CLEANING FOR HEALTH IN THE CLASSROOM

Rachel Koller, Environmental Health Consultant

in partnership with:

The Collaborative on Health and the Environment - Washington
NW Children’s Environmental Health Working Group
The Collaborative on Health and the Environment - Washington (CHE-WA)

NW Children’s Environmental Health Working Group

Working collaboratively with diverse groups to eliminate children’s harmful environmental exposures in our region.

Members include:
Puget Sound Clean Air Agency
EPA Region 10
American Lung Association
Public Health – Seattle & King County
NW Pediatric Environmental Health Specialty Unit (PEHSU)
Environmental Coalition of South Seattle

Washington Toxics Coalition
Northwest Center for Alternatives to Pesticides
King County Local Hazardous Waste Management Program
Washington State Dept of Health
Department of Ecology
Univ. of Washington Center for Ecogenetics and Environmental Health
Pacific Northwest Pollution Prevention Research Center
Institute of Neurotoxicology & Neurological Disorders
Cleaning for Health in the Classroom Overview

✓ Pilot program at Adams Elementary

✓ Key messages for teachers and school nurses

✓ Ways to promote Cleaning for Health at your school
What can we do to address asthma and indoor air quality in school?

...Look at Classroom Cleaning Routines
Common Cleaning Chemicals Pose Health Risks

- “Quats” or quaternary ammonium compounds:
  - Known asthmagen. Examples: alkyl dimethyl benzyl ammonium chloride, benzalkonium chloride.

- **Fragrance chemicals:**
  - Trigger asthma, cause allergic reactions, linked with hormone disruption.

- **Aerosols:**
  - Exacerbate asthma, increase chemicals suspended in the air, small particles can go deeper into the lungs.
Children are More Vulnerable to Toxic Exposures

Factors for Increased Risk

• Children’s Smaller Size

• More Time Playing on the Ground

• Developing Organs

• Higher Breathing Rate – 4 to 6 times more air than adults

• Higher Rate of Food & Water Consumption

• Skin Surface Area (relative to body weight)

Exposure More Concentrated in Smaller Bodies of Children
Pilot Program at Adams Elementary

Goal: Support teachers who choose to clean beyond custodial routines, with guidance and supplies for safe and effective cleaning.

- Partnered with district staff for input
- Developed guide, and cleaning kit
- Kick-off presentation at staff meeting

Cleaning for Health in the Classroom
Best Practices for Teachers at Adams Elementary

We understand that teachers may choose to clean their classrooms in addition to what is already being done by custodial staff. *Cleaning for Health in the Classroom* is a pilot program to support teachers at Adams with guidance on best practices and supplies for safe, healthy and effective cleaning. This program is organized by the Adams Environmental Health Team, part of the school safety committee.

**Cleaning for Health means tackling dirt and germs using:**
- Fewer cleaning products
- Safer ingredients
- Smarter cleaning practices

Why is it important to use best practices for cleaning in school? Many common cleaning products can harm health--not the health of kids who are allergic to cleaning chemicals, but also the health of all students and staff.
Understanding Cleaning for Health in the Classroom: Key Messages
Cleaning vs. Sanitizing vs. Disinfecting

Do you know the difference?
How Cleaning Really Works!

Cleaning: removes dirt and most germs.

- Use soap and water or a third-party certified all-purpose cleaner. Add elbow grease, wipe.
- Removes dirt and organic matter that contains and protects germs.
- Removes asthma triggers like mold and dust.

Clean classroom surfaces as needed, especially high-touch points like sink and door handles, water fountains.

Teachers can rely on basic cleaning for infection control and mess control in the classroom.
Sanitizing and Disinfecting

- Use chemicals to kill germs on a surface.
  - Also called antimicrobial pesticides.
  - Use only where and when necessary.

Overuse of sanitizers and disinfectants:
- Provides no added benefit
- Increases our exposure to harmful chemicals
- Increases environmental pollution

In school, regularly used only in high-risk areas:
- Nurse’s office, bathrooms, cafeteria kitchens, athletic facilities. Body fluid spills.
Cleaning is the Focus in the Classroom

- Disinfectants should not be part of classroom routines.
- Children should never use disinfectants.

**Parent:** “It’s flu season – I’d like to help disinfect and wipe down the classroom.”

**Teacher:** “Help with basic cleaning would be welcome to reduce the germs! We don’t need harsh disinfecting chemicals. I’ve got a classroom all-purpose cleaner you can use.”
Classroom Cleaning Kits

- Classroom All-Purpose Cleaner
  - Dish liquid (fragrance-free, avoid antibacterial) and water in spray bottle. Students can use safely.
- Microfiber Cloths
- Fragrance-Free Baby Wipes
- Guide

Ready-made product alternative:
“Stride” All-Purpose Cleaner available through SPS custodial staff. Not safe for students to use.
Tip #1 in the Guide...

Be a Germ-Buster...
WASH YOUR HANDS!

1. WET
2. SOAP
3. WASH
4. RINSE
5. DRY
6. TURN OFF WATER WITH PAPER TOWEL

- Use plain soap.
- Avoid antibacterial soaps.
Hand Sanitizer: No Substitute for Handwashing

- Not effective on dirty or greasy hands
- Not considered effective on non-enveloped viruses or spores, eg. norovirus

What to look for in hand sanitizer:
- At least 60% alcohol
- Choose fragrance-free, dye free
- Avoid: Benzalkonium Chloride “quat” based, or non-alcohol based

- CDC: Show Me the Science: 
  http://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html
Teachers: Shift Classroom Supply Lists

Be specific on your list!

- Fragrance-Free Baby Wipes
- Alcohol-Based Hand Sanitizer (Fragrance-free, Dye-free)
- Paper Towels (Recycled content preferred)

WISH LIST:
1 set of oil pastels - (share with class)
Hand Sanitizer
Clorox wipes
Kleenex - 1 box to share
1 box of gallon 1/2 sized ZipLock bags
Cleaning for Health Lessons:

- Teach **how basic cleaning really works to remove dirt and most germs.**
- **Why fragrance-free matters** - cleaning products can impact the air we breathe, and clean doesn’t have a “lemon fresh” smell.
- **Importance of handwashing** with plain soap and water.
What does “Cleaning for Health” mean for school nurses?
## Use Asthma-Safe Disinfectants

<table>
<thead>
<tr>
<th>Asthma-Safe Ingredients</th>
<th>Ingredients to Avoid</th>
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<tbody>
<tr>
<td>• Hydrogen Peroxide</td>
<td>• Quaternary ammonium compounds include alkyl dimethyl benzyl ammonium chloride, benzalkonium chloride, lauryl dimethyl benzyl ammonium chloride, didecyl dimethyl ammonium chloride</td>
</tr>
<tr>
<td>• Lactic Acid</td>
<td>• Bleach (sodium hypochlorite)</td>
</tr>
<tr>
<td>• Citric Acid</td>
<td>• Acetic acid (found in vinegar)</td>
</tr>
<tr>
<td>• Alcohol-ethyl alcohol, isopropyl alcohol</td>
<td>• Thymol (skin sensitizer, suspected asthmagen)</td>
</tr>
<tr>
<td></td>
<td>• Glutaraldehyde</td>
</tr>
<tr>
<td></td>
<td>• Peracetic acid (peroxyacetic acid)</td>
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</tbody>
</table>

Table from *Healthy Cleaning & Asthma-Safer Schools*, California Department of Public Health
Oxivir

• Available by request to SPS custodial staff
• Active ingredient: Hydrogen Peroxide
• One-step disinfectant cleaner
• Disinfects hard non-porous surfaces in 5 minutes.
• Effective against a broad spectrum of pathogenic organisms including bacteria, antibiotic-resistant bacteria, viruses and fungi.

Oxivir® Five 16 Concentrate

<table>
<thead>
<tr>
<th>Format</th>
<th>Pack Size</th>
<th>SKU</th>
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</thead>
<tbody>
<tr>
<td>Gallon</td>
<td>4 x 1 gal / 3.78</td>
<td>4963134</td>
</tr>
<tr>
<td>Command Center™</td>
<td>2 x 1.5 gal.</td>
<td>5271361</td>
</tr>
<tr>
<td>SmartDose™</td>
<td>2 x 1.4 L</td>
<td>5019296</td>
</tr>
<tr>
<td>RTD®</td>
<td>2 x 1.5 L</td>
<td>4963457</td>
</tr>
<tr>
<td>J-Fill®</td>
<td>2 x 84.5 oz / 2.5 L</td>
<td>4963331</td>
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</tbody>
</table>

- **Bloodborne Pathogens**: 5 minutes
- **Gram Positive Bacteria**: 5 minutes
- **Gram Negative Bacteria**: 5 minutes
- **Enveloped Virus**: 5 minutes
- **Non-enveloped Virus**: 5 minutes
- **Fungicidal**: 10 minutes
- **Non-Food Contact Sanitizer**: 30 seconds at 1:16, 3 minutes at 1:128

For more information, contact your local Diversey representative or call 800.626.3015
Safer Practices for Disinfecting

Always follow label instructions.

- What is the active ingredient?
- What microbes does it kill?
- How long is the dwell time, for sanitizing, for disinfecting?
- Do I need to clean first?
- Do I need to wear gloves, or PPE?
- Ventilation?
- Spray into cloth or paper towel, use larger droplets (not mist)
- Avoid aerosol products and antimicrobial air fresheners.
Promote Cleaning for Health in the Classroom
Cleaning for Health Pilot – Results

• Reduction in use of disinfecting wipes as routine cleaning supplies.
• Raised awareness of the difference between disinfecting and cleaning.
• Affordable: Disinfecting wipes $.06-.08/ea. Baby wipes $.02-.04/ea.

“I stopped using those wipes when you said they had harsh chemicals.”
“I used the kit as a lesson. Students helped clean desks with the all-purpose soap cleaner.”
“I stopped using disinfecting wipes at home as well.”

Keys to success:
• Nurse partnership
• Make it a school-wide effort
Nurses ➔ Promote Cleaning for Health

School nurses are a powerful messenger for safe and effective cleaning and infection control.

• Take 5-10 minutes at your school’s next staff meeting.
• Send an email to staff with the guide.
• Talk to your PTA, would they fund cleaning kits for your teachers?
Free Cleaning Supplies and Outreach for Your Elementary School

CHE-WA is promoting Cleaning for Health in the Classroom at SPS Elementary Schools:

➢ Interested in free cleaning kits for every teacher at your elementary school?

➢ Outreach includes a 10 minute presentation at a staff meeting

Contact Rachel Koller to schedule: rachel.s.koller@gmail.com, 862.324.6255
Resources

- **Healthy Cleaning and Asthma-Safer Schools: A How-To Guide** - California Dept of Public Health

- **Safer Products and Practices for Disinfecting and Sanitizing Surfaces** – San Francisco Dept of the Environment

- **Green Cleaning, Sanitizing and Disinfecting: A Curriculum for Early Care and Education** – Univ. of California San Francisco

- Nancy Bernard, School Environmental Health and Indoor Air Quality, Washington State Dept of Health

Questions?
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