Sanitation and Health: Making the Connection

Warm weather is here and with it comes that annual rite, Spring-Cleaning! Why not better time to focus on sanitation issues in child care? Children’s health and development are influenced by everything in their environment, including the air they breathe, the water they drink, and the surfaces they touch. No wonder sanitation topics range from hand-washing procedures to air quality, and from plumbing connections to lead exposure prevention. Sanitation guidelines were created to promote wellness and healthy child development, to prevent accidents, and stop the spread of infectious disease. Environmental Health Specialists inspect child care facilities twice a year to help programs maintain healthy environments.

Children come in contact with disease-causing germs every day. These germs are on toys, tables, rugs, and furniture. Children’s immune systems are immature, making it more difficult for them to fight off disease. Children in child care are exposed to many more germs than children cared for at home and contract diseases twice as often. Their parents lose an average of 13 workdays every year in order to care for them. Five of those days are due to illnesses that cause diarrhea, an especially difficult condition to manage in the child care setting.

Sanitation procedures are designed to kill or reduce disease-causing germs. Viruses cause CMV, flu, respiratory illness, and hepatitis A. Bacterial infections cause illnesses such as strep throat and meningitis. Infections also result from parasites like pinworms or lice, or by funguses such as ringworm. Often illnesses are transmitted by exposure to bodily fluids. Following recommended sanitation procedures, such as handwashing, sanitizing and diapering, helps reduce the spread of communicable diseases and conditions.

Reducing exposure to environmental toxins is another major health concern. Children's small, developing bodies are especially vulnerable to damaging toxins. Lead is particularly harmful to children because it interferes with healthy growth and brain development. Mercury, pesticides and arsenic are airborne poisons found in higher concentrations close to the ground where children breathe and play. Environmental Health Specialists from the local health department can identify environmental toxins and help programs reduce or remove them from the child care setting. Sanitation guidelines also address environmental triggers for asthma. Common culprits are tobacco smoke, mold, dust mites, and cockroaches. Children in child care must be cared for in smoke free environments. Controlling other common asthma triggers may require changes to the environment. Molds grow in wet damp places and can be harmful. Repairing plumbing leaks and water-damaged surfaces helps keep molds from growing. Frequent vacuuming reduces dust mites. Controlling cockroaches may require an exterminator. Creating an asthma friendly environment increases the likelihood that children with asthma will stay healthy and be able to participate in daily activities.

Best practice sanitation recommendations can be found in Caring for Our Children and the N.C. requirements are found in the N.C. Sanitation Rules. Both are available at our web site: http://www.healthychildcarenc.org

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Cleaning and Sanitizing: What’s the difference and how are they done?

Sometimes in child care the terms “cleaning”, “sanitizing”, and “disinfecting” are used interchangeably. But are they all the same? These terms mean very different things and involve distinctly different solutions. Child care providers need to know the differences to apply the appropriate technique for the circumstance.

Cleaning involves scrubbing, washing and rinsing to remove visible soil and debris. The cleaning solution used is made up of detergent and water.

Sanitizing is covering the cleaned area with a sanitizing solution such as bleach and water. The best practice recommendation is to leave the sanitizing solution on the surface for a minimum of 2 minutes before wiping it dry. It can also be left to air dry. This will kill and clean away enough germs so that it would be unlikely that someone could become ill from contacting that surface.

Cleaning and sanitizing cannot be done at the same time. Clean, Rinse, then Sanitize to reduce the spread of diarrhea and other communicable illnesses.

Disinfecting is covering an already cleaned area with a disinfecting agent that is non-toxic for children, such as a stronger bleach and water solution. This kills all of the germs on a surface. Best practice recommends leaving the disinfecting solution on the surface for a minimum of 2 minutes or leaving it to air dry. This practice is used for body fluid spills to eliminate the spread of bloodborne illnesses such as Hepatitis B and HIV.

The following are bleach solution concentrations listed by source. Remember that child care centers must at least meet the requirements of NC Sanitation of Child Care Centers. Family Child Care Homes are encouraged to follow these guidelines.

<table>
<thead>
<tr>
<th>Source of Standard or Regulation</th>
<th>Classroom Surfaces (tables, toys, water play)</th>
<th>Manual Dishwashing (dishes, utensils)</th>
<th>Toileting and Diapering (surfaces, toilets)</th>
<th>Universal Precautions (body fluid spills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFO of National Health and Safety Performance Standards</td>
<td>1/4 c. bleach; 1 gallon water</td>
<td>1 TB bleach; 1 gallon water</td>
<td>1/4 c. bleach; 1 gallon water</td>
<td>1/4 c. bleach; 1 gallon water</td>
</tr>
<tr>
<td>NC Sanitation of Child Care Centers 15A N C A C 18 A</td>
<td>1/2 tsp bleach; 1 gallon water</td>
<td>1 TB bleach; 1 gallon water</td>
<td>1 TB bleach; 1 gallon water</td>
<td>N/A</td>
</tr>
<tr>
<td>OSHA Standards</td>
<td>1/4 - 1 1/2 c. bleach; 1 gallon water</td>
<td>1/4 - 1 1/2 c. bleach; 1 gallon water</td>
<td>1/4 - 1 1/2 c. bleach; 1 gallon water</td>
<td>1/4 - 1 1/2 c. bleach; 1 gallon water</td>
</tr>
</tbody>
</table>

**Bleach Solution Tips**

- Assign responsibility for mixing a bleach solution.
- Set up a specific location for mixing the bleach solution.
- Keep the bleach out of direct sunlight to preserve the effectiveness of the chlorine.
- Mix a fresh bleach solution daily.
- Use caution in mixing the bleach solution. If bleach is mixed with other cleaners/chemicals hazardous gases may be released.
- NC Sanitation Rule .2819 (c) requires that a suitable test or kit be used daily to test the strength of bleach solutions.
- Label the sanitizing solution spray bottle with a “B” for bleach.

**Announcing Keep It Clean!**

*Keep It Clean* is an interactive training module providing a fresh, engaging and enlightening approach to the topics of handwashing, diaper changing and food preparation. It brings together highly recommended activities, games and experiments from CCHCs across the state and was designed with the child care professional in mind. A fun factor is built in to *Keep It Clean* to make learning these critical skills easy and enjoyable. Reducing the spread of infectious diseases keeps everyone healthier in child care.

These research proven methods were developed and tested by the Quality Enhancement Project for Infants and Toddlers (QEP) and they work! Child care providers trained in *Keep It Clean* improved their handwashing, diaper changing and food preparation behaviors to the extent that their scores on health and safety items on the Environment Rating Scales showed improvements. To locate a CCHC who can provide this training in your area, or to get more information about the training, call the Resource Center, 1-800-367-2229.
Did You Know:

- White-out or correction fluid is toxic and must be kept in a locked container or room when not in use and out of the reach of children when it is being used. Always read labels to determine if a product must be kept out of reach of children.
- Push pins, tacks and staples that find their way to the floor and into the hands of young children become choking and injury hazards. Choose an alternative method for posting information and displays for parents, staff and children.
- Every medication must be kept locked up except when it is being given out.
- Many common indoor plants are poisonous – know the types of plants in your facility. [www.ces.ncsu.edu/depts/hort/consumer/poison/poison.htm](http://www.ces.ncsu.edu/depts/hort/consumer/poison/poison.htm) includes a comprehensive list of poisonous plants in N.C.

Managing Water Outdoors

Environmental health inspectors and DCD licensing consultants look for a variety of health and safety hazards when they visit a child care center. Water provides children with wonderful learning experiences; water also creates a potential safety hazard.

**Hazardous water situations**

- Standing water can be a drowning hazard. Children can drown in as little as one inch of water.
- Even a tiny amount of standing water can be a breeding ground for mosquitoes, which can carry diseases such as West Nile virus. A new generation of mosquitoes can be up and biting in just 7 days.
- Germs breed readily in the warm, moist environment created by standing water.

Standing water can accumulate on the ground, in gutters, planters, sandbox covers. **Eliminate all standing water to reduce water hazards.**

**Safe water experiences.** Because children often put water in their mouths, always use drinking water, or “potable water” for all water play activities. Rainwater, or runoff from roofs or other surfaces could be contaminated with chemicals or other unknown substances.

Water feels cool and soothing to warm skin on hot summer days and provides children with new opportunities for tactile stimulation. Water play also provides opportunities for children to measure, pour, squirt, and blow bubbles. Give children cups of various sizes and shapes, funnels, watering cans, dishpans, buckets, and toys that sink and float.

**Safe use of water tables/bins.** Water play is often offered outdoors, where children can splash freely without worrying about making a mess. If water tables are stored outdoors they should be covered. Clean and sanitize water tables or individual water bins before filling with potable water. To prevent the spread of germs children should wash their hands before and after water play. Children with runny noses, diarrhea, skin rashes or open sores should use individual water bins rather than share with other children. Clean and sanitize water tables after each use.

**Safe use of flowing water systems.** Water systems may be a series of water troughs with waterfalls, or a manmade “creek”. Pumps, hoses or other systems are used to supply flowing potable water. Direct flowing water into a drain to prevent standing water from accumulating, or send the water to your flower or vegetable garden. Watering thirsty plants teaches children to value water and not be wasteful. Flowing water systems are less likely to spread germs or pose a drowning hazard because the water does not accumulate.

**Sprinkler water systems** can be as simple as connecting a clean sturdy hose to a sprinkler head on a grassy lawn. Using multiple sprinklers with unique and varied methods of delivering the water can create a more complex “Water Park”. Install water systems over non-skid, rubberized surfaces to protect children from falls. Because sprinkler systems do not collect water they pose no risk of drowning and little threat of spreading germs.

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**A Caution About Crock Pots**

Manufacturers of Crock Pots do not recommend using them to warm infant bottles. The warm temperature of most crock pots is 140-160°F and the liquid temperature may reach 200°F. The National Health and Safety Performance Standard 4.018 recommends that the water temperature of a slow-cooking device like a Crock Pot, not exceed 120°F and that the container be emptied, sanitized and refilled with fresh water daily. The safest method for warming infant bottles, human milk or formula, is to place them under warm running water.
Arsenic Treated Wood Alert
As of December 31, 2003, arsenic (CCA – chromated copper arsenate) will no longer be used in treating wood. Arsenic can be released from CCA treated wood and exposure to arsenic can result in health risks to children. You can protect children by sealing the wood every 1-2 years with a weather-resistant coating such as an oil-based stain sealant. More information on public health recommendations can be found at http://www.epi.state.nc.us/epi/oii/cca.html or by calling Dr. Luanne Williams at 919-715-6429.

Don't Forget!
Week of the Young Child • April 18th – 24th
“Children’s Opportunities – Our Responsibilities”
go to www.naeyc.org for celebration guide and resource materials

DCD Child Care Rules Changes Effective May 1st
For a summary of the changes go to www.ncchildcare.net.

Buckle Up America Week Begins May 24th
Nearly one out of every two parents fails to restrain their infant or toddler properly in the car! When a crash occurs only 30% of infants and 60% of toddlers are protected by the restraints.
The “best” car safety seat is the one that fits the child, is installed correctly, and will be used every time the child rides in a vehicle.

Car Seat Safety Rules to follow:
• “No car seat, no travel.”
• Buckle Up, Then Ride - it's the law!
• Use a safe car seat: one that is less than 5 years old, has a known history, and has all its parts, instructions and labels.
• Follow manufacturers’ directions for proper installation.
• Use the right size car seat: check recommendations for height and weight.
• Infants under 12 months and less than 20 lbs. MUST be in a rear-facing seat.
• BACK seats are the BEST seats: Children under 12 should ride in the back seat.
• Check to see if your car seat has been recalled: call the Auto Safety Hot Line at 888-DASH-2-DOT (888-327-4236) and give them the name of manufacturer, model name and #, and date made.

April is
National Autism Awareness Month
National Youth Sports Safety Month
National Child Abuse Prevention Month
Public Health Month
April 7 World Health Day
April 18 - 24 Week of the Young Child
April 26 - 30 Playground Safety Week
April 25 - May 1 Infant Immunization Week

May is
Asthma and Allergy Awareness Month
Child Passenger Safety Month
Bicycle Safety Month
Mental Health Month
Skin Cancer Awareness Month
Healthy Vision Month
May 1 - 8 Safe Kids Week
May 10 - 16 Food Allergy Awareness Week
May 1 Worthy Wage Day
May 4 Childhood Depression Awareness Day
May 5 Children’s Day, Cinco de Mayo
May 7 National Child Care Provider Appreciation Day
May 15 International Day of Families
May 31 World No Tobacco Day/ Kick Butts Day
Healthy Homes

Providing children with a safe and healthy home is a top priority for most parents. Childproofing checklists are long, but when completed allow us to breathe a sigh of relief knowing we have done our best to keep our children safe. One aspect of this “childproofing” involves environmental health. The air we breathe and the water we drink have an enormous impact on health, especially on the health of young children who are particularly vulnerable to conditions in the environment.

Indoor Air Quality

Most people spend over 90% of their time indoors. Keeping indoor air free from too many pollutants will help keep children healthy. Indoor air pollutants come from a number of sources including cleaners, molds, pets, pesticides, and smoke.

Providing a smoke-free home for children can protect them from the harmful effects of secondhand smoke. Secondhand smoke is the smoke given off by the burning end of a cigarette, pipe, or cigar, as well as the smoke exhaled from the lungs of smokers. Exposure to secondhand smoke, also called passive smoking, can cause lung cancer in nonsmokers and is a serious health risk to children. Infants and young children whose parents smoke are among the most seriously affected. Children exposed to secondhand smoke are at increased risk for lower respiratory tract infections such as pneumonia, are more likely to have reduced lung function and symptoms of respiratory irritation such as cough, excess phlegm (thick mucus) and wheezing. Passive smoking can also lead to a buildup of fluid in the middle ear, and cause irritation of the eye, nose, and throat.

To reduce the health risks of passive smoking, don’t allow smoking in your house and don’t smoke any time children are present. Do not allow baby-sitters or others who work in your home to smoke in the house or near your children. Asthmatic children are especially at risk. Smoking, pets in the home, and damp basements can also affect indoor air quality and may cause or add to breathing problems.

Mold and Moisture

Damp houses provide an environment that encourages the growth of mold. Molds may be very harmful and some may increase the severity of certain allergy and asthma symptoms.

Carbon Monoxide

Carbon monoxide is a deadly gas that cannot be seen or smelled. It can come from your stove, heater, or other appliances if they are not working correctly. Have your appliances serviced regularly and get a carbon monoxide detector to help prevent exposure to dangerous levels of carbon monoxide.

Lead

Lead can poison children if it gets in their mouths or if they breathe it in from the air. Lead is found in some paints and sometimes in water pipes. Some older vinyl mini-blinds as well as older painted toys and furniture can also be lead hazards. Lead poisoning can be very serious for young children, sometimes causing lifelong problems with learning, growth and behavior. Have your home professionally tested for lead since many home test kits do not adequately distinguish between high and low levels of lead. Local health departments often provide assistance with identifying and managing lead problems in homes.

Call the Resource Center, 1-800-367-2229, for the brochure Lead Poisoning and Your Child. Available in Spanish and English.
Drinking Water
If your water comes from a private well, test it every year to make sure it is safe. Water from a water company or utility is tested before it is piped into your home, however, it is important that your pipes are in good condition, since lead pipes and lead solder can contaminate drinking water.

Hazardous Household Products
Many commonly used household products can be harmful or poisonous. Medications, paint thinners, bleach, rat poison, and drain cleaners are all potentially dangerous. Make sure all hazardous products are stored safely by locking them in a closet, cabinet or other secure location, definitely out of children's reach and out of children's sight. Always read labels and when possible choose less toxic or non-toxic products. Learn About Chemicals Around Your House is available at the Environmental Protection Agency web site: www.epa.gov/kidshometour/.

Pesticides
Bug spray, rat poison, and garden weed killer are all types of pesticides and are found in almost every household. The chemicals that kill pests are also harmful to you and your family. Storage and alternative approaches to dealing with pest problems will help prevent children from being exposed. More information about pesticides is available at: www.epa.gov/pesticides/about/faqs.htm.

Home Safety
Your chances of getting hurt at home are much higher than they are at work or school. The leading causes of death in the home are from falls, drowning, fires, poisoning, suffocation, choking, and guns. Very young children and older adults are the most likely to get hurt at home. Help protect children from hazards by storing items safely and preventing access to hazardous areas. Make sure plants in the home and yard are not poisonous or cannot be accessed by a child. Information is available at the NC Poison Center web site: http://www.ncpoisoncenter.org/index.cfm.

Poison Control – 1-800-222-1222

Outdoor Safety
Make sure that outdoor play equipment meets recommended safety standards. If play equipment is being constructed, refer to the Consumer Product Safety Commission (www.cpsc.gov) and ASTM (www.astm.org) for guidance on safety. If wood is used for construction, do not use arsenic treated wood (CCA – chromated copper arsenate). If arsenic treated wood is in existing structures such as decks, picnic tables, landscaping timbers, gazebos, fencing, patios, walkways, and play equipment, seal the wood with an oil-based, semi-transparent stain sealant every 1 – 2 years. Do not use arsenic treated wood in or near a vegetable garden.

For more information on making your home healthy, go to www.uwex.edu/healthyhome/topics.html for a wide range of links to specific topics.

References:


Sanitation and Health, page 1, References:
Young, Frank, M.D., Ph.D. In Day-Care Centers, Cleanliness Is a Must, U.S. Food and Drug Administration, FDA Consumer, January 2003 http://vm.cfsan.fda.gov/~dms/wh-dcare.html.
In all they do and say, adults act as role models for the children in their care. If the environment is clean and well organized... little eyes are watching and following your positive example!

Ways Children Can Participate in Taking Care of Their Environment:

- Help infants notice adults and older children as they work. Point out children doing jobs and give words to the actions they see. "Look... Bradley is helping carry the cleaning rags outside to help wash the windows! Do you see Tasha using the spray bottle to squirt water on the chair... she's helping clean up!" By giving language to the actions infants see and by providing role models of care for their environment, the groundwork is laid for children adopting responsible practices in the future.

- Toddlers can assist with a "Clean Up" Day. Pull out the child-sized brooms, dustpans, mops. Using a spray bottle of water and a cleaning rag, toddlers can assist with cleaning chairs, shelf tops or riding toys. Plan for it being messy!

- Sing a “Clean-Up Song” ... Clean up, clean up, everybody everywhere. Clean up, clean up, everybody do your share... to encourage participation in organizing the indoor or outdoor playspace after play. Special “clean-up” tapes or CDs could be incorporated into this transition time. How about cleaning to a Latin beat or floating the cushions back in the reading corner to nature sounds? Be respectful of children's ongoing work and projects. Find a special table or corner for projects children would like to continue working on or want to save and show to family members later in the day.

- Setting the table for lunch is a job preschoolers enjoy. Child-made laminated placemats, with outlines of plates, cups and silverware, allow children to practice beginning math skills - counting and one-to-one correspondence (one plate shape... so I need one plate).

- Planting a tree for Arbor Day, the last Friday in April, allows for many cooperative job opportunities. Children can work together to dig a hole for a tree, carry the buckets of soil away (maybe to a garden area) and then make sure that the tree is watered. *The Pine Tree is North Carolina's state tree! Preschool environments offer a wide range of possibilities for daily job opportunities: sweeping and dusting, filling and/or emptying the sand or water table, caring for a classroom pet or plant, reading a favorite book to younger children in the program, or helping wash the tables after snacks or meals.

References:


Teaching Young Children through Work and Play, NAEC Early Years are Learning Years http://www.naeyc.org/resources/eyly/2001/02.asp.

Photos on this page by Dave Hardy.
What should I look for when buying children’s books for my family child care home?

Look for books that will catch the eye of young children, stimulate their imagination, and hold their attention.

Nursery rhymes allow children to “luxuriate” in the sounds and rhythms of language. Begin “bathing” children in this verbal “potion” beginning in infancy by reading Mother Goose poems or Dr. Seuss rhymes.

Infants and toddlers enjoy picture books with bright colors and simple shapes. Wordless books, colorful ABC’s, and books with interesting patterns are good choices as they introduce colors, shapes and comparisons. Choose books with familiar objects and simple stories about everyday life. Cloth, board and vinyl books work well with very young children because they are easy to hold and manipulate.

Preschool children are ready for stories illustrated with more complex and detailed artwork. Illustrations should go hand in hand with a well-told tale. Look for good word choice, clear sentence structure, and simple plots. Select stories with settings and characters that are believable. Believable does not necessarily mean realistic. Children’s literature is full of talking ducks and fairies with magic wands. Characters are believable if they are consistent and make sense within the context of the story.

Children want to make sense of the world around them and enjoy books about nature, animals, foods and science. Tales about solving everyday problems, growing up and developing empathy for others will also captivate many young listeners.

Include a selection of folk/fairy tales. These “fantastic” tales frequently tackle the battle between good and evil and are often beautifully illustrated. Evil is overcome by the courageous acts of small, seemingly powerless individuals. When children identify with these characters they find symbolic models for confronting and overcoming their own challenges. The “happily ever after” message communicates hope, love and comfort to children navigating the sometimes-difficult waters of growing up.

Finally, make sure to include books reflecting a broad variety of interests, abilities and ages. Choose stories with familiar cultural settings as well as those that show people from diverse backgrounds. Reading aloud to children and surrounding them with terrific books are two of the best ways to support the development of early literacy skills.

The following websites provide lists of recommended books:
http://www.nypl.org/recommended2.cfm?ListID =61
http://www.ala.org/ala/alsc/awardsscholarships/literaryawds/caldecottmedal/caldecottmedal.htm
http://pbskids.org/lions/books/all_print.html