

Pharmacological and Non-Pharmacological Aids for Teen Tobacco Cessation



1

Scope of the Problem

- @ 22% of high school students smoke
- @ 11% of middle school students smoke
- 85% of seniors have tried one cigarette
- 2000+ teens become smokers every day

2

Other Tobacco Products

- In 2004:
 - 6% nationwide use spit products
 - 12% nationwide smoked cigars
 - 2.6@ bidis
 - 3% pipes

3

Smoking as the “Gateway” drug

- Youth who smoke are:
 - Three times more likely to use alcohol
 - Eight times more likely to use marijuana
 - Twenty Two times more likely to use cocaine
- Youth smokers more likely to:
 - Be involved in fights
 - Engage in high risk sexual behavior
 - Carry weapons

4

The Good News.....

Most youth want to Quit!

5

The Smoking Behavior

Background Information

6

What is a Cigarette?

- Drug Delivery System
 - Designed to deliver a specific amount of nicotine
 - Porosity of paper
 - Burn Rate
 - Individual variations
 - Amount of inhalation
 - Depth of inhalation
 - Duration of inhalation



7

What's In a Cigarette?

Carbon Monoxide	Formaldehyde Lead	Polonium 210
Acetone Butane	Ammonia Insecticides	36 Carcinogens
Naphthalene	Tar	Nicotine

8

Tobacco is Tobacco!

There is no safe form of tobacco...
each has its own set of risk factors

9

What is Smoking?

- Physical Addiction
- Habit
- Psychological Dependence

10

Physical Addiction

- Addictive substance: Nicotine
 - Reinforcer
 - Releases neurotransmitters in brain
 - Produces pleasure
 - Gets to brain in 11 seconds
 - Withdrawal Syndrome
 - Levels begin to drop immediately
 - Negative feelings occur

11

Typical Smoking Day

- Usually in withdrawal upon waking
- First cigarette leads to quick peak
- Serum levels begin to drop immediately upon completion of cigarette
- Withdrawal occurs
- Next cigarette is smoked to relieve withdrawal
- Pattern is repeated 20-30 times a day

12

Theory of Addiction

- Pleasure reinforces repeated use
- Withdrawal reinforces repeated use
- Acclimation occurs
- Smokers self-titrate nicotine levels to stay at or above comfort level
- Wide individual variability

13

Nicotine Absorption

Readily absorbed from	Peak Concentrations
● Respiratory tract:	● 11 seconds
● Nasally:	● 5-10 minutes
● Orally:	● 10-15 minutes
● Skin:	● 6-9 hours

14

Minimal stomach absorption due to acidity

Effects of Nicotine on Body

- Stimulant
 - Increases blood pressure and heart rate
- Releases neurotransmitters
- Increases respirations
- Increases GI tone and motor activity
- Some evidence to suggest it facilitates memory and decreases aggression
- Slight shift in metabolism

15

Withdrawal

- Irritability
- Anxiousness
- Impatience
- Restlessness
- Depression
- Sleep Disturbances
- Cravings
- Increased Appetite



16

Nicotine Replacement Therapy

- Provides steady amount of nicotine throughout the day
- Significantly reduces or eliminates symptoms
- Delays: Increase in appetite/weight gain

- Not approved by FDA for use under 18 yrs

17

Are Teens Addicted?

- Most teens/youth start as “social” smokers

- Majority become regular, daily smokers

- Studies show addiction can occur with as few as three/four cigarettes in a few days

18

Habit

- Automatic smoking
 - Repeated pairing of smoking with other behaviors
 - Engaging in this paired behavior creates unconscious urges to smoke
 - How long does it take to create a habit?

19

Typical Triggers for Teen Smokers

- Mornings
- School Breaks
- After meals
- In the car
- On the phone
- Socializing
- Alcohol
- Stress
- Anger
- Anxiety
- Boredom
- Celebration



20

“Only” vs. Alternatives

- “Smokers think that smoking is the only response to triggers
- There is always at least one and usually many alternative ways to cope

21

Dealing with Triggers

Coping:

Learning to deal with the urges, triggers and desires for a cigarette without having one

22

Psychological Dependence

- The mistaken belief that cigarettes are doing something *positive* for the smoker
- The added belief that this is something the smoker can not do on his or her own
- This is why teens start to smoke!

23

Perceived Benefits of Smoking

- It helps me fit in!
- It makes me cool!!
- It helps me deal with stress
- It keeps me thin
- It makes me a man/woman
- Others

24

Dealing with Perceptions

- Myth vs. Reality
- Myths are reinforced by culture and advertising
- Counter by providing facts

25

Progression of the behavior

- Teens generally begin to smoke for psychological reasons
- Physical addiction occurs in about a week
- Habits are then formed over subsequent weeks
- Intermittent smoking generally leads to regular daily smoking in almost all individuals

26

Effects of Smoking on Teens/Youth

“Youth are not immune
to health effect from
smoking!”

27

Long Term vs. Near Term Effects

- Vague possibility of getting cancer/heart problems generally meaningless to youth
- Focus on near term effects that reduce ability to engage in favorite activities



28

Smoking Reduces:

- Ability to tolerate exercise
- Lung function even after a few years
 - Emphysema can happen in the twenties
- Sexual potency in males
- Immune response
 - Smoking teens get sick more often
- Ability to smell and taste
- Circulation

29

Smoking Increases:

- Shortness of breath, wheezing
- Plaque build up:
 - Happens with as little as 3 cigarettes/day
- Hospitalizations
- Breathing problems
- Risk of meningitis
- Damage to DNA/genetic abnormalities



30

Effects on Girls

- Painful/irregular menstruation
- Period starts sooner and lasts longer
- Increased hospital stays over male smokers
- Mild airway obstruction
 - Impairs lung growth
- Increased heart rate and blood pressure

31

Quitting: What Works?

32

How do People Change Behavior?

Generally, change does not occur spontaneously "out of the blue".
Rather, most people go through clearly identifiable stages as they change.

33

What is Quitting?

Quitting is a process that occurs over time, not a discrete one time event!
Think of quitting as learning a new behavior, i.e. not smoking!

34

Elements of a Successful Quit

- Create a Plan
 - Identify stage
 - Solidify motivation
 - Remove barriers
 - Get support
 - Learn to cope
 - Deal with addiction: Medication?



35

Stages of Change Model

- Pre-contemplation
- Contemplation
- Action
- Maintenance
- Slip
- Relapse

36

Possible Motivations for Quitting

- Health
 - Personalize Effects
 - Look at immediate consequences
 - Don't emphasize "Death"
- Money
 - Look at total spent
- Social
- Family
- Other

37

Motivation Viewed Through the Stages of Change

- Pre-contemplation: No motivation
- Contemplation: Motivation Maybe
- Action: Motivated!!
- Maintenance: Staying Motivated
- Slip: Motivation Hiccup
- Relapse: Motivation Lost

38

Remove Barriers

- "I can't deal with stress without smoking!"
- "I'll gain a hundred pounds if I quit!"
- "All my friends smoke!"
- "I can quit anytime I want."
- "I LOVE to smoke!!"

39

“I Can’t Deal Without Smoking”

The Myth

- There is an ingredient in cigarettes that calms
- Smoking gets rid of all my stress
- I can’t relax without a cigarette

The Facts

- The chemicals in a cigarette actually stimulate
- There will always be stress in one’s life
- There are millions of ways to relax *without* a cigarette.

40

What Really Happens

- Deep Breathing
- Shifting focus: Taking a break
- Reuptake of nicotine:
 - Stress: Irritability, Anxiousness, Anxiety
 - Withdrawal: Irritability, Anxiousness, Anxiety
 - **Smokers confuse relieving withdrawal with getting rid of stress since they feel the same!**

41

What to Say!

- “Smoking doesn’t get rid of stress, it causes it!”
- “There is no magic ingredient in tobacco that gets rid of stress.”
- “Smokers confuse getting rid of withdrawal with getting rid of stress because they feel the same
- “You have always been the one to deal with your stress!”

42

“I’ll Gain a Hundred Pounds if I Quit”

The Myth

- Smoking keeps food out of my mouth.
- If I quit I’ll gain 50 to 60 pounds
- Even gaining two pounds in unthinkable

The Facts

- You control what you eat...you always have
- The average weight gain as a result of quitting is 5-7 pounds
- 100 lb. gain = same negative effect on body as smoking

43

What Really Happens!

- Smokers put the cigarette into their mouth 200 to 300 times a day
 - Natural substitute is food
- Taste buds are “dead”
 - They “wake up” after quitting
 - Attraction to fatty food in increased



44

What to Say!

- “Nicotine does not turn you body into a fat burning machine! If it did every smoker would be as thin as Lindsey Lohan! They’re not!”
- “People gain weight after they quit because the substitute food for the cigarette. You don’t have to do that.”
- “If you are concerned take a 20 minute walk everyday.”

45

“All My Friends Smoke!”

The Myth

- Every friend I have smokes!
- All teens smoke!
- The reason we are friends is because of smoking

The Facts

- Teens greatly overestimate who smokes as justification
- Only about 20%-25% of teens smoke
- People are friends because of mutual interests, etc.

46

What To Say!

- “It’s doubtful that this is literally true. Tell me some people you know who don’t smoke.”
- “Only about 25% of the teens in this school smoke...that’s hardly everyone!”
- “Your friends are your friends because of who you are, not because you smoke!”

47

“I Can Quit Any Time I Want!”

The Myth

- Smoking is not addictive
- Quitting is simply a matter of stopping

The Facts

- Teens greatly underestimate the addictive quality of nicotine
- The longer you wait the more difficult it becomes!
- 85% of teens end up as lifetime smokers

48

What to Say!

- "If you only smoke occasionally you're going to have an easier time quitting **now** than if you smoked everyday."
- "If you're smoked everyday for a year or two you're going to have an easier time quitting **now** than if you smoked for four/five years."
- "If you've smoked four/five years, you're going to have an easier time quitting **now** than if you're an adult who's smoked a lifetime!"

49

"I LOVE To Smoke"

The Myth

- Smoking is the only pleasure I have in my life

The Facts

- Cigarettes were designed to produce pleasure
- There are many other things you can do that will give you pleasure and not kill you!

50

What to Say!

- "Cigarettes were deliberately designed to produce pleasure. If they made you nauseous you wouldn't do it"
- "There are a million other ways to experience good things that won't kill/disable you."
- "What are the real passions in your life? Could you do that if you were unable to breath or laid up in bed?"

51

Coping

- Learning to deal with the triggers, urges or desires for a cigarette without having one
- The key to maintaining a successful quit

52

Coping Techniques

<u>Types</u>	<u>Time Frame</u>
Cognitive	Prior to Situation
Behavioral	In the moment

53

Cognitive Techniques: Preventing Urges

- Challenge beliefs
- Visualization
- Anticipate-Plan-Rehearse

54

Cognitive Techniques: In the moment

- Distraction:
 - Thought stopping
 - Visualize positive outcomes
 - Substitute other thoughts
 - Evaluate need
 - Review benefits
 - Think of the consequences
 - "I am in control"

55

"In the Moment" (cont.)

- Be objective
 - Don't fight the thoughts
 - Evaluate the situation
 - Remind yourself that urges are brief
- Accept the thoughts
 - "Just because you think of something doesn't mean you have to do it!"
 - "So what!"

56

Refusal Techniques

- Especially important to teens
- Goal: How to say no and save face!
- Role-play with student
- Sample statements:
 - "I'm in control of my life. I don't need cigarettes."
 - "I've decided I don't want to smoke."
 - A simple, "No thanks!"

57

Behavioral Techniques Preventing Urges

- Avoid situations/triggers
- Change Patterns
 - Who
 - What
 - When/Order
 - Where
 - How

58

Behavioral Techniques: In the moment

- Deep Breathing
- Escape the situation
- Alternative behaviors

59

Pharmacotherapy

Does it work for teens?

60

How it works in adults

- Prevents withdrawal by providing a steady amount of nicotine throughout the day
- Eliminates the reinforcing effect of nicotine taken in through the lungs via smoke
- Gives the quitter the time to *comfortably* break habit and psychological dependence

61

Does it help teens?

- Very little research
- Available literature indicates: NO
- Studies show:
 - Active patch/Zyban no better than placebo at 6 months and one year
 - In fact, in both studies placebo quit rates were better
- Why: Teens may not be addicted like adults

62

Is it Safe?

- Youth already have nicotine in system
- NRT replaces it:
 - Eliminates other 4000 toxic chemicals
 - Can be easily tapered
- Few studies have been done but all indication are that it is safe
- Should only be used under direction of healthcare professional

63

Clinical Practice Guidelines

“ Because there is no evidence that bupropion or NRT is harmful for children and adolescents, clinicians may consider use when tobacco dependence is obvious.”

64

When is dependence obvious?

- Consistent daily use
- Use outside of specific situations
- Smoking more than five/day
- Withdrawal occurs:
 - Irritability
 - Anxiousness
 - Restlessness
 - Irritability

65

Clinical Recommendations

- Distinguish between adult/adolescent user
- Use under supervision of HCP
- Even though effect of long term quit rates is questionable:
 - May still be effective tool for dealing with short term withdrawal

66

If Adult User

- “Adult” (addicted) user:
 - Does not use only in response to social situations, activities or relationships
 - Uses daily with little variability
 - Smokes more than 5 day
 - Scores High on Fagerstrom Scale
- Use NRT under supervision in conjunction with behavior program

67

If Adolescent User

- “Adolescent” (low addicted) user:
 - Uses only in response to activities, relationships and social situations
 - Uses irregularly/not on a daily basis
 - Smokes less than 5 day
 - Scores low on Fagerstrom Scale
- NRT: Not primary treatment modality
- Behavior change/refusal skills/community and school based programs

68

How can teens obtain NRT?

- Prescription will cover all products even OTC
 - Probably best tactic
- Parent can purchase
- Program can designate HCP to buy/distribute



69

Available Products

OTC	Prescription
Patch	Nasal Spray
Gum	Oral Inhaler
Lozenge	Zyban
	Chantix

70

Patch

- Transdermal Delivery System
- Two current brands:
 - Nicoderm
 - Generic
- Easy to use/conceal
- Gradual step-down: 21mg/14mg/7mg

71

Gum

- Chicle base infused with nicotine
- Nicorette brand/generic
- 2mg and 4 mg
- Buccal absorption
- Effectiveness dependent on users
 - Chew/park
 - Not to used like chewing gum

72

Lozenge

- Commit brand/generic
- 2mg and 4mg
- Buccal absorption
- Similar in appearance to Sucrets
- Mint flavor
- Easy to use
 - Just place between cheek/gum, let dissolve naturally

73

Oral Inhaler

- Brand only: Nicotrol
- Prescription
- Buccal absorption
- Reusable mouth piece
- Nicotine in sponge-like plug within a cartridge
- Each cartridge contains 4mg nicotine vapor

74

Nasal Spray

- Brand only: Nicotrol NS
- Prescription
- Metered spray
- Nicotine in an aqueous solution
- Fast absorption but quite irritating

75

Zyban

- Renaming of Wellbutrin with indication for smoking cessation only
- Mechanism of action: Increases dopamine
- Prescription
- Oral sustained release tablet: 150mg
- Use for 7/10 weeks
- Brand (Zyban) and Generic

76

Chantix

- Mechanism of action: Partial nicotine blocker
- "Fools" brain into thinking it's getting nicotine
 - Reduces craving/withdrawal
- Can help with slips: no effect
- Begin Therapy one week prior to quitting
- .5mg to start then 1 mg for twelve weeks

77

Other Ways to Deal with Withdrawal

- Tapering
- Nicotine Fading
- Behavioral Strategies
 - Deep Breathing
 - Exercise
 - Visualization: The "Wave"



78

Tapering

- A good way to get ready to quit
- Not a good way to quit
- Must be structured
 - Set full quit day ahead of time
 - Create tapering schedule
 - Full quit once five or six/day is reached
 - Instruct smoker not:
 - Inhale more deeply
 - Take additional drags

79

Nicotine Fading

- Smoking cigarettes with successively lower nicotine levels
- Determine current level
 - Find brand with ½ nicotine: One week
 - Find brand with ½ that: One week
 - Set quit day
- Same problems as with tapering

80

What Else Can You Do?

81

“Don’t Say Don’t”

- This is not about you being the parent scolding the naughty child
- Finger wagging/scolding/yelling don’t work
- Start with “where they’re at” and help them come to the internal decision to quit!
 - Acknowledge why they want to smoke
 - “Just the facts”

82

Listen Reflectively

- You don’t have “The Answer”
- Don’t moralize, lecture, or judge
- Move the conversation forward
 - Respond don’t react
 - Use the patient’s words
- Your agenda vs. patients needs

83

Support and Encourage

- Your belief that someone can change will help them change
- Accept the patient
 - Understand their perspective
 - This does not mean you endorse it
- Don’t argue/push
 - Can backfire and reinforce the behavior

84

Promote “The Buddy System”

- Most teens start to smoke because a best friend does
 - Strongest predictor of a teen starting
- Program where teen and best friend (s) quit would seem to be more successful
- Suggest to “quit with a friend”

85

“Is it Worth the Risk”

- Underlying theme of all counseling
- For most teens the answer is **YES**
- Our Goal: Reverse this belief
- Challenge the teen to prove to you that smoking is beneficial rather than you telling them it's not!

86

Final Reminders

- You can not make anyone quit smoking
- The more you push the more they will resist
- Rather, help the smoker want to change:
 - Increase displeasure with current behavior
 - Decrease fear of the new
- In the end, the smoker:
 - Should present the reasons for change
 - Choose when and how to change

87



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88
