The Impact of Secondhand Smoke on Children

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Take-Home Points

- Children who have never smoked die from tobacco smoke.

- Children who have never smoked suffer serious morbidity from tobacco smoke.
What Is Secondhand Smoke?

- “Smoke inhaled by nonsmokers that contaminates indoor spaces and outdoor environments”\(^1\)

- Two components:
  - **Sidestream smoke**: Smoke produced by burning end of cigarettes, pipes, cigars
  - **Mainstream smoke**: Exhaled by smoker

Sources:
## Secondhand Smoke Exposure in Children

<table>
<thead>
<tr>
<th>Study</th>
<th>Percentage</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hopper et al (2000)</td>
<td>76%</td>
<td>Detroit, MI</td>
</tr>
<tr>
<td>Cornelius et al (2003)</td>
<td>71%</td>
<td>Pittsburgh, PA</td>
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<tr>
<td>Chilmonczyk et al (1990)</td>
<td>40%</td>
<td>Portland, ME</td>
</tr>
<tr>
<td>Kum-Nji et al (2004)</td>
<td>71%</td>
<td>Clarksdale, MS</td>
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<tr>
<td>Overpeck and Moss (1991)</td>
<td>49%</td>
<td>National</td>
</tr>
<tr>
<td>NHIS (2002)</td>
<td>35%</td>
<td>National</td>
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<tr>
<td>NHANES II (1996)</td>
<td>43%</td>
<td>National</td>
</tr>
<tr>
<td>NHANES III (1998)</td>
<td>38%</td>
<td>National</td>
</tr>
</tbody>
</table>
Secondhand Smoke is Dangerous

- **>4,000 identifiable chemicals** in secondhand smoke\(^1\)
  - Some of these chemicals also found in wood varnish, the insect poison DDT, arsenic, nail polish remover, and rat poison
- **Detectable amount of chemicals** can be found in body fluids of exposed non-smokers\(^2\)
- **No safe level/duration of exposure** for children\(^3\)

Sources:
Secondhand Smoke: Health Consequences for Children

- Increased risk of SIDS\(^1\)
- Increased incidence of respiratory illnesses\(^1\)
  - Ear infections
  - Asthma
  - Wheezing episodes
  - Cough
  - Bronchiolitis
  - Pneumonia

Sources:

Asthmatics exposed to secondhand smoke have more flare-ups, more ED visits, & more likely to be intubated\(^2\)
Secondhand Smoke: Medical Costs

- Illness attributable to secondhand smoke\(^1\):
  - 150,000-300,000 cases of lower respiratory tract infections per year in infants and young children
  - 800,000 visits for ear infections per year
  - Up to 1 million asthma flare-ups

- Parental smoking related to:
  - $4.6 Billion per year in health care costs for children\(^2\)
  - 19% of all expenditures for childhood respiratory conditions

Sources:
Limiting Exposure to Secondhand Smoke

- Only effective way to eliminate secondhand smoke is to stop smoking
- Air filtration or purification systems do not completely eliminate secondhand smoke
- Ventilation systems do not completely eliminate secondhand smoke

Would You Jump In?
Limiting Exposure to Secondhand Smoke

- Cotinine is frequently measured nicotine metabolite
- Urinary cotinine levels reduced in children when smoking bans in place

Take-Home Messages for Parents

- Do not allow anyone to smoke near your child.
- Do not smoke or allow others to smoke in your home or car. Opening a window does not protect your children from smoke.
- Use a smoke-free day care center.
- Do not take your child to restaurants or other indoor public places that allow smoking.
- Teach children to stay away from secondhand smoke.

Source: CDC. Available at: http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/health_effects/index.htm#children
Take-Home Points
For Public Health Professionals

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