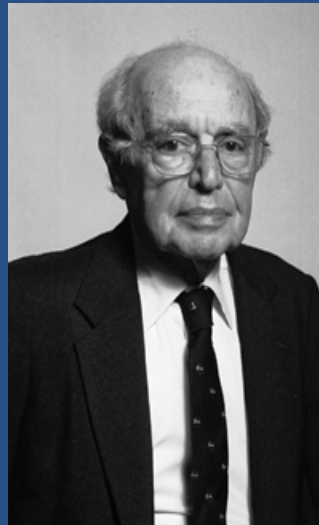


The Influence of Tobacco on Infant Well Being

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...dedicated to eliminating children's exposure to tobacco and secondhand smoke

I have no conflict of interest related to this educational activity. I have no commercial support/sponsorship for this activity and I will not endorse any products displayed in conjunction with this activity.

Tobacco Use As an Infectious Disease



You get it from
tobacco
companies.

Tobacco Use As an Infectious Disease

- Is tobacco use a disease transmitted by exposure?
 - Increased access to tobacco products for experimentation
 - Modeling of tobacco use behaviors?
 - Normalization of tobacco use?



STEPHANIE KLEIN-DAVIS | The Roanoke Times

Mellisa Williamson, 35, a Bullitt Avenue resident, worries about the effect on her unborn child from the sound of jackhammers.

Why Are We So Concerned?

- Surgeon General's report 2006:
 - “no known safe level” of exposure
- Over 250 toxic constituents of tobacco smoke

Cigarette smoke components



Secondhand smoke is toxic: 4000 chemicals

> 50 Cancer-causing chemicals

Formaldehyde

Benzene

Polonium

Vinyl chloride

Toxic metals:

Chromium

Arsenic

Lead

Cadmium

Poison Gases:

Carbon monoxide

Hydrogen cyanide

Butane

Ammonia

First Hand Smoke

The smoke inhaled into the lungs while smoking

Recognized as harmful in 1950

Second-hand Smoke

The smoke exhaled from smoking, or from the burning tip of a cigarette

First mentioned in SG report 1972, recognized as harmful to children in 1974, first full report in 1986

What is Third-hand Smoke?

- Third-hand smoke is the left-over contamination in a room/car/clothing that persists after the cigarette is extinguished
 - The condensate on the glass from a smoking chamber was used in one of the first studies linking smoking and cancer
 - Homes and cars in which people have smoked may smell of cigarettes for long periods

Risks for Women Who Smoke

- ❑ Reproductive health problems
 - ❖ Infertility
 - ❖ Conception delay
 - ❖ Pregnancy complications
 - ❖ Menstrual irregularity
 - ❖ Earlier menopause
- ❑ Compromised immune system
- ❑ Respond differently to nicotine
- ❑ Cancer
- ❑ Less likely to breast feed
- ❑ Osteoporosis
- ❑ Thrombosis with use of oral contraceptives

Prenatal/Neonatal Outcomes

- Miscarriage
- Cancers
- Fetal death
- Pre-term deliveries
- Low birth weight baby
- Ectopic pregnancies
- Placenta previa and placental abruption
 - the placenta tears away from the uterus
- SIDS
- Birth Defects (cleft lip/palate, heart defects, webbing)



A Call to Action:

“Smoking is the most modifiable risk factor for poor birth outcomes”



2008 Clinical Practice Guidelines Recommendation

“Because of the serious risk of smoking to the pregnant smoker and fetus, whenever possible smokers should be offered person-to-person psychosocial interventions that exceed minimal advice”

Pregnancy: A Unique Time

- Often more open to change
- May have more support to quit while pregnant
- May not be socially acceptable to smoke if pregnant
- Excited, ambivalent, afraid
- May have more stress if unplanned pregnancy
- May have added financial burden even if planned

Post Partum Opportunities

- Prepare for post partum triggers, cues, depression
- Intervention during hospital stay
- Home visitors
- First pediatric appointment
- WIC
- Follow-up call by quit line or other counselors
- Post partum checkup
- Smoke free home and car

Tobacco and Children

- 18% of U.S. adults smoke.
- Over 30% of U.S. children live with one or more smokers.



Children and SHS

- Children have little or no control over their exposure.
- Children do not generally understand the health risks posed by SHS.
- Children are regularly exposed in a variety of contexts: home, daycare, family car

SHS Exposure Causes Death and Disease in Children

- ~6,200 children die each year in the U.S. as a result of SHS exposure
- ~5.4 million childhood illnesses are attributed to SHS exposure
- Annual costs attributable to SHS exposure: ~\$4.6 billion

Population attributable risks

- Annually:
 - 200,000 childhood asthma episodes
 - 150,000-300,000 cases of lower respiratory illness
 - 790,000 middle ear infections
 - 25,000-72,000 low birth weight or preterm infants
 - 430 cases of SIDS



SHS and Children: Short Term Health Effects

- ❑ Respiratory tract infections such as pneumonia & bronchitis
- ❑ Decreased pulmonary function
- ❑ Tooth decay
- ❑ House fires



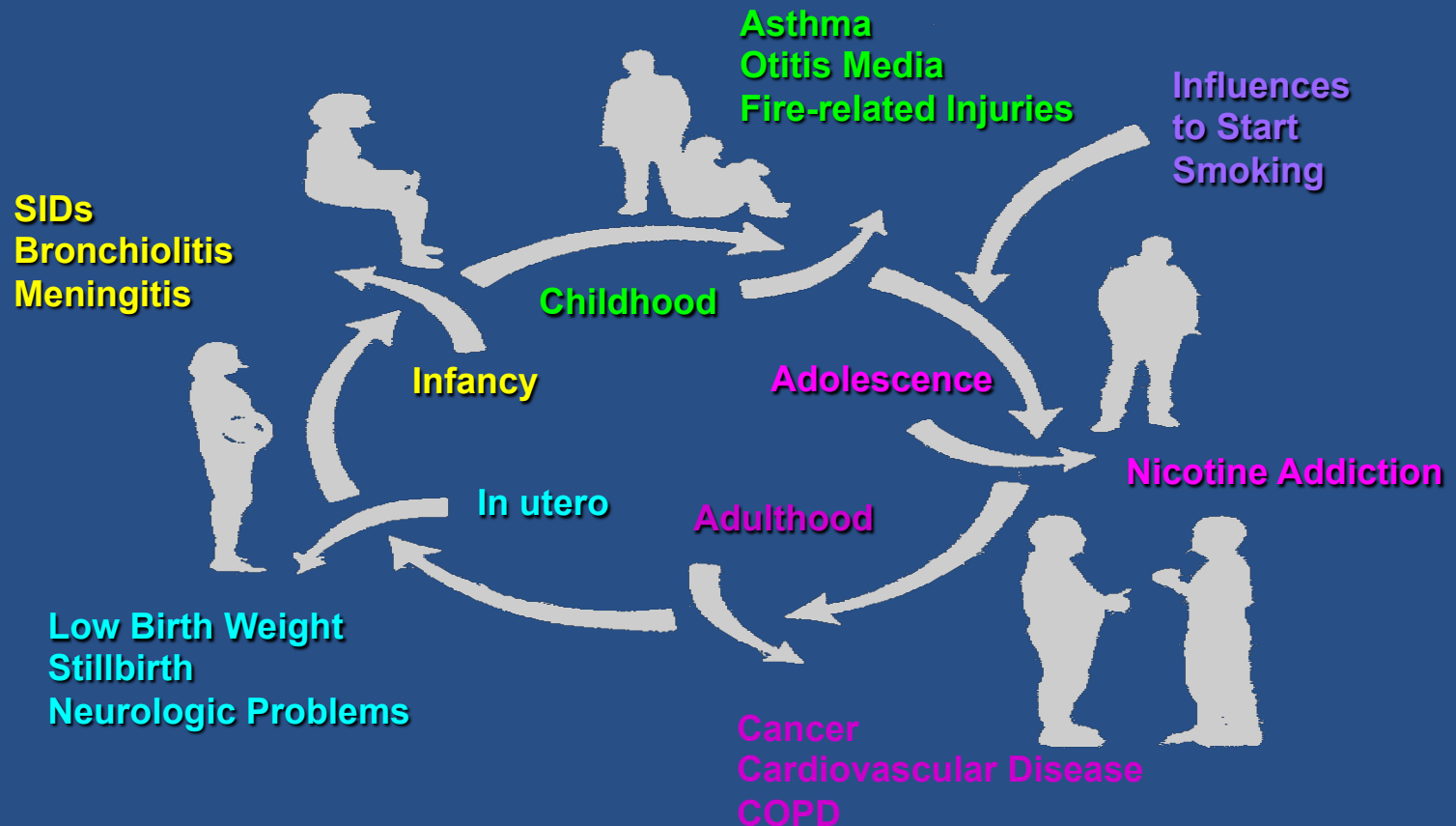
Long Term Effects of SHS Exposure

- Increased risk of cancers
 - Adult leukemia and lymphoma associated with exposure to maternal smoking before age 10
- Increased risk of lipid and cholesterol disorders?
- Metabolic syndrome? (a newly recognized syndrome associated with diabetes and cardiovascular disease)
- Increased risk of neurocognitive problems
 - ↑ incidence of learning disabilities, ADD/ADHD, behavioral difficulties

Basic concepts of heart disease

- ‘Chronic inflammatory process’
 - Immune mechanisms interact with metabolic risk factors to initiate, maintain, & activate arterial lesions
- Adult cardiovascular disease begins & progresses silently during childhood.

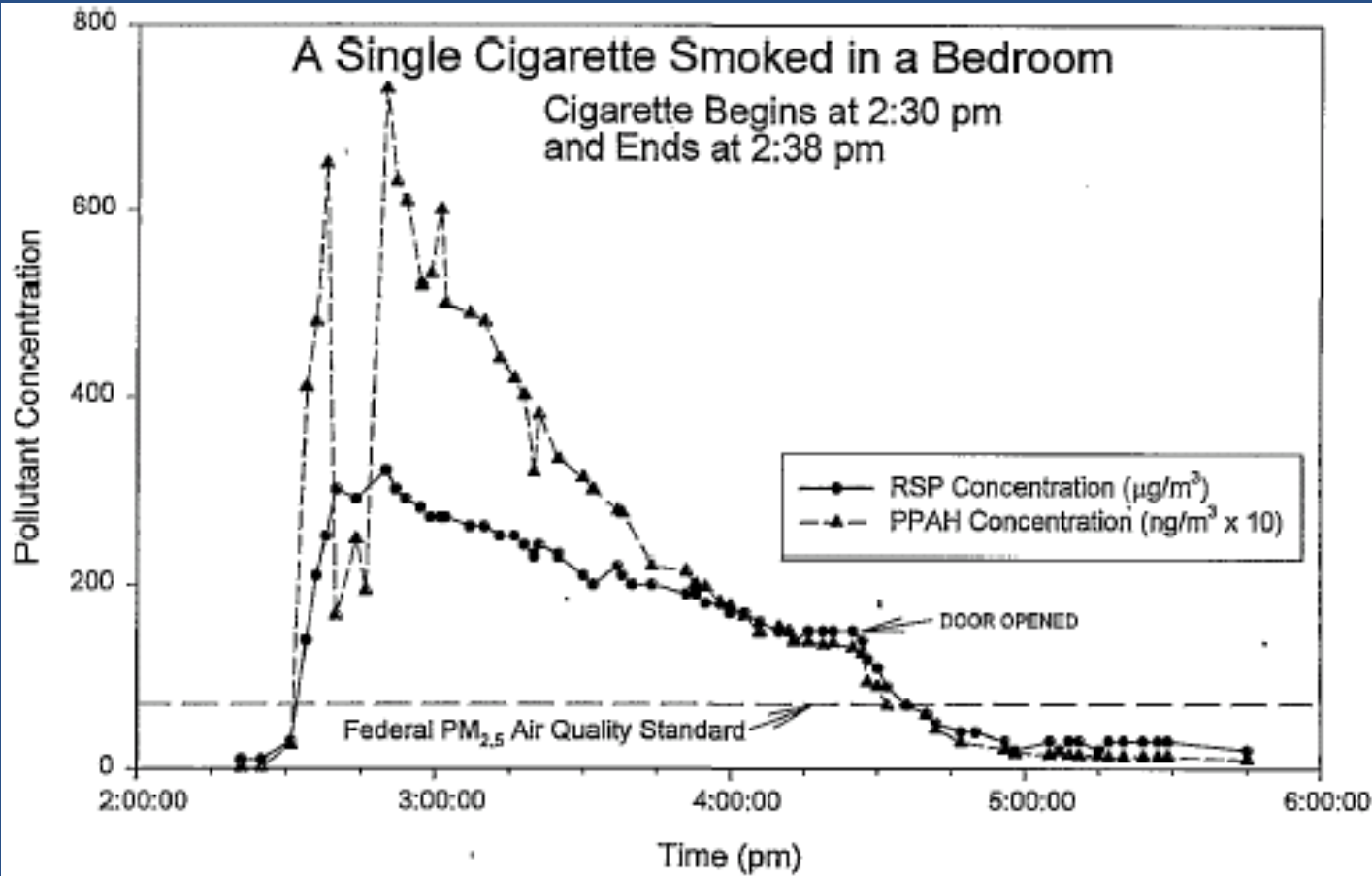
The Life Cycle of Smoking



Many Children Are Exposed

- More than 30% of children live with **at least** one smoker
- Younger children spend most of their time with a parent; if that parent smokes, SHS exposure can be highly significant
- Exposures occur in the home, child care, car

Effect of Cigarette Smoke on Indoor Air Quality



...it takes TWO hours for the air quality to return to normal for levels of CO, fine particles and particulate aromatic hydrocarbons..

Tobacco-Free Homes are Protective

- Children and adolescents who live in tobacco-free homes are less likely to use tobacco
- Strict smoke free home rules encourage cessation among smoking members of household
- Home smoking bans reduce smoking rates and cigarette consumption among youth

Other sources of exposure

- Daycare
- Grandparents
- Non-custodial parents
- Friends
- Multiunit housing



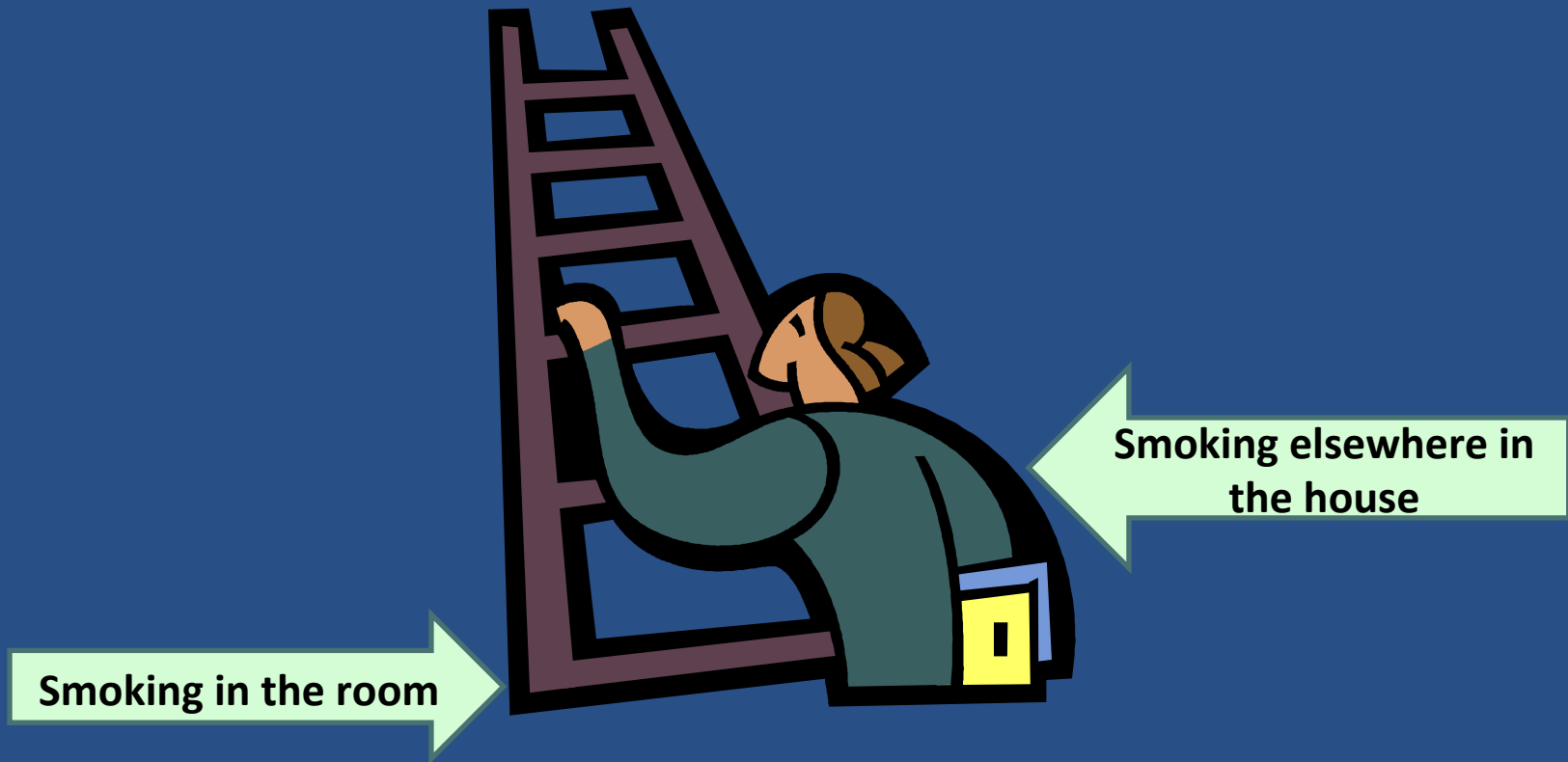
The bacon analogy



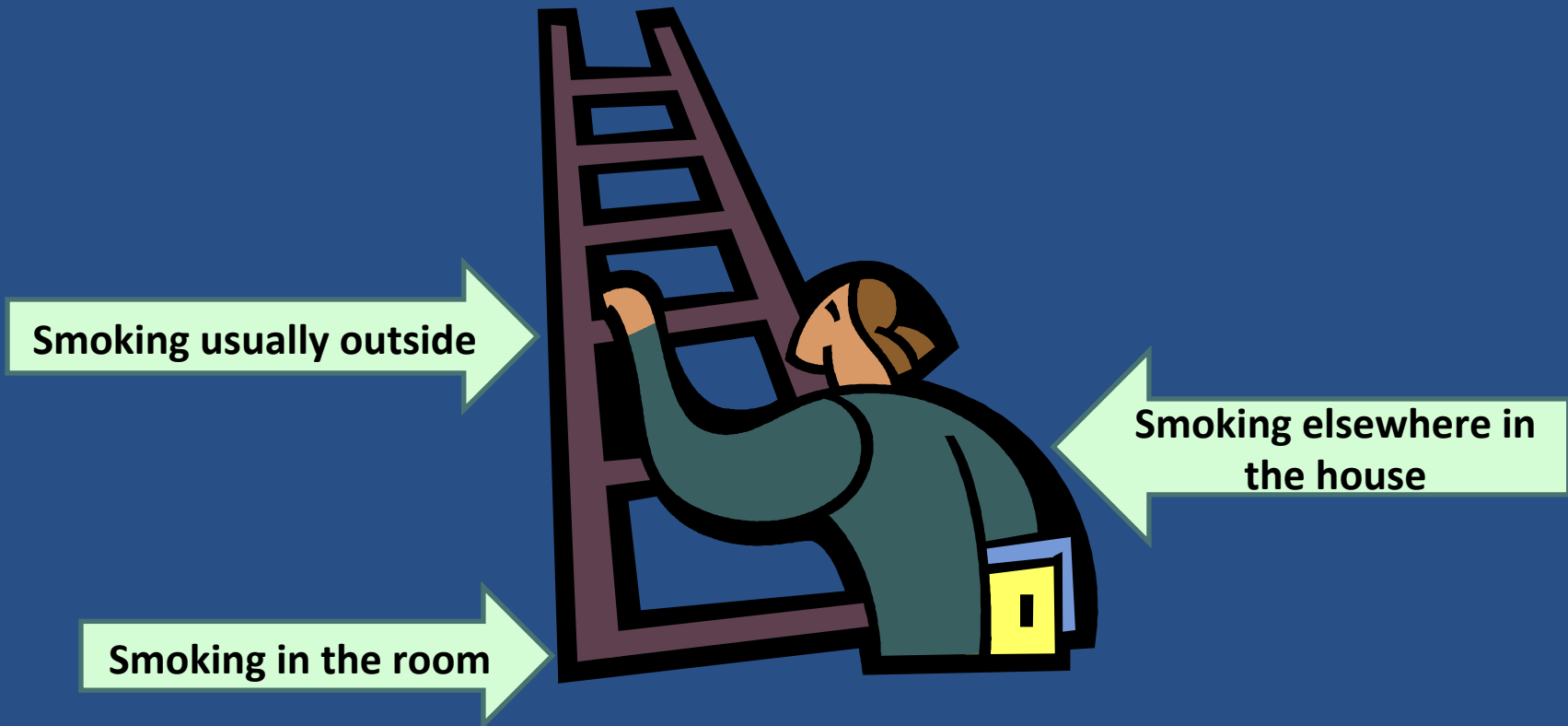
The exposure ladder



The exposure ladder



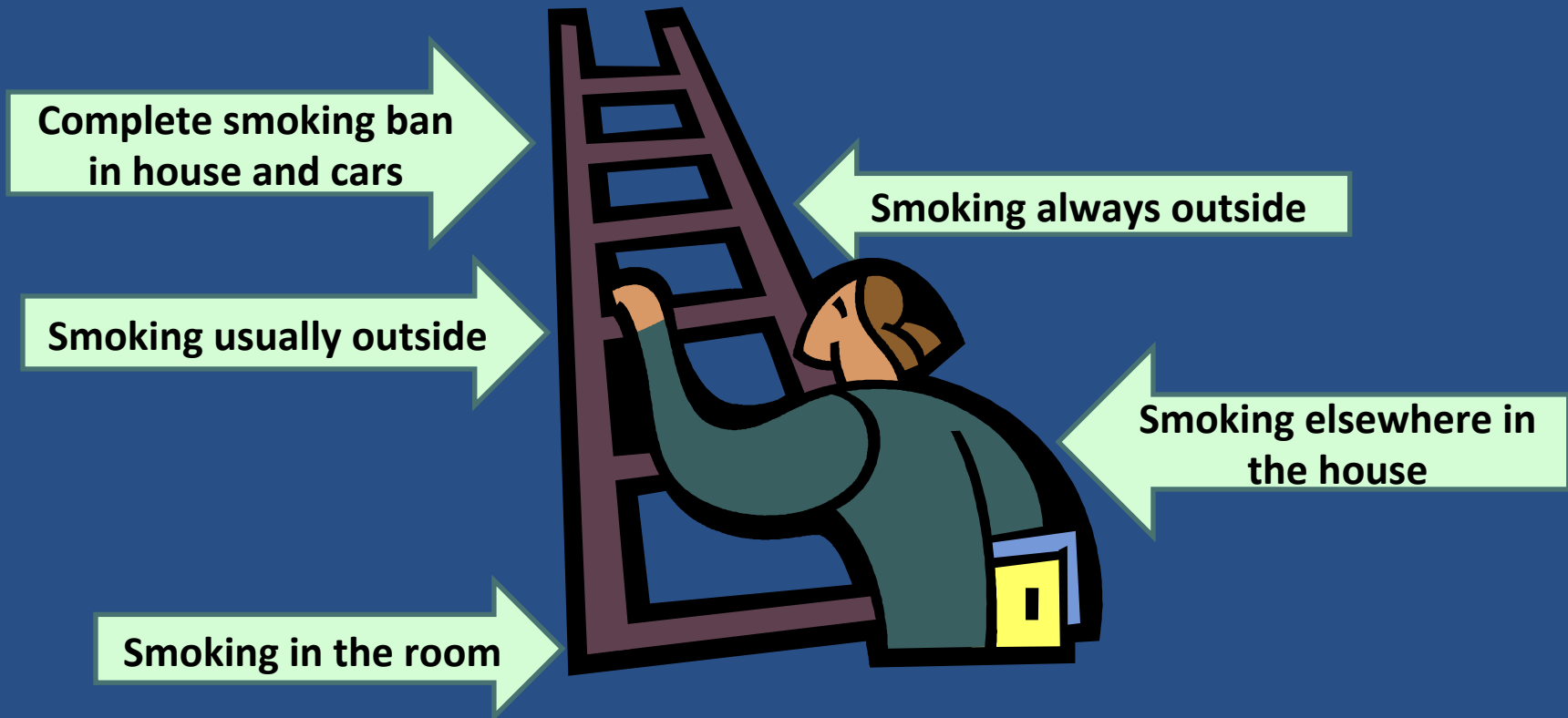
The exposure ladder



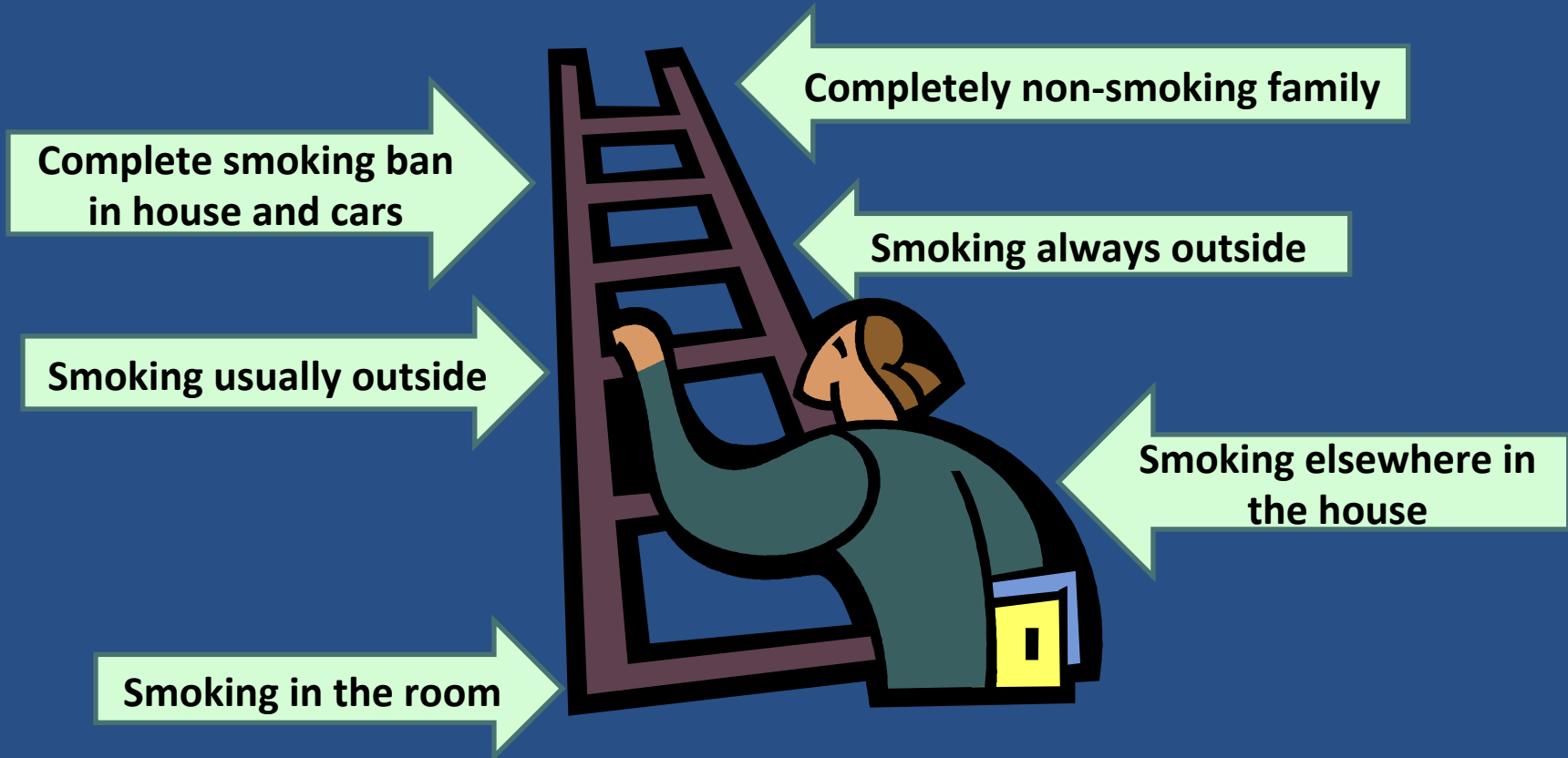
The exposure ladder



The exposure ladder



The exposure ladder



Other suggestions

- Non-evidence-based, but potentially helpful interim measures for smokers outside:
 - Washing hands after smoking
 - Wearing a separate smoking jacket or shirt
 - Using indoor air filters
(NOT to smoke indoors)
 - Keeping young kids' hands clean



SHS exposure as a health disparity

- Who is exposed to SHS?
 - Overall, about 25% of US children
 - Children in low-income homes – as high as 79%
 - At least 50% of African American children
 - More than 1/3 of children in low SES homes
 - Low estimate (self report data only)

The Cessation Imperative

The only way to protect non-smoking family members *completely* is for all family smokers to *quit completely*

The Evidence Is Clear!

When a woman quits smoking during pregnancy, her chances of having an uncomplicated pregnancy and healthy baby are dramatically increased



Parental Cessation is the Goal

- Eliminate the #1 cause of preventable morbidity and mortality
- Eliminate tobacco smoke exposure of all household members
- Decrease economic impact
 - Average cost per pack across US >\$5
- Decrease teen smoking rates

Tobacco Users Want to Quit

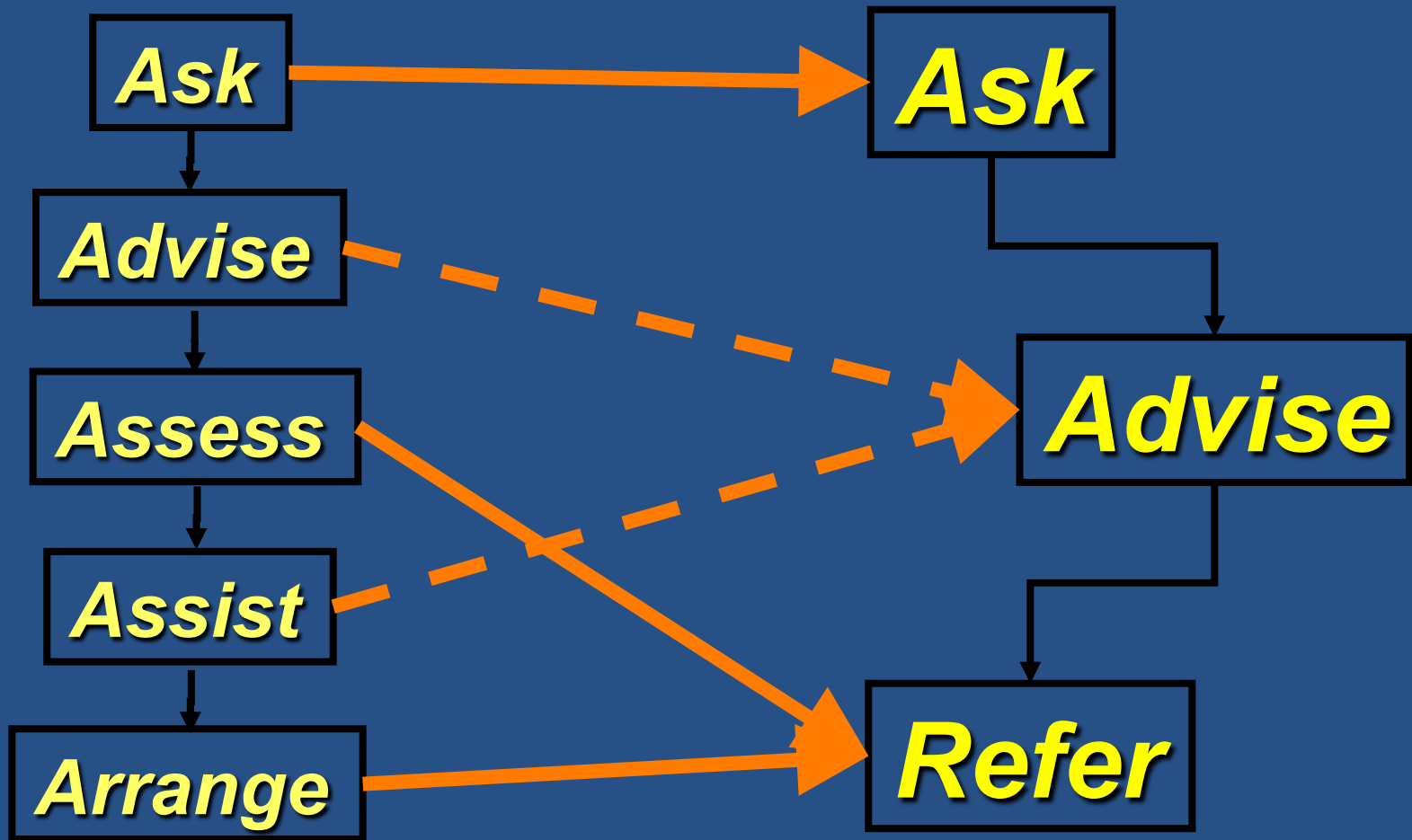
- 70% of tobacco users report wanting to quit
- 44% have made at least one quit attempt in the past year
- Users say expert advice is important to their decision to quit
 - The expert can be a physician, clinician, health care worker - any member of your practice!

Principles of Tobacco Dependence Treatment

- Tobacco dependence is a chronic, relapsing condition
 - Nicotine is addictive
 - Effective treatments exist
 - Every person who uses tobacco should be offered treatment

The 5 As

“2As and an R”



2 As and an R: ASK

- Ask about tobacco use and SHS exposure at every visit
- Make asking routine, consistent, and systematic
 - Use standardized documentation
 - Document as a “vital sign”
- Just *asking* can double quit attempts

2 As and an R: REFER

- To quit line, **1-800-QUIT-NOW**
- To community and Internet resources
- Give every tobacco user something that contains information about quitting, the harms of tobacco use, etc.

How Do You Ask?

- Don't lead: "You don't smoke, do you?"
- Depersonalize the question: "Does anyone living in your home use tobacco in any way?" "Who is it?" "Where do they smoke?" "Is that inside the house?"
- Explore: "You say no one smokes around your son. What does that mean?"
- Don't judge – check your body language, tone of voice, the phrasing of the question

What Do You Say?

- **Clear:** “I advise you to quit smoking.”
- **Strong:** “Eliminating smoke exposure of your son is the most important thing you can do to protect the health of your child.”
- **Personalized:** Emphasize the impact on health, finances, the child, family, or patient.
 - “Smoking is bad for you (and your child/family). I can help you quit.”
 - “Tobacco smoke is bad for you and your family. You should make your home and car smoke free.”

Be Specific...

- Having a smoke free home means no smoking **ANYWHERE** inside the home or car!
- It **DOES NOT** mean smoking:
 - Near a window or exhaust fan
 - In the car with the windows open
 - In the basement
 - Inside only when the weather's bad
 - Cigars, pipes, or hookahs
 - On the other side of the room

What Do You Say?

- “You should call this number. It’s a free service – and the person on the other end of the telephone line can help you get ready to quit.”
- “You should learn as much as you can about quitting – the more you know, the more successful you’ll be.”

Quitlines



- It takes only 30 seconds to refer a patient to a toll-free tobacco use cessation quitline
- Quitlines are staffed by trained cessation experts who tailor a plan and advice for each caller
- 1-800-QUIT-NOW callers are routed to state-run quitlines or the National Cancer Institute quitline

Advantage of Quitlines

- Accessibility
- Appeal to those who are uncomfortable in a group setting
- Tobacco users more likely to use a quitline than face-to-face program
- No cost to patient
- Easy intervention for healthcare professionals
 - Fax-back referral services

Pharmacotherapy types

- Nicotine replacement therapy (NRT) (many brands, some generics)
 - Many OTC
 - Some states reimburse, even for OTC (prescription may be required)
- Bupropion SR (Zyban, Wellbutrin)
- Varenicline (Chantix)

Medications Work!

- Bupropion SR (Zyban[®]) & Varenicline (Chantix[®])
 - Start BEFORE the quit date
 - Prescription needed
- Nicotine replacement products
 - Gum, patch, lozenge
 - Others need prescription
 - Under 18 years need prescription
- FOLLOW THE DIRECTIONS!!!

Follow Up

- Ask clients how they're doing
- Ask them if their home and car are smoke free
- Ask them if they called **1-800-QUIT-NOW**

NRT

- Non-nicotine components of tobacco cause most of the adverse health effects
 - Tars, carbon monoxide, etc.
- The benefits of NRT outweigh the risks, even in smokers with cardiovascular disease (remember they already smoke!)

Using NRT: Treatment goals

- Overall reduction of nicotine withdrawal symptoms – not to replace tobacco!
- Help with momentary urges
- Modify habitual behavior
- Postponement of smoking
- May be used to defer smoking when in environment in which smoking is not allowed

NRT products can be combined

- Use the patch for “daily maintenance”
- Add gum or lozenge for intense urges
- Read and follow the directions!!
- Warn about symptoms of nicotine overdose
- Nausea, dyspepsia, “the jitters”

NRT dosing

- Maintain a consistent level of nicotine during waking hours with “breakthrough” dosing initiated by the patient
- Most users UNDERDOSE – frequent cause of treatment failure
- See book for detailed discussion of dosing NRT

Net Effect

If you see 100 families every year, and 20% of those parents smoke,

If you advise every parent who smokes to quit, 20 parents receive the advice.

If 10% of those advised quit, then you've helped 2 parents quit! And *at least* 2 children are no longer exposed!

If all your colleagues counseled...?

Community Advocacy

- Community and school education programs
- Be politically active
- Advocate for (and support!) smoke free environments
- Participate in media presentations
- **DON' T USE TOBACCO IN ANY FORM!**

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