



Thinking Outside the (Cigarette) Box: Implementing Tobacco Dependence Treatment in Pediatric Settings

Breathe Alabama: An ACHIA Asthma Quality Collaborative
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Children's
of Alabama

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American Academy of Pediatrics



UAB MEDICINE
PEDIATRICS



Disclosure: Susan Walley, MD

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Does not intend to discuss non-FDA approved uses of products/providers of services

Does not have a relevant financial relationship with any commercial interests

Illustrated Surgeon General's Report on Smoking - Alfred Geschickelt, 1964

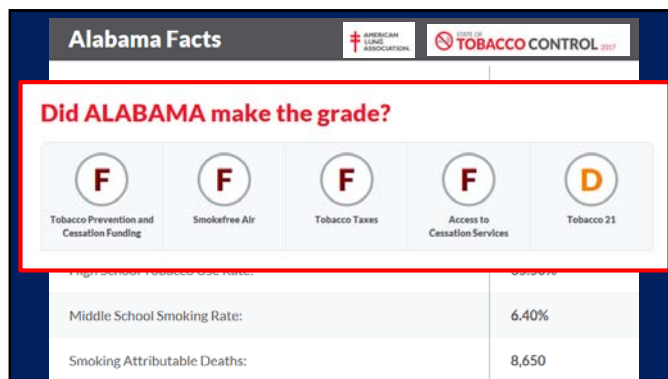
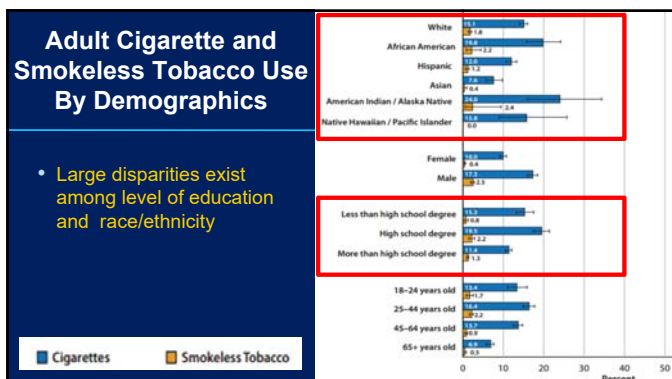
Learning objectives

- Review the impact of tobacco smoke exposure on the health of children
- Discuss evidence-based smoking cessation interventions
- Review implementation of pediatric inpatient smoking cessation interventions
- Provide overview of electronic cigarettes/vape devices and health impacts

Alabama Facts	
Economic Cost Due to Smoking:	\$1,885,747,576
Adult Smoking Rate:	21.40%
Adult Tobacco Use Rate:	25.70%
High School Smoking Rate:	14.00%
High School Tobacco Use Rate:	35.50%
Middle School Smoking Rate:	6.40%
Smoking Attributable Deaths:	8,650

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Population Attributable Risks of Tobacco Smoke Exposure

- Annually in children:
 - 200,000 cases of childhood asthma
 - 150,000-300,000 cases of lower respiratory illness
 - 800,000 middle ear infections
 - 25,000-72,000 low birth weight or preterm infants
 - 430 cases of SIDS

Yes, But Have You Heard?

- Maternal smoking during pregnancy causes:
 - Orofacial clefts
 - Premature rupture of membranes, placenta previa and placental abruption
 - Ectopic pregnancies
 - Behavioral disorders and ADHD
 - Clubfoot, gastroschisis and atrial septal defect
- Secondhand smoke exposure causes (among nonsmokers):
 - Risk of being overweight
 - Preclinical atherosclerosis

SGR Report "50 Years of Progress" 2014
"Pediatrics" "Protecting Children From Tobacco" 2015

Epidemiology

- Smoking rates among adults have decreased nationally from 24% to 17% from 1999-2014.
- However, 4.1% of children ages 3-11 had detectable cotinine levels in the 2012 NHANES
 - Significant differences among regions of the country, socioeconomic status and race/ethnicity
 - 68% of black children
 - 15 million children exposed

Where Are Children Being Exposed?

- 18% of children ages 3-11 are regularly exposed to secondhand smoke (SHS) in the home.
- Of parents who smoke and have a car, 73% reported there was smoking in the car in the past 3 months.

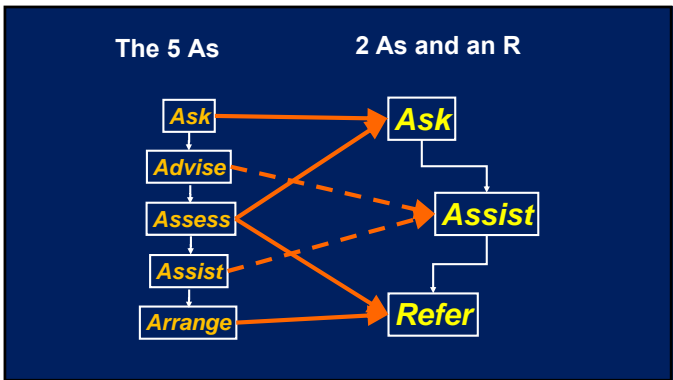
What can YOU do? The 5 A's

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- Public Health Service Guidelines- the 5 As...
 - ASK all parents about smoking
 - ADVISE parents to quit using nonjudgmental message
 - ASSESS readiness to quit and prior quit attempts
 - ASSIST by offering treatment or referral
 - ARRANGE follow-up

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 - **ADVOCATE** for tobacco control measures to protect children



ASK

- Studies show parents expect providers to bring up secondhand smoke exposure.
- It's important to address smoking in a non-judgmental manner.

Ask... the right question!

- No one smokes in the home, right?

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- No one smokes in the home, right?
- Is your child exposed to cigarette smoke?

Ask... the right question!


- ~~No one smokes in the home, right?~~
- ~~Is your child exposed to cigarette smoke?~~
- Is there anyone who lives with or cares for your child who smokes cigarettes?
 - Who is that? What do they use? Where do they smoke? Is there other tobacco products used?

Ask... the right question!

- Don't forget other sources of exposure:
 - Other homes the child may stay at:
 - Divorced parents
 - Grandparents
 - Daycare providers
 - Cars
 - Seepage from other apartments
 - Thirdhand smoke



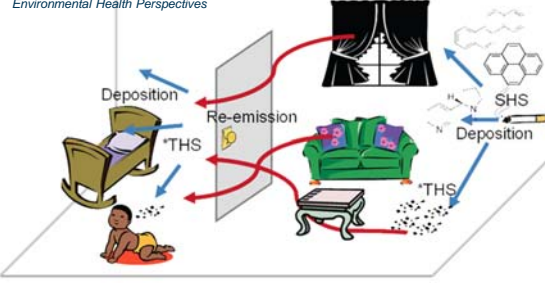
Thirdhand Smoke Exposure



Photos Courtesy of Susan Morrison, NH DHHS, from NH Property Managers

What is Thirdhand Smoke?

Figure from Hoh et al, 2012, Environmental Health Perspectives



*Thirdhand Smoke

Advise...Be **specific**

- Advice should be personalized and nonjudgmental

“Quitting smoking is the best thing you can do to help protect your health and the health of your child.”

“I can help you.”

Assess

- Ask "Have you thought about quitting?"
 - Yes - Assist/Arrange
 - No - Negotiation and Exposure Reduction
- 70% of smokers would like to quit smoking

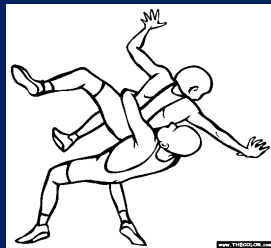
Negotiation over time

- Even small doses of counseling can add up over time.
 - Set a quit date
 - Discuss past success quitting (even temporarily)
- Quitting may not be a reasonable first step for some smoking parents:
 - Negotiate small, acceptable steps with the parent
 - Home and vehicle smoking bans can be a first step

Motivational Interviewing: It's Not Me, It's You



vs



Motivational Interviewing

- Patient-centered, directive method for enhancing motivation to change
 - By exploring and resolving **AMBIVALENCE**
 - Can be used in brief doses!
- When patients arrive at action plans that fit within their personal goals and value, change is more likely
- Use open ended questions, reflective listening and empathy

Motivational Interviewing Key Elements

- Ask for permission to discuss
- Determine importance and confidence
- Elicit patient's change language, reinforce it, and build on it
- Help patient develop action steps

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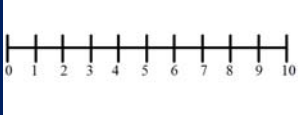
- Ask for permission to discuss
- I know it is hard to see your child sick so often. Would it be OK to discuss some ways to help your son's asthma?

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- On a scale of 1 to 10, how confident are you that you can quit? Why did you say a 7 and not a 1?



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- On a scale of 1 to 10, how confident are you that you can quit?
- What I'm hearing is that you quit when you were pregnant. That's fantastic! Since you were successful before, do you feel you can quit again?

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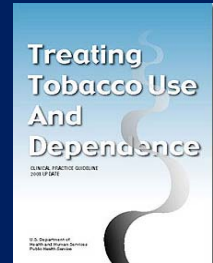
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- Would it be OK to discuss some ways to help your son's asthma?
- On a scale of 1 to 10, how confident are you that you can quit?
- What I'm hearing is that you quit when you were pregnant so you think you can do it again?
- Do you think you are ready to set a quit date?

Assist

- The most effective smoking cessation interventions involve 2 components:
 - Pharmacotherapy
 - Counseling
- Even brief advice to quit by a healthcare provider increases quit attempts



Pharmacotherapy for Tobacco Dependence

- Combining pharmacotherapy with counselling **DOUBLES** a patient's chance of successfully quitting smoking
- Types:
 - Nicotine Replacement Therapy
 - Non-nicotine replacement therapy
 - Bupropion SR
 - Varenicline



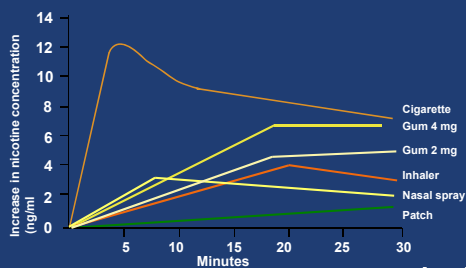
Nicotine Replacement Therapy (NRT)

- Most effective way is to combine long-acting and shorter-acting NRT
 - Long-Acting
 - Nicotine Patch (OTC*)
 - Shorter-acting
 - Nicotine Gum (OTC*)
 - Nicotine Lozenge (OTC*)
 - Nicotine Spray (Rx^A)
 - Nicotine Inhaler (Rx^A)



*Over the counter (OTC)
^Prescription (Rx)

Plasma Nicotine Concentrations for Cigarette Smoking and Nicotine Replacement Therapy



Balfour DJ & Fagerström KO. Pharmacol Ther 1996



Using NRT: Treatment Goals

- Provide psychoactive ingredient in cigarettes with overall reduction of nicotine withdrawal symptoms
- Postponement of smoking when in environment in which smoking is not allowed
- Few contraindications:
 - MI within the past 2 weeks
 - Worsening or severe angina
 - Severe arrhythmias
 - Hypersensitivity to drug/class
- Side effects
 - Nausea, dyspepsia, "the jitters"

Arrange

- Set up follow-up for parents who use tobacco
- Outside resources include:
 - The parents' own primary care physician
 - The patient's pediatrician
 - Quitline 1-800-NO-BUTTS (800-662-8887)
 - Referrals
 - Phone based
 - Web based
 - EMR

1.800.QUITNOW

QUITNOWALABAMA.COM
1-800-784-8669

The Alabama Tobacco Quitline is a free telephone and online coaching service for any Alabamian who is ready to quit tobacco information, referrals and coaching are confidential, and sessions are designed on a schedule that is convenient for you. If you are eligible, you may receive up to eight weeks of nicotine replacement therapy patches.

Call 1-800-QUITNOW or 1-800-784-8669

Web-Based Counseling Services

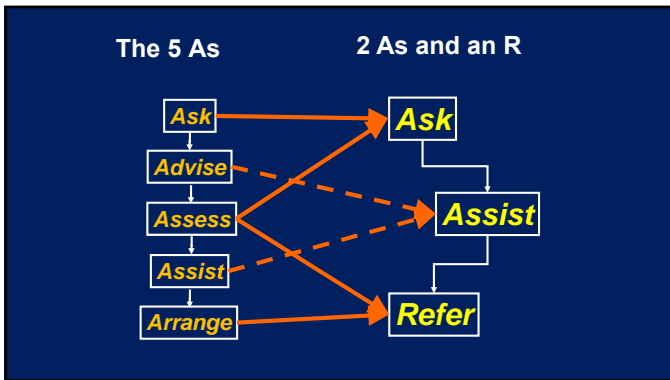
Alabama Medicaid Tobacco Treatment Coverage

Covered Services/Medications

Providers can send referrals by either fax or using the online portal.

Physicians Click the button below to download the Fax Referral Form Physicians Click the button below to access to Referral Portal

Fax Referral Form Referral Portal



Smoking Cessation Interventions

- Every person who uses tobacco should be offered treatment
- One of the most cost-effective interventions in healthcare
- Providing smoking cessation interventions to parents and caretakers is recommended by the American Academy of Pediatrics

*Fiore et al. Treating Tobacco Use and Dependence 2008

Why is it the Right Time to Address Parental Smoking Cessation?

- 1) We care for many patients with illnesses that are caused or worsened by tobacco smoke exposure

Tobacco Smoke Exposure and Hospitalization

- Increased risk of hospitalization for all causes
 - OR 1.3 (95% CI: 1.07-1.52)

Leung et al Archives Pediatrics 2004

Tobacco Smoke Exposure and Hospitalization

- Increased risk of hospitalization for all causes
 - OR 1.3 (95% CI: 1.07-1.52)
- Increased risk of hospitalization and severity of bronchiolitis

Bradley et al. *Pediatrics* 2005
 Al-Ahawwi et al. *Primary Care Resp Journal* 2007
 Law et al. *Resp Med* 2002
 Sample et al *Plos One* 2011

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- Asthma hospitalizations
 - 22-fold increased risk of intubation
 - 1-year readmission risk AOR 2.4

Kahn et al *Pediatrics* 2014

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 - 22-fold increased risk of intubation
 - 1-year readmission risk AOR 2.4
- Influenza hospitalizations:
 - The odds of being intubated were 8.8 higher (95% CI: 0.9-232.4)
 - SHS exposure was associated with a 70% longer LOS
 - Effects were greater for children with complex chronic conditions


Wilson et al *J Pediatrics* 2013

Why is it the Right Time to Address Parental Smoking Cessation?

- We care for many patients with illnesses that are caused or worsened by tobacco smoke exposure
- It's a teachable moment

The Teachable Moment

- Naturally occurring health event thought to motivate individuals to spontaneously adopt risk-reducing health behaviors*
- Defined as the time at which learning a particular topic or idea becomes possible or easiest**



*McBride et al. Health Education Research 2003
 **Wikipedia

The Teachable Moment

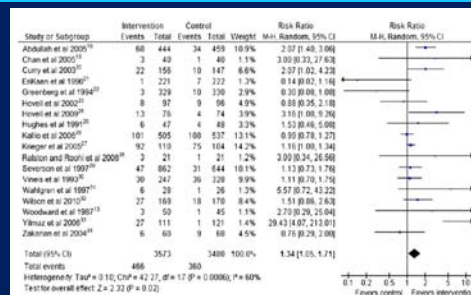
- Shorter-term health consequences
 - Birth of a baby (85% of mothers relapse after delivery)*
 - Child hospitalization
- Long-term health consequences
 - 90% adult smokers start smoking before 18 years of age
 - Children whose parents smoke are more likely to smoke themselves
 - Behavioral modeling as well as role for nicotine priming
- Financial:
 - A pack-a-day habit costs \$2200-2920 (\$50/week)
 - Missed work and school due to illness

*Tong *MMWR Surveill Summ* 2009

Why is it the Right Time to Address Parental Smoking Cessation?

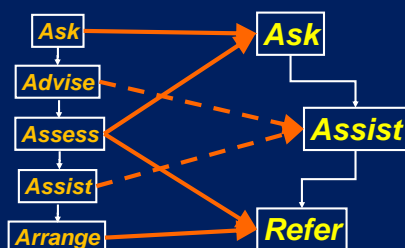
- 1) We care for many patients with illnesses that are caused or worsened by tobacco smoke exposure
- 2) It's a teachable moment
- 3) Parental smoking cessation interventions are effective

Parental Smoking Cessation Interventions

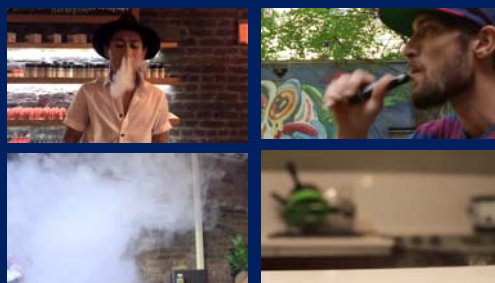


The 5 As

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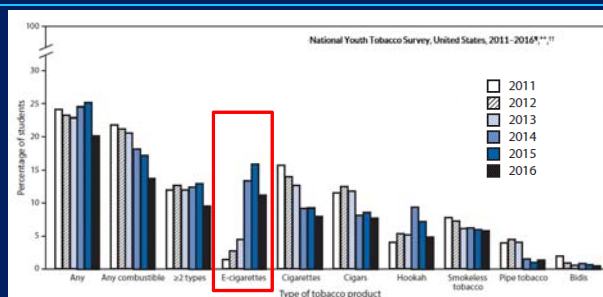
What About Electronic Cigarettes?



Electronic Cigarette Take Home Points

- E-cigarettes are the most common tobacco product used by youth

High School Student Current Tobacco Use

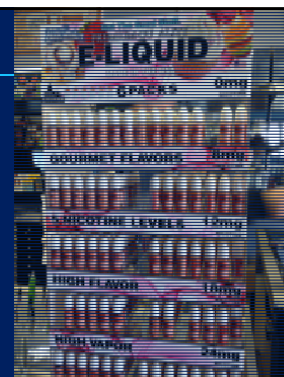


Electronic Cigarette Take Home Points

- E-cigarettes are the most common tobacco product used by youth
- E-cigarette solution and emissions have been found to contain ultra-fine particles and toxicants, including nicotine and carcinogens, which have adverse health effects

Health Harms to the User

- Exposure to the same toxicants and carcinogens found in cigarettes
- Decreased lung function and growth in mouse models
- Ultrafine particles have been found to have cardiovascular effects similar to smoking traditional cigarettes
- Risk of injury from battery explosions



Public Health Harms

- Secondhand vapor
- The potential of nicotine to addict youth and adults
- The potential to glamorize and re-normalize smoking
- May maintain combusted tobacco use
- Increase in e-cigarette solution poisoning



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- E-cigarette solution and emissions have been found to contain ultra-fine particles and toxicants, including nicotine and carcinogens, which have adverse health effects
- Longitudinal data demonstrates e-cigarette use leads to traditional cigarette use, even in youth that are considered low risk for tobacco use

High School Students Who Use E-cigarettes Were More Likely to Use Cigarettes After One Year



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- Longitudinal data demonstrates e-cigarette use leads to traditional cigarette use
- Smokers who use e-cigarettes are less likely to quit traditional cigarettes

