Chemical Exposures as Barriers to Access in Hotels: Clearing the Air and the Way to Improved Access
• Founded in 1994, MACI is a non-profit, statewide support, education, resource and referral network for people living with illnesses related to chemical injuries, their families and those dedicated to environmental illness prevention.

• Network extensively with health and education related organizations and public health working groups.

• Members represent a cross-section of the public and the spectrum of sensitivity.
The Air We Breathe Matters!

• Improved indoor air quality in hotels could benefit >6.5 million people per day across the U.S.!!!
• U.S. lodging properties provide rooms for 4.7 million travelers daily*
• Hotels employee >1.8 million employees across U.S.*
• Massachusetts lodgings employ > 32,000 people*

*American Hotel and Lodging Association  www.ahla.com/uploadedFiles/Massachusetts
Incentive for Change:
National Prevalence of Chronic Health Conditions

- Multiple Chemical Sensitivity disables 4-6%
- Some degree of Chemical Sensitivity 30%
- Fragrance Sensitivity 30.5%
- Asthma
  - Adult 8%
    - 10.4 % in MA, one of highest estimates in U.S.
    - Increased 22.4% 2000-2010
- Children 9.3% - U.S. & MA
- Respiratory/Skin Allergies 11 and 12%
- Migraines 16%
MACI Member Travel Survey
Difficulties encountered

- Ventilation & HVAC systems poorly designed or malfunctioning.
- Windows don’t open
- Fragrance
  - Worn by staff
  - Air fresheners
  - Laundry products
  - Cleaning supplies, Febreeze
  - Toiletries
  - Shuttle buses
MACI Member Survey cont.

- Cleaning supplies:
  - Chlorine bleach & petroleum based solvents
  - Pine & citrus (terpene) based cleaners
- Mold
- Cigarette smoke
- Pesticides/Herbicides – building & lawn applications
- Renovations – off gassing of construction materials
- New carpeting/furnishings
- Electromagnetic & radio frequency sensitivity
MACI Member Travel Survey
What is most helpful?

- Housekeeping managers knowledgeable of allergies or sensitivities who demonstrated understanding of the needs/challenges.
- Front desk staff trained to the same level to answer questions with accurate current information.
- Success staying at a hotel depended more on staff at individual hotel than hotel corporation.
A Path Toward Change

• Unfortunately, no standardized program.
• Explore resources offered to assess hotel problem areas & products.
• Consult with others who have implemented fragrance free policies or healthier product programs for lessons learned.
• Recommend consultation with experts knowledgeable of toxins/toxicants & chemical sensitivities after examining areas for change & products in use.
• Spread the good news! Advertise/publicize changes to employees, public & allergy/MCS groups.
Resources

• The Architectural and Transportation Barriers Compliance Board (Access Board):
  http://www.access-board.gov/research/completed-research/indoor-environmental-quality/introduction?highlight=WyJtY3MiXQ==

• The Centers for Disease Control Fragrance Free Workplace Policy:

• Listing of Fragrance Free Policies:
  http://list.ly/list/1xU-fragrance-free-policies-from-around-the-world

• Dr. Anne Steinemann:  http://drsteinemann.com/

• Silent Spring Institute:  http://silentspring.org
U.S. Centers for Disease Control and Prevention
Fragrance Free Policy - 2009

“…to promote and protect the health and well-being of CDC personnel, contractors and visitors; to prevent work-related injury and illness, as well as harm and pollution of the environment…”

- Applies to >15,000 employees
- Policy includes
  - Personal products
  - Cleaning products
  - Renovation, demolition, maintenance/operations activities & products
  - Pest control for lawn & building maintenance
Resources

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Fragrance Product Chemistry

• 3100 stock chemical ingredients
• Fragrance contact allergy = global health issue
  1 of top 5 allergens in N. America & Europe
• Loopholes in 1973 labeling law allows non-disclosure
  Average of 14 ingredients not disclosed
  Average of 10 ingredients = sensitizers
  Average of 4 ingredients = hormone disrupters
Limonene

“All natural” doesn’t mean non-toxic

• Lemon or orange scent, dissolves oil
• Used in personal care, air fresheners, cleaning & laundry products
• Reacts with ozone to create formaldehyde and other aldehydes
• Known sensitizer
# Product Labels Can Be Deceiving

<table>
<thead>
<tr>
<th>Actual Chemicals Versus Listed Ingredients in a Popular Fragranced Laundry Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients listed on label</td>
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<tr>
<td>Ingredients listed on MSDS</td>
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<tr>
<td>Actual chemicals (identified in analysis)</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Source: Dr. Anne Steinemann, *Healthier Alternatives to Fragranced Consumer Products*  
www.drsteinemann.com
Recommended Changes

- Choose products with no fragrance
- Remove sources of odor, don’t cover it
- Ventilate, ventilate, ventilate
- Baking soda, white vinegar, hydrogen peroxide, unscented castile soap as effective cleaners
- Industrial steamers to clean/sterilize w/o chemicals, especially carpets
- Use HEPA filters on vacuums
Selecting Safer Products

• Currently no standardized certification program
• Databases for consumer products may be helpful
  • Toxic Use Reduction Institute:
    *Ten Ways to Find Safer Cleaners:*
    www.turi.org/TURI_Publications/Tip_Sheet_Series/
    Ten_Ways_to_Find_Safer_Cleaners
  • Environmental Working Group:
    Skin Deep Guide to Cosmetics: www.ewg.org/skindeep/
    Healthy Cleaning Guide: www.ewg.org/guides/cleaners
  • The NIH Household Products Database:
  • The Good Guide: www.goodguide.com
Clean Air Room

Room Location
- On a middle floor – locate in neutral zone
- Away from end exterior walls or stairwells
- Away from elevators & generators

Mechanical & Electrical Systems for Room
- Independent ventilation system supplying filtered outside air & exhaust bathroom continuously
- Maintain positive pressure to outside & hallway
- Monitor temperature, humidity, carbon dioxide & monoxide, VOC’s
- Filter water to remove chlorine, chemical contaminants.
- Ability to shut off WIFI router, provide cord connection to internet.
- No fluorescent lights
Clean Air Room cont...

Room Finishes and Furnishings

• Ceramic/stone tile or factory-finished wood flooring, not carpeting
• Formaldehyde free and no or low VOC building materials, paint, caulking, adhesives
• Seamless tub enclosure or large format tiles w/ cured epoxy grout
• No vinyl wallpaper or furnishings
Clean Air Room cont…

Room Finishes and Furnishings

- No particle board.
- Minimize use of fabrics, use inherently fire-resistant materials where necessary
- Non-toxic furnishings & mattress
- Barrier cloth covers on pillows & mattress
- Cotton blankets rather than down or synthetic fill
Multiple Chemical Sensitivity Awareness Week
May 11-17
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