Tobacco Addiction, Why is It so Powerful?

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Points to Cover

- Tobacco Use Statistics
- Two Forms of Nicotine
- Monoamineoxidase (MAO)
- Definition of Addiction
- Maslow’s Hierarchy of Needs
- Triangle of Addiction
- Neurobiology of Addiction
- Stages of Change
- The Association for the Treatment of Tobacco Use and Dependence (ATTUD)
- Brief discussion of the new Medicare reimbursement
Tobacco Use Stats

- 46 Million Adults

Calculated Smoking Status
Nationwide - 2004

- Smoke everyday: 15.6%
- Smoke some days: 5.3%
- Former smoker: 23.9%
- Never smoked: 54.9%
Calculated Smoking Status
Nationwide - 2004

Responses

Median %

Smoke everyday
Smoke some days
Former smoker
Never smoked

18-24  25-34  35-44  45-54  55-64  65+
One Approximately Every Two Minutes

>430,000 (1178/day)
It Isn’t Breast Cancer?

[Graph showing the increase in breast cancer rate compared to lung cancer rate from 1930 to 2000.]
Sir Richard Doll

- Died in June at age 92
- 1950 study linking smoking to lung cancer
- 1954: Doll and Hill published “The Mortality of Doctors and Their Smoking Habits” in BMJ (lead to most M.D. giving up smoking)
- Follow-up study in 2004
  - ½ - 2/3 of all individuals who begin smoking in youth will die because of it
Two Forms of Nicotine

- Bound to tobacco leaf
- Free (altered by pH of the smoke)
  - Results when ammonia is added
  - Immediate impact
  - More satisfaction
- pH
  - Cigarette: 5.5 – 6.0 (filter & carbon actually increases pH, verified by tobacco documents)
  - Spit: up to 8.3 (Source: CDC)
  - Cigar: 6.2 – 8.2
Absorption of Nicotine

- Rate of Absorption
  - Cigarette: fastest route
  - Cigar: slower than cigarettes
  - Spit: slowest rate

http://cancercontrol.cancer.gov/tcrb/monographs/9/m9_6.PDF
How much Nicotine?

- 10mg of nicotine/cigarette
  - 1 to 2 mg of nicotine/cigarette absorbed
- 10 puffs over 5 minutes
- 1 ½ pack/day = 300 hits

- Cigar = up to 1 ½ packs of cigarettes
- Spit = 1 can = 3 packs of cigarettes

When is it Addiction?

Three or more of the following:

- Preoccupation with getting tobacco
- Compulsive use
- Difficulty with controlling intake
- Persistent, even with health problems
- Relapse
- Tolerance
- Withdrawal

References: World Health Organization
Diagnostic and Statistical Manual - IV (DSM-IV)

How long does it take to become dependent?

- Can be after the first cigarette!

http://cancercontrol.cancer.gov/tcrb/monographs/9/m9_6.PDF
A TRUE ADDICT

oxgen
in use

"BANG
BANG"

Fire

P. Drcz 12/4/00
What Initiates Tobacco Use?

Maslow’s Hierarchy of Needs

- Physiological Needs
- Security & Safety Needs
- Social Needs
- Esteem Needs
- Self-Actualization

Deficit Needs

Triangle of Addiction

- Emotional need (Emotion)
- Environmental or social (relieves stress)
- Physiologic (changes to need of nicotine)
- Spiritual (Best Friend)
Other Risk Factors for Initiation

1. Children of Moms who smoke regularly
2. Risk of nicotine addiction increased more if smoked during pregnancy
3. Co-Twin (within two years)
4. Same Sex Sibling who smokes
5. Older Sibling who smokes
6. Adolescents more vulnerable to addiction

J Neurosci. 2003 Jun 1;23(11):4712-6
Can School Outcome Predict Smoking Behavior?

- Low grades
- Poor teachers’ prognoses
- Early unemployment


Risk Factors for Initiation
Count Down from Ten

- Dopamine
  “I feel good”
- Acetylcholine
- Serotonin
  Anti-depressant
- Epinephrine
  Adrenal gland

Is Nicotine the Only Chemical Causing the Addiction?

- Marked reduction of Monoamine oxidase (MAO)
  - Enzyme that breaks dopamine down
  - Something other than nicotine causing the change in MAO

Pre-Contemplation Stage

- Not ready to quit
- Not interested in changing
- Are defensive
- “I can’t quit”
- “It will not happen to me”
- “I enjoy it to much”

Stages of Change
Contemplation & Determination Stages

- Seriously thinking about changing
- Aware of the need to quit
- Taking small steps to quit
- “I know I need to quit”
- “You know, I should quit”
- “I want to quit within the next 30 days”
Action Stage

- Ready for change
- Prepared mentally to change
- “I am going to quit smoking”
- “I want to live to see my grandchildren”
- Attends class or calls a quitline
- Quits smoking
- Last approximately 6 months
DSM-IV Criteria for Nicotine Withdrawal (APA, 2994)

A. Daily use of nicotine for at least several weeks.

B. Abrupt cessation of nicotine use, or reduction in the amount of nicotine used, followed within 24 hours by four (or more) of the following signs:
   (1) dysphoric or depressed mood
   (2) insomnia
   (3) irritability, frustration, or anger
   (4) anxiety
   (5) difficulty concentrating
   (6) restlessness
   (7) decreased heart rate
   (8) increased appetite or weight gain

C. The symptoms in Criterion B cause significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to a general medical condition and are not better accounted for by another mental disorder.
Maintenance Stage

- Has quit smoking
- Prepares for stress
- Handles temptation
- Reminds themselves of what they have accomplished
- Continues to be smoke-free

Stages of Change
Relapse Stage

- Most experience
- Sees oneself as a failure
- A normal event
- A person may go through the stages of change several times before complete cessation.

Stages of Change
Symptoms of Nicotine Overdose

- upset stomach
- stomach pain
- salivation
- vomiting
- diarrhea
- cold sweat
- bad headaches
- dizziness
- blurred vision
- hearing difficulties
- weakness
- fainting
- mental confusion

Source: TobaccoFreeKids.org
We Must Break The Cycle
Tobacco Use Assessment Protocol

1. Ask: Do you use tobacco?
   - No: Have you ever used tobacco?
     - No: No intervention
     - Yes: Encourage continued cessation & re-evaluate next visit
   - Yes: Advise to quit

2. Access Readiness to quit

3. 5 “R’s”
   - Relevance
   - Risks
   - Rewards
   - Roadblocks
   - Repetition
   - Do you want to quit?
     - No: Re-evaluate next visit
     - Yes: Do you want to quit within the next 30 days?
       - No: No
       - Yes: Assist and Arrange

4. Yes: Call _____ at ______ to make appt.
   - Followup next visit
The Association for the Treatment of Tobacco Use and Dependence (ATTUD)

Goals

- Build and maintain an organization representing providers dedicated to the treatment of tobacco use and dependence.
- Establish standards for core competencies, for training, and for credentialing of tobacco treatment providers.
- Establish multiple forums (e.g., annual meeting, listserv, and journal) for information exchange on best practices, innovations in treatment, and gaps in the empirical base of tobacco treatment.
- Serve as an advocate and voice for tobacco users to promote the awareness and availability of effective tobacco treatments.
- Serve as a reliable and respected resource of evidence-based tobacco use and dependence treatment for the health care community, regulatory agencies, private foundations, and especially tobacco users.
- Promote the implementation of and increased access to evidence-based practice across the spectrum of treatment modalities via policy, funding, and system changes.

www.attud.org
The New Medicare Policy

- AARC review
- Who is covered?
- What is covered?
- What is not covered?
- Who can charge for services?
- Billing Codes
Summary

- Be more empathetic
- Understand, it **is** all in the head
- It is part of your job
- Advise, Assess, & Assist
- Every patient, every time
- Remember, with open hands and not pointing fingers
- RT as Tobacco Treatment Specialist’
Do you want to have fun, while reducing stress and improving your cardiovascular health?

Go Ballroom Dancing! 300 – 400 calories/hour