP
Drop in blood carbon monoxide level
Coughing, shortness of breath decreases
Lung function improves, becomes normal
Risk of stroke reduces to non-smokers' risk during this period

Reduced probing depths
No tobacco staining of teeth after prophylaxis
Improved response to periodontal therapy
Reduced risk of tooth loss
Reduced caries risk
The Dental Office and Tobacco Cessation

Patient Perspectives on Smoking Cessation

- Dental students should advise
- Majority believe dental offices should offer
- Patients interested in quitting are more comfortable getting advice

Dental Professional Perspectives

- Barriers:
  - Lack of time
  - Lack of education/knowledge
  - Lack of renumeration
  - Perception that patients not interested
  - Perceived resistance by patients
  - Fear that patients would leave the practice

Tobacco Cessation Programs

Surveys in US, Canada, UK, Australia, Europe

Tobacco Cessation Programs

- Can they be successful in the dental office?
- Who should provide them?
- What should be provided?
- Is there back-up and support?
- Is there a single method that is always best?

Clinical practice guidelines recommend that all health care providers include tobacco cessation counseling in routine practice

(US Public Health Service)
Tobacco Cessation Programs

• Patient must be motivated
• Tobacco is addictive
  – Physiological (all types)
  – Psychological (smoking)

Dental Office Effectiveness

Evidence-based review of the literature

“Strong supporting evidence for the incorporation of smoking cessation services into dental patient care”

Brothwell

Tobacco Cessation Programs

• Methods
  – Referral, counseling, quitlines, stand-alone
  – Pharmacotherapeutic intervention
  – Self-help materials
  – School-based
  – Use of the ‘5As’

Individualizing Programs

• Clinician and patient preferences
• Previous attempts
• Potential side effects
• Contraindications
• Gain-framed messaging more effective than loss-framed messages

Assist: Cessation Methods

Pharmacological intervention
Individual counseling
Pamphlets
Support groups
Internet support programs

2008 Practice Guidelines

Over 90 independent experts served as peer reviewers
Proactive quitlines
Combining counseling and medication
Various medication combinations
Long-term medication use
2008 Practice Guidelines

7 first-line medications recommended

- Nicotine Gum
- Nicotine Inhaler (Rx)
- Nicotine Lozenges
- Nicotine Nasal Spray (Rx)
- Nicotine Patch
- Bupropion SR (Zyban)
- Varenicline (Chantix)

Nicotine Replacement Therapy (NRT)

- Provides controlled doses of nicotine
- Relieves withdrawal symptoms
- Increase cessation rates 150% to 200%
- Available in many forms to increase patient acceptance

Comparative Effectiveness

- Wu et al., meta-analysis
- Varenicline and bupropion superior to NRT (gum or patch) at 3 months and 1 year
- Varenicline superior to bupropion

General Considerations

- Must address all dosage, side effects and contraindications
- Full medical history, how to effectively and safely administer the program
- If preferred, individual patients can be referred to physician or a specialist

Dental Office Effectiveness

Outcomes analysis:
10 – 15% quit rate

Gordon et al.: 2177 tobacco users, 68 dental offices
Advice to quit vs. 5 As

Both have a higher quit rate than ‘usual care’
5As resulted in the greatest quit rate

Tobacco Cessation Programs

- Patients referred to quit lines
  - Overcame time, resource constraints
  - At 7 days, similar abstinence rate to counseling (25% vs. 27%)

- Proactive counseling quit rates at 6 months higher
  - Better than standard self-help materials, stand-alone pharmacotherapeutic treatment

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Tobacco Cessation Programs

• In one study:
  – Chart reminders for the office and/or the presence of nicotine gum in the office increased the time spent on counseling

Brief Intervention Study

• During routine examination, extra attention to usual wad site
• Discussion on the health risks
• Patient viewed a 9-minute video
• Self-help manual
• Brief counseling by RDH
• Continued 1-year quit rate of 18.4% versus 12.5%

Effectiveness of RDH program

• 116 patients (59 test and 57 control)
• Intervention using the 5As plus NRT
• 1-year quit rate ~x2 vs. no intervention

(Binnie et al.)

ADA CDT Code

• ADA code is D1320 (“Tobacco counseling for the control and prevention of oral disease”)
• The patient should be aware that their insurance may not cover this, or may only pay for medications.

E-cigarettes

Components
Reasons for Use

• Up to 85%: Tobacco Cessation Aid
• Up to 85%: Does not produce secondhand smoke
• Up to 79%: Relieve withdrawal symptoms/cravings
• Up to 75%: Less harm than tobacco smoking

Cochrane Review 2016

• Studies published 2004 to January 2016
  – 2 RCTs ECs vs. placebos
  – 21 cohort studies
• More effective than placebo at 6 months
• Equivalent to nicotine patches in another study
• Low quality studies

Adverse events

• Short-term effects include throat and respiratory irritation
• Spontaneous combustion and explosions
• Facial and body injuries
• Acute poisoning
• Contain carcinogens, toxic agents
• Long-term effects of e-cigarettes

Professional and Home-Based Oral Care

Considerations

• Motivational factors
• Special care of smoker / recent smoker
• Routine care for all
• Oral cancer screening
• Case Selection
• Periodontal care, preventive care

Motivational Treatment

• Remove calculus and stain
• Reduce halitosis
• Provide patients with a new toothbrush, oral hygiene recommendations to help maintain oral hygiene
Palliative Care: Aphthous Ulcers

- 2% lidocaine or 20% benzocaine gels/pastes
- Rincinol or Gelclair rinse – widespread lesions
- Octylcyanoacrylate
- 5% amlexanox paste
- Triamcinolone acetonide (corticosteroid paste)

- Fluocinonide paste
- Hydrocortisone hemisuccinate
- Tetracycline/minocycline rinses
- L-lysine
- Zinc lozenges

Summary

- Tobacco use detrimental
- Quitting reverses increased risk of diseases
- All health care professionals should be involved in tobacco cessation
- Program must consider individual patient, risks and benefits of options available
- Assistance and support are essential

Summary

- Program can be tailored to patient and office
- Professional oral care needs of smoker and recent smoker must be addressed
- Helping patients feel motivated is important
- Tobacco cessation through the dental office is effective