

Cleveland-Cuyahoga County Healthy House Project Training

Houses and Health Stu Greenberg



Housing and Children's Health

- 🏠 Illnesses related to exposures in the residential environment
- 🏠 Focus on asthma
- 🏠 What is a healthy house?
- 🏠 Interventions: building conditions and occupant behavior

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Children's illnesses related to exposures in the home environment

- 🏠 Lead poisoning - still epidemic
- 🏠 Infant pulmonary hemorrhage - linked to toxic mold
- 🏠 Pesticide-related illnesses - evidence mounts
- 🏠 Asthma - rates are rising

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Asthma - the increase is breathtaking

- 🏠 #1 chronic illness of childhood
- 🏠 Rate doubled over last 20 years
- 🏠 Deaths of children increased 50%
- 🏠 In some Cleveland schools, 30+% of students have asthma
- 🏠 Many theories; no answer why

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Asthma symptoms

- 🏠 Coughing
- 🏠 Wheezing
- 🏠 Chest tightness
- 🏠 Shortness of breath



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Asthma - burden on the family

- 🏠 Complicated medicines
- 🏠 12% hospitalized, 34% go to ER
- 🏠 Frequent school absence
- 🏠 Night-time episodes
- 🏠 Scary and stressful
- 🏠 Trigger control effort

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Asthma triggers

- ☞ People with asthma have very sensitive airways.
- ☞ Things that cause little or no trouble for most people, can leave people with asthma gasping for breath.

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Asthma trigger exposure

- ☞ Can cause asthma attacks in people with asthma.
- ☞ Can cause the development of asthma in infants with a family history.

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Many asthma triggers

- ☞ Stress, exercise, cold weather, respiratory infections....
- ☞ Some medications, foods and food additives....
- ☞ Outdoor air pollution - ozone, particulates, diesel, pollen....
- ☞ Indoor allergens and irritants

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Control of indoor triggers important

- Reducing exposure to allergens and irritants -
- ☞ can reduce asthma symptoms - frequency & severity of attacks
 - ☞ may prevent the development of asthma in infants

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Indoor asthma triggers

▶???????????



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Indoor asthma triggers

Allergen sources:

- ▶ Cockroaches
- ▶ Mice
- ▶ Mold
- ▶ Dust Mites
- ▶ Pets (fur or feathers)



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Indoor asthma triggers

Lung Irritants:

- ▶ Pesticides
- ▶ Tobacco smoke
- ▶ Products with strong odors
- ▶ Combustion gases and particles



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A healthy house is:

- 🏠 Dry
- 🏠 Well-ventilated
- 🏠 Comfortable
- 🏠 Clean & Uncluttered

Based on Asthma Council
of New England

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A healthy house is dry

Moisture:

- 🏠 Causes paint failure (including lead paint)
- 🏠 Causes mold growth
- 🏠 Helps pests thrive

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A healthy house is well-ventilated

Ventilation:

- 🏠 Takes stale air and excess humidity out
- 🏠 Brings fresh air in
- 🏠 Dilutes low-level contamination

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A healthy house is comfortable

In uncomfortable homes, people take actions that can make a home unhealthy:

- 🏠 If people are cold, they won't ventilate their homes.
- 🏠 If the home is too dry or too hot, people will open windows and/or add moisture.

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A healthy house is clean & uncluttered

- 🏠 Dust can contain lead, allergens, irritants, pesticides, etc.
- 🏠 Clutter makes it difficult to clean
- 🏠 Clutter provides harborage for pests

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A healthy house is free of:

- 🏠 Lead hazards
- 🏠 Combustion by-products
- 🏠 Pests & pesticides
- 🏠 Toxic & irritant products
- 🏠 Fire & safety hazards

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A healthy house is free of lead hazards

- 🏠 Lead-contaminated household dust
- 🏠 Lead-contaminated soil
- 🏠 Lead paint chips
- 🏠 Lead on friction and impact surfaces
- 🏠 Lead on surfaces that children mouth

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A healthy house is free of combustion by-products

- 🏠 All fuel burning appliances (furnace, water heater, stove, fireplace) produce:
 - Gases and particulates, which can be health hazards
 - Water vapor, that contributes to excess moisture.
- 🏠 Smoking and candles produce harmful products

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A healthy house is free of pests & pesticides

- 🏠 Pests (e.g., cockroaches, mice) can cause allergic reactions and trigger asthma attacks.
- 🏠 Pesticides themselves can contain irritant and toxic chemicals with adverse health consequences.

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A healthy house is free of toxic and irritant products

- 🏠 Consumer products and building materials (e.g., cleaning compounds, mercury-containing devices, pesticides, solvents) can release toxic and irritant chemicals into the air and leave residue on surfaces.
- 🏠 Scented products (e.g., perfumes, aftershave and candles) can be irritant triggers for people with asthma.

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Building conditions, occupant behavior and health hazards

| Healthy house is: | Building conditions | Occupant behavior |
|---------------------|-----------------------------------|---------------------------|
| Dry | Moisture control | Control vapor sources |
| Well ventilated | Spot ventilation, air | Use ventilation fans |
| Clean & uncluttered | Cleanable surfaces; storage areas | Door mats/shoes-off, |
| Comfortable | Heat & humidity controlled | Use shades/blinds, storms |

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Building conditions, occupant behavior and health hazards

| Healthy house is free of: | Building conditions | Occupant behavior |
|---------------------------|---|-----------------------------|
| Lead hazards | Moisture, paint failure, cleanable surfaces | Frequent cleaning |
| Combustion by-products | Faulty appliances, flues | Unvented heaters, smoking |
| Pests & pesticides | Entry, harborage, moisture | Eliminate food; don't spray |
| Toxics & irritants | Building materials | Consumer products |

Healthy House Project interventions

-  Building conditions - focus of weatherization + health specifications
-  Occupant behavior - focus of health department inspections & occupant education