New Understandings of How Tobacco Harms Children – and What Providers Can Do About It

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Disclosures

- Vice Chair, Tobacco Action Committee, American Thoracic Society
- 2012-2016 Executive Committee and Policy Chair, Section on Tobacco Control, American Academy of Pediatrics
- Faculty Expert Panel, Richmond Center of Excellence, American Academy of Pediatrics
- Research Support: American Lung Association Asthma Clinical Research Centers
- Discussion of pharmacotherapy for tobacco dependence for pregnant women is off label.
Objectives

- Clinical, epidemiologic, and health care delivery and quality improvement.
- Practical ways in which clinicians can deal with the prevalent problem of tobacco usage and its’ effects on children.
Objectives

- Be able to describe how tobacco harms children from conception forward.
- Be able to advocate for effective policies to protect women and children from tobacco smoke exposure and tobacco use initiation.
- Be able to use the health care encounter to reduce tobacco smoke exposure and prevent tobacco use initiation.
- Be able to address tobacco dependence to protect the health of the woman and child.
Smoking prevalence in US by County (2012 data)

Before you scold me, Mom ... maybe you'd better light up a Marlboro

Gee, Mommy you sure enjoy your Marlboro

Yes, you need never feel over-smoked 
... that's the Miracle of Marlboro!
Prenatal smoking KILLS babies

- **Stillbirth**
  - Maternal *active smoking*:
    - Missouri maternally linked cohort dataset
      - Smoking 20+ cigs/day: aOR (95% CI) = 1.43 (1.31-1.57)
    - Swedish National Birth Register 1999-2010
      - Current smoker: aOR (95% CI) = 1.59 (1.40–1.80)
  - Maternal *Snuff*
    - Swedish National Birth Register 1999-2010
      - Current snuff user: aOR (95% CI) = 1.43 (1.02–1.99)

Nicotine & Tobacco Research 2008;10(1): 159–166
Nicotine & Tobacco Research 2014;16(1): 78–83
Prenatal smoking KILLS babies

- Maternal prenatal second hand tobacco smoke exposure increases rates of stillbirth:
  - Meta-analysis of 4 studies
    - OR: 1.23 [95% CI: 1.09 –1.38]
Prenatal smoking KILLS babies

**Crib Death (SIDS)**

- New Zealand Cot Death Study
  *(included 78% of live births 1987-1990)*
  - 474 verified SIDS infants matched to 1800 controls
  - Maternal Smoker 1-19 cigs/day: OR 3.17 (2.88-4.79)
  - Maternal Smoker 20+ cigs/day: OR 5.90 (4.25-8.20)

*Pediatrics 1993;91(5):893-896*
In utero smoking and infant apnea

Overnight polysomnography on 30 asymptomatic preterm infants (16 in utero smokers) who were clinically stable for discharge from the nursery.

Data represent means ± SE; *p values less than 0.05 compared with the control group

In utero smoking and arousal

- Neonates 8-12 weeks studied during daytime nap without sedation
- FiO2 reduced to 13% in 3 steps over 15 min.
- 54% (7/13) of the infants of smokers did not awaken with the hypoxic challenge, in comparison with 15% (5/34) of the control infants
  - OR = 8.12 (95% CI 1.49-46.4) p=0.006

Prenatal smoking HURTS babies

- Placental Complications
  - Analysis of Missouri maternally linked cohort data files 1989-2005

<table>
<thead>
<tr>
<th></th>
<th>Placental Abruption aOR(95% CI)</th>
<th>Placenta Previa aOR(95% CI)</th>
<th>SGA aOR(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Smoker (Reference group)</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Smoke 0-9 cigs/day</td>
<td>1.54 (1.43–1.65)</td>
<td>1.37 (1.21–1.54)</td>
<td>1.92 (1.87–1.95)</td>
</tr>
<tr>
<td>Smoke 10-19 cigs/day</td>
<td>1.57 (1.55–1.60)</td>
<td>1.45 (1.31–1.61)</td>
<td>2.30 (2.26–2.35)</td>
</tr>
<tr>
<td>Smoke &gt;= 20 cigs/day</td>
<td>1.78 (1.75–1.81)</td>
<td>1.68 (1.51–1.88)</td>
<td>2.68 (2.63–2.74)</td>
</tr>
</tbody>
</table>
Prenatal smoking and ASTHMA

- Generation R Study, a prospective cohort study of pregnant women in Rotterdam, The Netherlands

Prenatal smoking and ASTHMA control

- GALA II and SAGE II studies - cross sectional evaluation of children with asthma 8-21 years.

Nicotine stimulates branching morphogenesis

• α7 nicotinic acetylcholine receptor appears to be important

• Antagonists block the effect

• Agonists induce similar effect
Prenatal smoking and LEARNING

- Data from 4 Swedish population based registers:
  - Birth Register, Education Register, 1990 Census database, National School Register.
  - Low grades = Mean grade score below passing at age 15 years

<table>
<thead>
<tr>
<th>Smoking Status</th>
<th>N</th>
<th>N (%) Low Grades</th>
<th>aOR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Smoker (reference)</td>
<td>263,540</td>
<td>28,075 (11%)</td>
<td>1.0</td>
</tr>
<tr>
<td>1-9 cigs/day</td>
<td>69,265</td>
<td>15,094 (22%)</td>
<td>1.58 (1.53–1.62)</td>
</tr>
<tr>
<td>10+ cigs/day</td>
<td>42,874</td>
<td>12,003 (28%)</td>
<td>1.89 (1.83–1.96)</td>
</tr>
</tbody>
</table>

Smoking during pregnancy and fetal head growth
Generation R Study

7,042 pregnant women
Rotterdam, The Netherlands
Prenatal smoking and OVERWEIGHT

- Millennium Cohort Study (MCS) a prospective birth cohort in the United Kingdom
- Outcome = overweight at 3 yrs
  - girls ≥ 18.02 kg/m², boys ≥ 18.41 kg/m²
- Risk Factor: Maternal Smoking in Pregnancy
  - aOR 1.33 (95% CI 1.15 - 1.55)
Prenatal smoking and OVERWEIGHT

- Meta analysis of 7 studies on impact of maternal smoking on childhood overweight

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<table>
<thead>
<tr>
<th>Author</th>
<th>PubYr</th>
<th>Country</th>
<th>Sex</th>
<th>N</th>
<th>Follow-up</th>
<th>ES (95% CI)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chen et al.</td>
<td>2006</td>
<td>USA</td>
<td>Boys</td>
<td>17,352</td>
<td>8 yrs</td>
<td>1.21 (1.05 to 1.39)</td>
<td>27.29</td>
</tr>
<tr>
<td>Chen et al.</td>
<td>2006</td>
<td>USA</td>
<td>Girls</td>
<td>17,514</td>
<td>8 yrs</td>
<td>1.37 (1.19 to 1.58)</td>
<td>27.17</td>
</tr>
<tr>
<td>Dubois and Girard</td>
<td>2006</td>
<td>Canada</td>
<td>Both</td>
<td>1,550</td>
<td>4.5 yrs</td>
<td>1.80 (1.20 to 2.80)</td>
<td>9.84</td>
</tr>
<tr>
<td>Fasting et al.</td>
<td>2009</td>
<td>Norway</td>
<td>Both</td>
<td>711</td>
<td>4 yrs</td>
<td>2.83 (1.13 to 7.10)</td>
<td>2.69</td>
</tr>
<tr>
<td>Hawkins et al.</td>
<td>2009</td>
<td>UK</td>
<td>Both</td>
<td>13,133</td>
<td>3 yrs</td>
<td>1.34 (1.05 to 1.70)</td>
<td>19.14</td>
</tr>
<tr>
<td>Mendez et al.</td>
<td>2008</td>
<td>Spain</td>
<td>Both</td>
<td>369</td>
<td>5-7 yrs</td>
<td>2.28 (1.18 to 4.41)</td>
<td>4.87</td>
</tr>
<tr>
<td>Reilly et al.</td>
<td>2005</td>
<td>UK</td>
<td>Both</td>
<td>6,884</td>
<td>7 yr</td>
<td>1.80 (1.01 to 3.39)</td>
<td>5.63</td>
</tr>
<tr>
<td>Wideroe et al.</td>
<td>2003</td>
<td>Norway</td>
<td>Both</td>
<td>346</td>
<td>5 yrs</td>
<td>2.90 (1.30 to 6.60)</td>
<td>3.37</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.47 (1.26 to 1.73)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

NOTE: Weights are from random effects analysis
High School Tobacco Use (past 30 days)

Percentage of students

- Any
- ≥2 types
- E-cigarettes
- Cigarettes
- Cigars
- Hookahs
- Smokeless tobacco
- Pipe tobacco
- Bidis

Impact on combustible cigarette use
Analysis of data from 2011 US National Youth Tobacco Survey

Table 2. Pooled Analysis of Ever and Current Electronic Cigarette Use and Cigarette Smoking in the 2011 and 2012 National Youth Tobacco Survey

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Cigarette Smoking Status</th>
<th>OR (95% CI)</th>
<th>Abstinence From Cigarettes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ever</td>
<td>Current</td>
<td>30 d</td>
</tr>
<tr>
<td>Cigarette experimenters (n = 10,850)</td>
<td>6.31 (5.39-7.39)</td>
<td>5.96 (5.67-6.27)</td>
<td>0.24 (0.21-0.28)</td>
</tr>
<tr>
<td>Ever e-cigarette use</td>
<td>7.42 (5.63-9.79)</td>
<td>7.88 (6.01-10.32)</td>
<td>0.11 (0.08-0.15)</td>
</tr>
<tr>
<td>Current e-cigarette use</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Ever cigarette smokers (n = 1,832)</td>
<td>...</td>
<td>...</td>
<td>0.61 (0.42-0.89)</td>
</tr>
<tr>
<td>Ever e-cigarette use</td>
<td>...</td>
<td>...</td>
<td>0.35 (0.18-0.69)</td>
</tr>
<tr>
<td>Current e-cigarette use</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

E-cig using youth are more likely to progress to conventional cigarette use and less likely to have stopped conventional cigarette use.

The FDA attempted to regulate e-cigarettes as drug-delivery devices but failed after the courts stated that they lack the authority according to the 2009 Family Smoking Prevention and Tobacco Control Act.
#1 Flavor Selection with 19 Flavors!

- Tobacco
- Cowboy
- Menthol
- Almond
- Apple
- Banana
- Cherry
- Chocolate
- Cinnamon
- Clove
- Coffee
- Grape
- Orange
- Peach
- Pineapple
- Strawberry
- Vanilla
- Mellon
- Mild Menth
- Variety

LuxuryLites Disposable E-Hookah $7.99

- Cherry Limeade
- Very Berry
- Tropical Punch
- Strawberry Daiquiri
- 100 Puffs!
- Over 700 Puffs!
Electronic Nicotine Delivery Systems (ENDS)

- Electronic cigarettes, E-cigarettes, E-cigs
- Electronic cigars, E-cigars, E-pipe
- Electronic hookah, E-hookah, Hookah sticks
- Personal vaporizers
- Mechanical mods
- Vape pens
False Claims

- “Smoke Anywhere”
- Just “vapor” – will not harm others
- Useful to treat tobacco dependence (often as testimonials)
Promotion to youth

- Print, Radio, and Television advertising in media
  - Blu’s commercials have aired thousands of times on 48 networks
  - NJOY advertised on Super Bowl broadcast
- Internet and social media promotion
- Youth oriented sponsored and/or sampling events
- Flavors that appeal to children
  - Cherry Crush, Chocolate Treat, Peachy Keen, Grape Mint, etc.
- Cartoon Characters
- Point of Sale advertising.
Public Policy to Protect Youth from Nicotine and Tobacco

- Increase age to purchase to 21 years
  - Enforcement needs to accompany regulation

- Increase taxes on tobacco and nicotine products
  - Youth are price sensitive


Public Policy to Protect Youth from Nicotine and Tobacco

- Ban tobacco product advertising and promotion in forms that are accessible to youth.
- Ban Point-of-sale tobacco product advertising and product placement that can be viewed by children.
- Restrict depictions of tobacco products in movies and other media that can be viewed by youth.

THINK THE OTHER NIGHT WAS HOT?
Public Policy to Protect Youth from Nicotine and Tobacco

- Flavoring agents, including menthol, should be prohibited in all tobacco products
- Tobacco control programs should
  - Be adequately funded
  - Change the image of tobacco by telling the truth about tobacco.

Media campaigns that are aggressive and directly confront the lies and deceptive practices of the tobacco industry are effective.

Tobacco Dependence is not a habit

- Nicotine changes brain structure and chemistry
  - The developing brains of youth are particularly susceptible
- Tobacco Dependence is an addiction
- Tobacco Dependence is a treatable chronic illness
Nicotine withdrawal symptoms:

- Irritability, frustration, anger
- Increased appetite
- Tremors
- Depression
- Insomnia
- Anxiety
- Difficulty concentrating
- Difficulty feeling pleasure
Quick screen

● How soon after you wake up do you smoke your first cigarette?
  - Within 5 minutes
  - 6 – 30 minutes
  - 31 – 60 minutes
  - After 60 minutes

● How many cigarettes per day do you smoke?
  - 31 or more
  - 21 - 30
  - 10 - 20
  - 10 or less
Intensity of Withdrawal

- **Wanting**
  - mild desire to smoke that is short lived and easily ignored

- **Craving**
  - Stronger urge to smoke that is more persistent and difficult to ignore

- **Needing**
  - An intense and urgent desire to smoke that is unpleasant and unremitting

Tobacco Dependence and Pregnancy

- Prevent the initiation of tobacco and nicotine use
- Stop tobacco use before pregnancy
- Stopping tobacco use without medications
- Any of the FDA approved tobacco dependence treatment medications are less dangerous than continued tobacco use.
After the baby is born
Relapse of tobacco dependence is common

- At least 1/2 to 2/3 of tobacco dependent women relapse after giving birth
  - Risk increased if
    - Higher levels of tobacco dependence
    - Concern about weight gain
    - Social stressors
    - Partner is a smoker

J Am Board Fam Pract. 2004;17(4):264-75
Pediatric Allergy, Immunology, and Pulmonology 2012(1);3-10
# Treatment options in pregnancy

<table>
<thead>
<tr>
<th>Treatment</th>
<th>FDA Category</th>
<th>When to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Counseling</td>
<td>n/a</td>
<td>1st choice</td>
</tr>
<tr>
<td>Bupropion</td>
<td>C</td>
<td>2nd choice</td>
</tr>
<tr>
<td>Nicotine Replacement</td>
<td>D</td>
<td>3rd choice</td>
</tr>
<tr>
<td>Combo Bupropion + NRT</td>
<td>D</td>
<td>4th choice</td>
</tr>
<tr>
<td>Varenicline</td>
<td>C (no data)</td>
<td>5th choice</td>
</tr>
<tr>
<td>Continued smoking</td>
<td>X*</td>
<td>Worse option</td>
</tr>
</tbody>
</table>

RCT of Nicotine Patches in Pregnancy

- Cochrane analysis
  - NRT improves cessation rates
  - Non adherence was common
  - No significant difference in fetal outcomes

<table>
<thead>
<tr>
<th>Outcome or subgroup title</th>
<th>No. of studies</th>
<th>No. of participants</th>
<th>Statistical method</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Validated cessation in later</td>
<td>8</td>
<td>2199</td>
<td>Risk Ratio (M-H, Random, 95% CI)</td>
<td>1.41 [1.03, 1.93]</td>
</tr>
<tr>
<td>pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Placebo-controlled trials</td>
<td>5</td>
<td>1926</td>
<td>Risk Ratio (M-H, Random, 95% CI)</td>
<td>1.28 [0.99, 1.66]</td>
</tr>
<tr>
<td>1.2 Non placebo-controlled trials</td>
<td>3</td>
<td>273</td>
<td>Risk Ratio (M-H, Random, 95% CI)</td>
<td>8.51 [2.05, 35.28]</td>
</tr>
</tbody>
</table>

Cochrane Database Syst Rev. 2015 Dec 22;(12):CD010078
If you can treat other common chronic illnesses you can treat tobacco dependence

● Goal of asthma therapy:
  – Normal lung function
  ● Minimal to no asthma symptoms

● Goal of diabetes therapy
  – Normal blood sugars

● Goal of tobacco dependence therapy
  – Normal brain function
  ● Minimal to no symptoms of nicotine withdrawal
Principles of tobacco dependence treatment

- Severity of disease guides intensity of treatment
- Control of disease guides duration of treatment
- Controller Medications
  - Nicotine Patch (OTC)
  - Bupropion (Rx)
  - Varenicline (Rx)
- Reliever Medications
  - Nicotine gum, lozenge (OTC)
  - Nicotine inhaler, nasal spray (Rx)
### Stepwise Approach to Treatment

<table>
<thead>
<tr>
<th>Step</th>
<th>Controller:</th>
<th>Reliever:</th>
<th>Controllers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
<td>As needed</td>
<td>Varenicline and/or Bupropion SR AND/OR High Dose Nicotine Patch AND Multiple reliever medications</td>
</tr>
<tr>
<td>1</td>
<td>Nicotine patch or Bupropion SR or Varenicline OR Varenicline alone.</td>
<td>as needed</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Nicotine patch + Bupropion SR OR Nicotine patch + Bupropion AND Reliever as needed</td>
<td>as needed</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Varenicline + Bupropion SR OR Nicotine patch + Bupropion AND Reliever as needed</td>
<td>as needed</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Varenicline alone.</td>
<td>as needed</td>
<td></td>
</tr>
</tbody>
</table>

When withdrawal is controlled:
- Step Down medications,
- Monitor, to control maintained

**ACCP Tobacco Dependence Treatment Toolkit.**
[www.tobaccodependence.chestnet.org](http://www.tobaccodependence.chestnet.org)
**Freedom from Tobacco Action Plan**

*Tobacco use is more than a habit. It’s an addiction.*

### In the green and good to go!

I have no real cravings for tobacco. I’m pretty calm. I feel like my brain can focus normally.

I use medicine to control nicotine cravings every day.  

☐ Use prior to problem times:  

### Yellow, but not so mellow.

I’m craving tobacco. I may be feeling irritable, anxious, and restless. It is hard for me to get my brain to focus.

Continue your Green zone EVERY DAY Medicine

**Need a rescue? Take a quick-relief nicotine medicine:**

Take ______(dose) every ______ minutes as needed.

### Seeing red.

I am feeling strong cravings for tobacco. I really need a cigarette now. It may be very hard to get my brain to focus.

In the RED ZONE, take a quick-relief nicotine medicine.

Take __________ every ______ minutes as needed.

Continue your Green zone EVERY DAY Medicine.

If you are in the red zone, contact your physician or tobacco dependence treatment specialist. You may need stronger medicine.
Relievers
Technique is important

- Nicotine Gum (OTC) (2 mg and 4 mg)
  - Chew slowly until a slight tingling or a peppery taste
  - Then place between the cheek and the gum until the peppery taste or tingling is gone.
  - Proper technique is important.
    - Swallowed nicotine can cause nausea and hiccups.
Relievers
Technique is important

- Nicotine Lozenge (OTC) (2 mg and 4 mg)
  - Place between cheek and gum and allow to dissolve
  - Allowed to dissolve slowly over a 20-30 minute period
  - Do NOT swallow lozenge.
  - Do not place under tongue
    - excess saliva will lead to swallowed nicotine and GI side effects.
Nicotine oral inhaler (Rx)
- Nicotine is absorbed across oral mucosae
- Side effects (cough, sore throat) increased by deep inhalation
Nicotine Nasal Spray (Rx)
- Nicotine reaches the bloodstream faster
- It has an impact more similar to the cigarette than other forms of nicotine replacement.
- May cause mild burning of nasal mucosa
Controllers

- **Nicotine Patch (OTC)**
  - Step 1 (21 mg)
  - Step 2 (14 mg)
  - Step 3 (7 mg)
  - May cause vivid/bizarre dreams, insomnia remove before bedtime.
  - May cause skin irritation
  - Adjust dose to effect
Controllers

- Bupropion SR (Rx)
- Contraindicated if seizure disorder
- More effective when used in combination with NRT.
Controllers

- Varenicline (Rx)
  - Nicotine receptor partial agonist/antagonist
  - Note black box warning on suicide risk
    - Current research suggests this may be inadequately treated nicotine withdrawal and not a drug effect
    - No difference between Varenicline, Bupropion, and NRT on suicide risk, ideation, or other neuropsychiatric events.
EAGLES Trial

- One drug therapy for tobacco dependence
  - Varenicline > bupropion = Nicotine patch > placebo

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Lancet. 2016 Jun 18;387(10037):2507-20
EAGLES Trial

- No difference in moderate to severe neuropsychiatric events among treatment groups.

<table>
<thead>
<tr>
<th></th>
<th>Non-psychiatric cohort* (n=3984)</th>
<th>Psychiatric cohort* (n=4074)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Varenicline (n=990)</td>
<td>Placebo (n=999)</td>
</tr>
<tr>
<td>Primary composite neuropsychiatric endpoint</td>
<td>13 (1.3%)</td>
<td>24 (2.4%)</td>
</tr>
<tr>
<td>Estimated primary composite neuropsychiatric adverse events (% [95% CI])</td>
<td>1.25% (0.60 to 1.90)</td>
<td>2.52% (1.58 to 3.46)</td>
</tr>
<tr>
<td>Varenicline (n=1026)</td>
<td>67 (6.5%)</td>
<td>53 (5.2%)†</td>
</tr>
<tr>
<td>Bupropion (n=1017)</td>
<td>68 (6.7%)</td>
<td>50 (4.9%)</td>
</tr>
<tr>
<td>Nicotine patch (n=1016)</td>
<td>5.20% (3.84 to 6.56)</td>
<td>4.83% (3.51 to 6.16)</td>
</tr>
<tr>
<td>Placebo (n=1015)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Difference in risk of composite primary endpoint (RD% [95% CI])

- Versus placebo
  -1.28 (-2.40 to -0.15)

- Versus nicotine patch
  -1.07 (-2.21 to 0.08)

- Versus bupropion
  -1.19 (-2.30 to -0.09)
Recommendations for clinical practice: Counseling Parents

- ASK about tobacco product use – including electronic nicotine delivery systems
- ADVISE to stop tobacco use
  - At a minimum, smoke free home and car
- ASSESS severity of tobacco dependence and readiness to change.
- ASSIST – with prescription/recommendations/referral for tobacco dependence treatment/1 800 QUIT NOW
- ARRANGE follow up
Conclusions

- In utero Tobacco exposure severely harms babies:
  - Stillbirth, crib death (SIDS)
  - Placental complications
  - Asthma/wheezing
  - Learning disabilities
  - Obesity
Conclusions

- Tobacco products are heavily promoted in media accessible to youth
- After 50 years of progress in tobacco control, we are seeing tobacco use increasing - in large part driven by the rise of Electronic Nicotine Delivery Systems
- Effective public policies can protect children from tobacco.
Conclusions

- Tobacco dependence can be treated during pregnancy as a “harm reduction” strategy
- Relapse of tobacco use after delivery is common
- Goal of pharmacotherapy for tobacco dependence is control of nicotine withdrawal
  - Medications started based on severity of disease
  - Medications adjusted based on control of disease
Discussion

- What are opportunities to influence institutional, local, and state public policy to protect women and babies from tobacco and nicotine?

- What are opportunities to change clinical practice to protect women and babies from tobacco and nicotine?
Questions?

Skull of a Skeleton with Burning Cigarette

Vincent van Gogh, 1886
Van Gogh Museum, Amsterdam
Tobacco Control Policy Resources

- CDC Best Practices for Comprehensive Tobacco Control Programs  
  - http://www.cdc.gov/tobacco/stateandcommunity/best_practices
- Campaign for Tobacco Free Kids  
  - http://www.tobaccofreekids.org
- American Lung Association  
  - http://www.lung.org/stop-smoking/tobacco-control-advocacy
- American Academy of Pediatrics Julius B. Richmond Center of Excellence  
  - http://www2.aap.org/richmondcenter
- Tobacco 21: An Important Public Policy to Protect Our Youth  
Tobacco Dependence Treatment Resources

- American College of Chest Physicians Tobacco Dependence Treatment Toolkit
  - http://tobaccodependence.chestnet.org/

- National Cancer Institute
  - https://smokefree.gov/
American Academy of Pediatrics Policy Statements

- Public Policy to Protect Children From Tobacco, Nicotine, and Tobacco Smoke
  - http://pediatrics.aappublications.org/content/136/5/998

- Clinical Practice Policy to Protect Children From Tobacco, Nicotine, and Tobacco Smoke
  - http://pediatrics.aappublications.org/content/136/5/1008

- Protecting Children From Tobacco, Nicotine, and Tobacco Smoke (Technical Report)
  - http://pediatrics.aappublications.org/content/136/5/e1439

- Electronic Nicotine Delivery Systems
  - http://pediatrics.aappublications.org/content/136/5/1018
US Surgeon General Reports

- **The Health Consequences of Smoking—50 Years of Progress (2014)**

- **Preventing Tobacco Use Among Youth and Young Adults (2012)**

- **The Health Consequences of Involuntary Exposure to Tobacco Smoke (2006)**