

**Promoting the Health and Safety of Child Care Staff
Training Module
version 3**

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NOTE TO TRAINERS

This Training Module presents information on promoting the health and safety of staff in child care settings. Learning activities previously included in the Module can now be found in the *Promoting the Health and Safety of Child Care Staff Trainer's Toolkit* that has been developed to accompany this Module. The Toolkit includes a Trainer's Guide to leading training sessions, PowerPoint slides, and materials for participants' packets.

For more information about using the NTI materials, please read "Guidelines for Using the NTI Curriculum Materials," available in the "Curriculum" section of the NTI Resources Website (accessed by entering your NTI username and password at <http://sakai.unc.edu>)

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LEARNING OBJECTIVES

After reading this Training Module, Trainers will be able to:

- Explain major occupational hazards in child care
 - infectious diseases
 - musculoskeletal injuries
 - falls
 - exposure to toxic materials
 - stress [Appendix B](#)

- Describe measures to prevent and manage occupational hazards

- Assist programs to develop and implement staff health and safety policies in accordance with OSHA regulations and the *CFOC* standards

- Identify opportunities to promote staff health through nutrition and physical activity

- Access staff health and safety resources

INTRODUCTION

Public health and pediatric communities have become increasingly concerned about the possible health risks of out-of-home child care for the children placed in such care. This concern stems from children's immunological immaturity and their lack of consistency in demonstrating hygienic behaviors. The health of child care staff, however, has garnered much less attention from the medical community in spite of the following considerations:

- 1) The health and safety of staff members has an impact on and consequences for child care programming. As Gratz, and Claffey (1996) note:

“Quality child care is dependent upon a quality workforce. The empirical investigation of adult health in child care is important documentation on which to frame training, policies, and procedures for both center-based and family home care. It is our contention that good physical and mental health is a precursor to any measure of quality in early childhood educational programs – not only physical and mental health of the children enrolled, but as importantly, the health of adults who care for, teach and nurture them each day. (p. 265)”

- 2) Caring for groups of young children has documented health and safety risks for the caregiver/teacher (Brown and Gerberich, 1993; King, Gratz, Scheuer, and Claffey, 1996; Owen, 1994; Reves and Pickering, 1992).

A Picture of Child Care Staff

Current surveys indicate that approximately 1.4 million providers are paid to care for nearly 12 million children ages 0-5 each year (Bureau of Labor Statistics, 2008; NACCRRRA, 2007). Ninety-seven percent of child care staff are women in their childbearing years (Burton et al, 2002). Earnings for child care staff are very low. Presently, the median annual income for child care workers is \$17,630, and benefits are generally minimal (Bureau of Labor Statistics, 2008). As an occupation, child care work is characterized by susceptibility to a number of health and safety risks including exposure to infectious diseases, injuries, exposure to environmental hazards, and job-related stress. Despite child care workers' exposure to illness and strain on the job, fewer than one third of child care centers provide fully paid health coverage for staff (Whitebook and Phillips, 1999).

This Module addresses how to promote staff health and safety through the prevention of major occupational health and safety hazards affecting child care staff. The Module also draws attention to the importance of staff nutrition and physical activity.

CARING FOR OUR CHILDREN NATIONAL STANDARDS (3rd ED., 2011)

Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Early Care and Education Programs (CFOC) is a set of 686 attainable standards that are intended for use by health care professionals, trainers, regulators, caregivers/teachers, academics and researchers, parents/guardians, and others “who work toward the goal of ensuring that all children from day one have the opportunity to grow and develop appropriately, to thrive in healthy and safe environments, and to develop healthy and safe behaviors that will last a lifetime” (*CFOC* 3rd ed., 2011, p. xxi). These standards, supported by the Maternal and Child Health Bureau, were developed by the American Academy of Pediatrics, the American Public Health Association, and the National Resource Center for Health and Safety in Child Care and Early Education.

The following is a list of the standards related to staff health in the child care environment, along with a short description and the page number in *CFOC* on which the standards can be found. All listed standards are referenced throughout the Module.

[1.4.4.1](#) – Continuing Education for Directors and Caregivers/Teachers in Centers and Large Family Child Care Homes, p.26

Provides details about when, how much, and what should be addressed in continuing education for directors and caregivers/teachers.

[1.4.5.3](#) - Training on Occupational Risk Related to Handling Body Fluids, p. 30

States that all caregivers/teachers who are at risk of exposure to blood or other blood-containing body fluids should be offered hepatitis B immunization and should receive annual training in Standard Precautions and exposure control planning.

[1.7.0.1](#) - Pre-Employment and Ongoing Adult Health Appraisals, Including Immunization, p. 39

States that all paid and volunteer staff members have a health appraisal before their first involvement in child care work.

[1.7.0.4](#) - Occupational Hazards, p. 41

States that centers and large family child care homes should have written personnel policies in place that address major occupational hazards, with specific concern to pregnant caregivers/teachers.

[1.7.0.5](#) - Stress, p. 41

Lists ways a child care facility can proactively lessen stress.

[1.8.1.1](#) - Basic Benefits, p. 43

Lists the basic benefits that a child care center and family child care home should offer.

[2.4.2.1](#) - Health and Safety Education Topics for Staff, p. 83

Details what health and safety topics should be included for staff.

[3.2.3.4](#) - Prevention of Exposure to Blood and Body Fluids, pp. 114

States that child care facilities should adopt the use of Standard Precautions developed for use in hospitals by the Centers for Disease Control and Prevention (CDC).

[3.6.1.2](#) - Staff Exclusion for Illness, p. 135

Lists the illnesses that exclude a staff member from work.

[5.1.1.11](#) - Separation of Operations from Child Care Areas, p. 202

Lists the rooms or spaces that should be separated from the child care areas and which the egress route should not pass through.

[5.1.5.1](#) - Balusters, p. 208

States that protective handrails and guardrails should have balusters/spindles at intervals of less than three and a half inches or have sufficient protective material.

[5.1.5.2](#) - Handrails, p. 208

States that handrails should be provided on both sides of stairways, be securely attached to the walls or stairs, and at a maximum height of thirty-eight inches.

[5.1.6.1](#) - Designated Walkways, Bike Routes, and Drop-off and Pick-up Points, p. 209

States that safe pedestrian crosswalks, drop-off and pick-up points, and bike routes in the vicinity of the facility should be identified, written in the facility's procedures, and communicated to all children, parent/guardians, and staff.

[5.1.6.4](#) - Walking Surfaces, p. 210

States that all walking surfaces should have a non-slip finish and be free of loose materials, water, and ice.

[5.2.8.1](#) - Integrated Pest Management, p. 226

States that facilities should adopt an integrated pest management program (IPM) to ensure long-term, environmentally sound pest suppression through a range of practices.

[5.2.9.1](#) - Use and Storage of Toxic Substances, p. 228

Lists the items that should be stored in their original labeled containers, in a locked room or cabinet, inaccessible to children, and separate from stored medications and food.

[5.2.9.2](#) - Use of a Poison Center, p. 229

Provides the procedure that should be followed in case of any exposure to toxic substances, or any potential poisoning emergency.

[5.2.9.3](#) - Informing Staff Regarding Presence of Toxic Substances, p. 229

States that employers should provide staff with hazard information, including access to and review of the Material Safety Data Sheets (MSDS) about the presence of toxic substances.

[5.2.9.6](#) - Preventing Exposure to Asbestos or Other Friable Materials, p. 231

States that any asbestos, fiberglass, or other friable material or any material that is in dangerous condition found within a facility should be repaired or removed.

[5.2.9.7](#) - Proper Use of Art and Craft Materials, p. 231

States that only art and craft materials that are approved by the Art and Creative Materials Institute (ACMI) should be used in the child care facility.

[5.2.9.8](#) - Use of Play Dough and Other Manipulative Art or Sensory Materials, p.232

Lists specific procedures that a child care program should have on the use and life span of manipulative art and sensory materials.

[5.2.9.13](#) - Testing for Lead, p. 235

Specifies what areas and surfaces of a child care facility should be tested for lead and that contaminated surfaces should be removed or abated according to health department regulations.

[5.3.1.7](#) - Facility Arrangements to Minimize Back Injuries, p. 241

States that the child care setting should be organized to reduce the risk of back injuries for adults.

[5.7.0.1](#) - Maintenance of Exterior Surfaces, p. 259

Details safety maintenance for porches, steps, stairs, and walkways.

[5.7.0.2](#) - Removal of Hazards from Outdoor Areas, p. 259

Lists items and conditions that should not be in or around outdoor activity areas.

[7.2.0.3](#) - Immunizations of Caregivers/Teachers, p. 299

States that all caregivers/teachers be current with all immunizations recommended for adults by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC).

[7.3.10.1](#) - Measures for Detection, Control, and Reporting of Tuberculosis, p. 309

Designates tuberculosis as a notifiable disease at the national and local level, and details how facilities should collaborate with local or state health department officials.

[7.6.1.3](#) - Staff Education on Prevention of Bloodborne Diseases, p. 323

States that all caregivers/teachers should receive training at employment and annually thereafter as required by the Occupational Safety and Health Administration (OSHA) on how to prevent transmission of bloodborne diseases.

[7.6.2.1](#) - Infection Control Measures with Hepatitis C Virus (HCV), p. 324

States that Standard Precautions should be followed to prevent infection with hepatitis C virus (HCV) infection.

[7.6.3.3](#) - Staff Education About Preventing Transmission of HIV Infection, p. 325

States that caregivers/teachers should be knowledgeable about routes of transmission and about prevention of transmission of bloodborne pathogens, including HIV, and practice preventive measures.

[7.7.1.1](#) - Staff Education and Policies on Cytomegalovirus (CMV), p. 326

States that facilities share with staff members of childbearing age the increased probability of exposure to CMV, potential for fetal damage, preventative measures, and availability of counseling and testing.

[7.7.1.2](#) - Testing of Children with Cytomegalovirus (CMV), p. 327

States that all children be assumed to have CMV and that testing or exclusion of children with CMV is not recommended.

[9.3.0.1](#) - Written Human Resource Management Policies for Centers and Large Family Child Care Homes, p. 375

Details the items that should be addressed in a facility's human resource management policies, and that these policies should be reviewed and signed by the employee affected by them upon hiring and annually thereafter.

[9.3.0.2](#) - Written Human Resource Management Policies for Small Family Child Care Homes, p.376

Details the items that should be addressed in a small family child care home policies, and that these policies should be reviewed and revised annually.

[Appendix B](#) - Major Occupational Health Hazards, p. 426

Includes general and specific infectious diseases, injuries and noninfectious diseases, environmental exposures, and stress determinants.

[Appendix E](#) - Child Care Staff Health Assessment, p. 429

This appendix is a form to be filled out by the employer and a licensed physician or CRNP.

[Appendix Q](#) - Getting Started with *MyPlate* p. 459

Provides an introduction to *MyPlate*.

[Appendix R](#) - choose MyPlate: 10 tips to a great plate p. 460

Provides ten tips to making food choices for a healthy lifestyle.

WHAT THE CCHC SHOULD KNOW: HEALTH AND SAFETY RISKS FOR CHILD CARE STAFF AND PREVENTIVE MEASURES

The occupation of child care worker is associated with higher than average susceptibility to the following health and safety risks:

- Increased exposure to infectious diseases (Reves and Pickering, 1992; Churchill and Pickering, 1997)
- Musculoskeletal injuries (back, neck, and limb injuries) (Owen, 1994; NIOSH, 1997a).

Child care work has also been associated with:

- Falls (Brown and Gerberich, 1993; Whitebook and Ginsburg, 1983)
-
- Stress (Maslach and Pines, 1977; Gruenberg, 1998; Aronson, 2001)

The following section details each of the above risks for child care staff along with prevention strategies the CCHC can promote in the child care setting.

Infectious Diseases

“Information abounds about the risk of infectious disease for children in child care settings. Children are reservoirs for many infectious agents. Staff members come into close and frequent contact with children and their excretions and secretions and are vulnerable to these illnesses. In addition, many child care workers are women who are planning a pregnancy or who are pregnant, and they may be vulnerable to potentially serious effects of infection on the outcome of pregnancy” (CFOC, 3rd ed., 2011, p. 43).

Research examining the health effects of out-of-home child care has produced convincing evidence that these children have a higher incidence of common infectious diseases—and more severe diseases—than children reared in their own homes (Wald, Guerra and Byers, 1991; Black et al., 1994; Holmes, Morrow, and Pickering, 1996). Child care staff also acquire infectious diseases at a higher rate than adults who do not work in child care facilities (Reves and Pickering, 1992; Holmes, Morrow, and Pickering, 1996). The increased risk for providers is attributed to the higher incidence of disease in the population with which they work (young children) and to children’s greater propensity for transmitting diseases. Some of the diseases providers may contract from children in the child care setting are more serious when acquired by adults (e.g., Hepatitis A), and others may have severe consequences for staff with compromised immune systems or who are pregnant (e.g., cytomegalovirus).

Please see the NTI Module *Infectious Disease in the Child Care Setting* for more detailed information about the spread and prevention of infectious diseases in child care.

Sources of Risk

Two factors in the child care setting increase the risk of exposure to infectious disease by the staff. These are child-related factors and group care-related factors.

Child Factors: Some of the risks to staff of contracting and transmitting infectious diseases in the child care environment are due to the fact that the children cared for are so young. Young children, ages 0-5, are characterized by:

- **Immature immune systems:** Infants have immature immune systems that make them especially vulnerable to infections that they can then transmit to others.
- **Physiological immaturity:** Physiologically, infants and young children require hands-on care, and close contact for routine activities such as feeding, diapering, and cuddling. While essential, such contact increases the risk of staff infection. Young children's incontinence also poses a risk for transmission of urinary and fecal pathogens to staff. Finally, young children are less able to control the drooling/leaking of fluids from their mouths than older children, which increases the risk of transmission of respiratory secretions to staff.
- **Developmentally appropriate behaviors:** Young children explore objects orally as well as manually and visually. They are also incapable of consistently performing basic hygienic behaviors such as wiping their noses or washing their hands which increases the risk of transmitting respiratory secretions and fecal pathogens to staff.
- **Group Care Factors:** Some characteristics unique to child group care also increase the risk of transmission of infectious disease to the staff.
- **Children in close contact:** Child care brings children together in close contact for routine care, play, and learning. Children's touching of each other and sharing personal belongings, toys, and classroom materials contribute to the spread of infection.
- **Number of unrelated children in care:** Children in child care are typically unrelated and each child contributes his/her own set of pathogens to the environment; thus, the more children in the group, the greater the likelihood that more infectious agents will be introduced and shared with other children and staff.
- **Age group mixing:** Staff who care for both infants and toddlers/preschoolers are at greater risk than those who care for only one of these age groups. Staff who care for both are at greater risk of exposure to enteric agents from infants and respiratory tract agents from toddlers/preschoolers.
- **Children/staff with mild illnesses:** Children and/or staff who attend child care when they are mildly ill increase the risk of transmitting the infection to all others present.

Patterns of Disease Manifestation

It is critical for CCHCs and child care staff to be aware of the different patterns of manifestation of infectious diseases that may occur in the child care setting. Not all diseases

produce the same symptomatic response from staff and children alike. In some cases, such as Hepatitis A, children may be infected but show no symptoms, while staff manifest a more serious response. Other diseases, such as *H. influenzae* type b, may produce no apparent response in staff but a more severe response in children. A final pattern is of greatest concern to child care staff. Some diseases, such as cytomegalovirus (CMV), may produce a mild or asymptomatic response in both the children and staff; however, fetal development may be seriously affected in staff who are infected with CMV for the first time during pregnancy.

Modes of Disease Transmission in the Child Care Setting: Some examples of common childhood infectious diseases and how they are spread in child care settings are presented in Table 2 on the following page.

Table 2: Examples of How Some Childhood Infectious Diseases Are Spread

Through Respiratory Transmission

Method of Transmission	Behaviors that Spread the Disease	Examples of Diseases	Possible Symptoms
Breathing germs in the air and/or contact with infected secretions from the nose and mouth	<ul style="list-style-type: none"> • Coughing or sneezing into the air • Kissing on the mouth • Sharing mouthed toys • Wiping noses without thorough hand washing • Poor ventilation 	<ul style="list-style-type: none"> • Cold • Flu • Measles • Pink eye • Chicken pox • Tuberculosis • Parvovirus B19 (fifth disease) 	<ul style="list-style-type: none"> • Coughing • Fever • Rash • Runny nose • Sore throat • Earache

Through Stool or Fecal-Oral Transmission

Method of Transmission	Behaviors that Spread the Disease	Examples of Diseases	Possible Symptoms
Oral contact and/or manual contact with items contaminated by infected stool	<ul style="list-style-type: none"> • Diapering and toileting or food preparation without thorough hand washing • Sharing mouthed toys • Unsafe food preparation • Not disinfecting • diapering areas 	<ul style="list-style-type: none"> • Gastroenteritis (E. coli, rotavirus) • Pinworms • Hand, foot, and mouth disease • Hepatitis A • Polio 	<ul style="list-style-type: none"> • Stomach upsets • Nausea • Vomiting • Diarrhea

Through Skin Contact

Method of Transmission	Behaviors that Spread the Disease	Examples of Diseases	Possible Symptoms
Contact with infected hair, skin, and infected objects	<ul style="list-style-type: none"> • Touching skin or hair that is infected • Sharing clothing, hats, towels, and brushes that are infected 	<ul style="list-style-type: none"> • Herpes • Ringworm • Scabies • Head lice • Impetigo • Varicella-zoster (Chickenpox) • Methicillin Resistant Staphylococcus Aureus (MRSA) 	<ul style="list-style-type: none"> • Rash • Oozing sores • Boils, pimples • Itching • Visible nits or eggs

Through Contact with Blood or other Body Fluids

Method of Transmission	Behaviors that Spread the Disease	Examples of Diseases	Possible Symptoms
Contact with infected blood or sometimes other body fluids, such as urine, tears, or vaginal secretions	<ul style="list-style-type: none"> • Sexual contact • Changing bloody diapers without gloves • Providing first aid without gloves • Getting infected blood or body fluids into eyes, mouth, or broken skin 	<ul style="list-style-type: none"> • HIV/AIDS • Hepatitis B & C • Cytomegalovirus (CMV) • Herpes 	<ul style="list-style-type: none"> • Fatigue • Weight loss • Yellow skin • Weakened immune system

(Adapted with permission from The California Childcare Health Program, 2001.)

The severity of infection transmitted to staff members depends upon their immune status, how the disease is spread, and the dose (number of organisms). For some diseases, such as Hepatitis A, CMV, and Parvovirus B19 (fifth disease), staff members are more vulnerable because they are less likely to have ever been exposed before working in child care; for other diseases, such as rotavirus, staff members are likely to have had previous exposure, but their immunity may have diminished. The following section describes some of the diseases that show an increased incidence in child care settings and may have consequences for child care staff.

Infections with Potentially Severe Outcomes for Child Care Staff

Today, the infections that show a relatively high frequency in child care settings and pose the most severe outcomes for staff are CMV, Hepatitis A, varicella-zoster (chickenpox), and Parvovirus B19. In addition, although they are very infrequent in child care settings, bloodborne infections (Hepatitis B, Hepatitis C and HIV) are also included in this section because they have the potential for severe outcomes and are considered occupational risk factors for child care workers.

CMV: The infection that currently poses the greatest potential risk for female child care staff of child-bearing age is CMV. CMV is a herpes virus and as such is characterized by an initial infection followed by a lifelong period of dormancy, during which there is no apparent illness. CMV is a pervasive virus. It infects between 50% and 80% of adults in the United States by age 40 (CDC, 2006). Unlike some other herpes viral infections (e.g., varicella-zoster), initial infection with CMV usually manifests few symptoms. For most healthy children and adults who acquire CMV after birth (including women who are pregnant) there are few health consequences. However, congenital CMV poses serious risks for the developing fetus. It is one of the major viral causes of congenital infection resulting in severe birth defects in the United States and worldwide (Churchill and Pickering, 1997). While most infected fetuses escape resulting illness or disability, 10% to 20% will have hearing loss, developmental delay, cerebral palsy, and vision disturbances.^{[7.7.1.1](#)}

Because it is transmitted through bodily fluids such as blood, tears, urine, breast milk, saliva, or nasal secretions, CMV is prevalent in the child care setting, and providers experience a level of exposure to CMV higher than any other non-health occupation. Pass, Hutto, Lyon and Cloud (1990) detected CMV in 57% of children in child care as compared to 8% in home care. Other studies have detected rates of CMV among children in child care as high as 80% (Reves and Pickering, 1992). The CMV virus among children in out-of-home care is so prevalent that testing for this virus in children is not recommended. All infants and toddlers should be assumed to be infected with CMV.^{[7.7.1.2](#)}

Currently there is no licensed vaccine for CMV. The incidence of first infection with CMV among women who are pregnant in the U.S. is estimated at 1% to 4% (CDC, 2006), although this percentage may be higher among child care workers. Infection of women who become exposed to the virus for the first time during pregnancy results in congenital infections to the fetus in 33% of cases. Only 10% to 15% of congenital infections result in serious clinical complications to the fetus (CDC, 2006).

All female child care staff should be educated about CMV and its transmission, as well as hygienic practices, such as handwashing, that reduce the risk of infection (CFOC, 3rd ed., 2011; Churchill and Pickering, 1997; Reves and Pickering, 1992; Adler, 1989). Staff who are pregnant should receive health counseling about the possible risks of CMV infection to their unborn children. Testing for serum antibodies to CMV is available. Women who have antibodies to CMV can be reassured that their risk of having an infant affected by congenital CMV infection is low.^{7.7.1.1} The Centers for Disease Control and Prevention (2006) recommend that child care workers who are pregnant work with children over 2 ½ years of age to minimize their risk of a CMV infection.

Hepatitis A: Hepatitis A is a liver disease caused by a virus. Outbreaks of Hepatitis A in child care centers have been well documented (Churchill and Pickering, 1997). The virus transmits easily and rapidly among diapered children in child care and between children and providers. Clinical illness resulting from Hepatitis A in children is unusual. Reves and Pickering (1992) note that fewer than 5% of children under three and fewer than 10% of children under six with Hepatitis A develop jaundice. On the other hand, more than 75% of older children and adults with the infection develop jaundice. Often the presence of the disease in child care settings is not detected until several providers become ill. For adults with Hepatitis A, fever, loss of appetite, nausea and diarrhea may persist for weeks. Hepatitis A vaccines are available and children may be vaccinated starting at 12 months of age.

Varicella-Zoster (Chickenpox): Varicella-zoster is usually a benign illness of childhood characterized by a rash with water blisters and fever. Severe complications can occur in a small number of cases. However, in adults, varicella-zoster can be a severe infection. The fatality rate of the infection among 30- to 49-year-old adults is 25.2 per 100,000 compared to .75 per 100,000 for 1- 14-year-old children (Cordell, 2001). If infection occurs during pregnancy, varicella-zoster carries the potential to harm fetal development. Like CMV, the varicella-zoster virus can remain dormant in the nerve tissue of persons for many years, but with damage to the immune system, it can be reactivated as shingles or zoster. A vaccine for varicella-zoster has been available since 1995 and is strongly recommended for child care workers who do not have a documented record of previous infection with the disease, or negative blood tests for immunity (CDC, 2001a).

It is important to keep in mind that varicella-zoster vaccination does not guarantee complete protection. “Breakthrough” infections, in which a varicella infection occurs in a person more than 42 days after receiving the vaccination, have led to outbreaks among vaccinated as well as unvaccinated children in the child care setting (Galil et al., 2002). To reduce the risk of breakthrough infections, a two-dose vaccine regimen is recommended (CDC, 2007). When outbreaks of chickenpox occur in the child care setting, susceptible providers are especially vulnerable. Unvaccinated staff with impaired immune systems are particularly at risk. When an outbreak occurs, the CDC (2001a) and American Academy of Pediatrics (2000) recommend that all non-pregnant susceptible persons, 12 months and older, receive the varicella-zoster vaccine within 72 hours after exposure to the disease. (In this instance, the CDC defines a ‘susceptible’ person as an individual who has not received the varicella-zoster vaccine *and* has no prior history of varicella-zoster infection.)

Parvovirus B19: Parvovirus B19 is a common infection. About 50% of adults have previously been infected and acquired immunity. The most common illness associated with Parvovirus B19 is fifth disease. In children, fifth disease is manifest as a mild rash on the face, trunk, and limbs. In adults, the illness can be more severe and is sometimes associated with joint pain and/or swelling in addition to a rash. About 20% of adults and children infected with Parvovirus B19 evidence no symptoms at all. For healthy adults and children, medical treatment is usually not needed for recovery from fifth disease. For women who are pregnant, however, the situation can be serious. Generally, infection during pregnancy produces only a mild illness in women and seldom has adverse effects on fetal development. However, in 4-10% of previously uninfected women, infection during pregnancy results in severe anemia to the fetus and subsequent miscarriage (Reves and Pickering, 1992; CDC, 2001b). The risk for miscarriage is highest in the second trimester of pregnancy (Pass, 1991). Otherwise, fetal infection with Parvovirus B19 is not associated with birth defects, disease, or mental retardation (Holmes et. al., 1996; CDC, 2001b).

Child care workers are at greater risk for exposure to Parvovirus B19 because the disease is spread through respiratory secretions, such as saliva or nasal secretions, which may be easily passed from one child to another, and from children to staff, through close contact, shared toys, handling of bodily fluids, etc. (Reves and Pickering, 1992). There is no vaccine for Parvovirus B19. Education about the health risks of infection with Parvovirus B19 for female child care staff of childbearing age is recommended (Reves and Pickering, 1992; CDC, 2001c). Staff who are pregnant who have a documented Parvovirus B19 infection should consult with a physician.

Infection Through Contact with Blood or other Body Fluids: Hepatitis B, Hepatitis C, and Human Immunodeficiency Virus (HIV): HIV, Hepatitis B and Hepatitis C are viruses transmitted through direct contact with blood or body fluids of an infected person. The risk of transmitting these diseases in the child care setting is very low. The largest risk factor might be an infected child or staff member with bleeding problems or an infected child with aggressive behaviors (e.g., biting or scratching). However, even under these circumstances, transmission is unlikely (Churchill and Pickering, 1997). Vaccination for Hepatitis B is recommended for child care staff and the children in their care if a specific risk factor is present. [7.2.0.3](#)

Regardless of the degree of risk, child care work may involve direct contact with human blood and body fluids, and exposure to blood borne infections is an occupational hazard. [Appendix B](#) Federal laws require that workers with such potential risks receive proper immunization and training to prevent exposure. [1.4.5.3](#), [7.6.3.3](#) The federal regulation relevant to blood borne pathogen exposure is U.S. Occupational Safety and Health Administration (OSHA) Standard 1910.1030. Prevention of staff exposure to blood and bodily fluids is also covered in *CFOC* (3rd ed., 2011) standard [3.2.3.4](#), [7.6.1.3](#), and [7.6.3.3](#). All staff in the child care facility should be familiar with these standards.

Infections with Less Severe Outcomes for Child Care Staff

Respiratory and gastrointestinal tract infections are the most common illnesses reported among children in child care, and researchers believe these infections represent the bulk of

illnesses transmitted from children to child care staff (Cordell, 2001; Holmes, Morrow, and Pickering, 1996).

Respiratory Tract Infections: Studies have compared the incidence of respiratory infections among children in different types of child care settings versus children reared at home (Holmes, Morrow, and Pickering, 1996). However, few have examined the transmission to child care staff. A possible explanation for this omission is that the majority of respiratory infections are less severe in adults than in children (Reves and Pickering, 1992).

Outbreaks of group A streptococcal infections have been shown to involve staff as well as children (Smith, Wilkerson, and Kaplan, 1989; Falck and Kjellander, 1992). For example, in a sample of 187 children and 27 staff members, Smith et al. found that 49% of the children and 33% of the staff cultured positive for group A streptococcus. In the Falck and Kjellander study, both children and staff presented symptoms, but the staff symptoms were less severe.

Gastrointestinal Illnesses: The increased risk of exposure for child care staff, especially those who work with diapered children, to gastrointestinal infections such as rotavirus, shigellosis, giardiasis and cryptosporidiosis has been well documented (Cordell, 2001). Although most of the information about risk of these illnesses for providers comes from outbreak studies, the overall risk of gastrointestinal illnesses among child care staff is believed to be higher than in the general population (Cordell, 2001; Holmes, Morrow, and Pickering, 1996).

Preventive Measures

Staff Immunization: The routine vaccination 2010 schedule for persons aged 19 and older can be found online at <http://www.cdc.gov/mmwr/PDF/wk/mm5901-Immunization.pdf>

In concert with the CDC's, Advisory Committee on Immunization Practices' (ACIP) "Recommended Adult Immunization Schedule", the *CFOC* (3rd ed., 2011) standards advocate that all child care staff should have received the recommended vaccines in the following categoris:^{7.2.0.3}

- a) Vaccines recommended for all adults who meet the age requirements and who lack evidence of immunity (i.e., lack documentation of vaccination or have no evidence of prior infection):
 - 1) Tdap/Td;
 - 2) Varicella-zoster;
 - 3) MMR (measles, mumps, and rubella);
 - 4) Seasonal influenza;
 - 5) Human papillomaviruses (HPV) (eleven through twenty-six years of age);
 - 6) Others as determined by the ACIP and state and local public health authorities.
- b) Recommended if a specific risk factor is present:
 - 1) Pneumococcal;

- 2) Hepatitis A;
- 3) Hepatitis B;
- 4) Meningococcal;
- 5) Other as determined by the ACIP and state and local public health authorities.

(See *CFOC* standard for exceptions.)

“Transmission of tuberculosis should be controlled by requiring all adolescents and adults who are present while children are in care to have their tuberculosis status assessed with a Tuberculin Skin Test (TST) or interferon gamma release assay (IGRA) blood test before caregiving activities are initiated”.^{7.3.10.1} Staff with negative skin tests do not require re-screening on a regular basis unless s/he is at risk for acquiring a new infection or it is mandated by local or state health departments. Staff members with positive skin tests and/or those who develop an illness consistent with tuberculosis should be cleared for employment by their primary care providers or health department official.^{7.3.10.1}

Disease Management Practices: While vaccination reduces the risk of the some of the more serious diseases staff may encounter in child care, they remain more susceptible than the general population to some diseases. To reduce the incidence of these illnesses, the infectious disease research and government regulations indicate the following procedures for staff:

- 1) Hygienic procedures for handwashing, diapering, food preparation, and cleaning and sanitation of the environment and toys in the child care setting. (More information on the use of hygienic practices for infectious disease management is presented in the NTI module *Infectious Disease in the Child Care Setting*.)
- 2) Exclusion criteria and procedures for both ill staff and children. In a statewide survey of 446 randomly selected child care staff members in Wisconsin (78 directors, 236 teachers, and 132 family providers), Gratz and Claffey (1996) found that 87% of staff reported working when ill. The *CFOC* standards (3rd ed., 2011) list 17 conditions^{3.6.1.2} for which staff may be temporarily excluded to prevent the spread of illness.
- 3) The OSHA Bloodborne Pathogen standard 1910.1030 requires that any workplace that exposes employees to bloodborne pathogens must have a *written* exposure prevention plan that explains the requirements of the standard and addresses in detail how the standard will be implemented in that specific workplace. While general guidelines may exist, each plan must be tailored to the unique characteristics of its own setting.
- 4) Staff who are pregnant are especially vulnerable to infectious diseases. Staff who are pregnant or staff who are considering pregnancy should consult with their health care providers for advice about immunizations and other measures to promote a healthy pregnancy while working in the child care setting. Gratz and Boulton (1994) add that child care facilities with staff who are pregnant should pay special attention to the following recommendations:

- Maintain frequent and proper handwashing among staff
- Maintain use of gloves when appropriate (e.g., when handling blood- or blood-containing body fluids)
- Establish dependable communication between parents/guardians and staff for information about possible exposures to illnesses

Musculoskeletal Injuries

Musculoskeletal injuries involve the supporting structures of the anatomy such as spinal discs, nerves, tendons and muscles. According to NIOSH, occupations that require “frequent or heavy lifting, pushing, pulling, or carrying of heavy objects” put workers at risk for musculoskeletal injury. The risk is serious, affecting 7% of the population and accounting for 14% of physician visits and 19% of hospital stays annually (NIOSH, 1997b).

Identification of Musculoskeletal Risks and Injuries for Staff in the Child Care Environment

Ergonomics is the science of “fitting workplace conditions and job demands to the capabilities of the workers” (NIOSH, 1997b). Ergonomic analyses of the child care workplace have identified the following musculoskeletal risk factors to child care workers: frequent heavy lifting and carrying (e. g., children), sitting on the floor or in child-size chairs with insufficient or no back support, kneeling, squatting, reaching to a variety of heights (King et al., 1996; NIOSH, 1997b).

Characteristically, the work-related injuries reported for workers in child care settings are injuries to the back, upper limbs, neck, and lower limbs (NIOSH, 1997a).

Preventive Measures

Ergonomic experts concur that the best methods for preventing musculoskeletal injuries among child care staff are:

- Education in proper body mechanics to understand the importance of posture in preventing strain on the lower back
- Education in proper lifting and carrying techniques
- Provision of furniture and fixtures at appropriate adult heights
- Regular exercise and stretching for increased strength and flexibility
- Maintenance of proper body weight to prevent straining back muscles
- Use of proper footwear

(Aronson, 1996; AAOS, 2000; NAEYC, 1998; King et al., 1996; Gratz and Claffey, 1997; NIOSH, 1997b; Wortman, 2001)

Table 3, on the following page, lists specific ergonomic problems observed in a child care facility with accompanying recommendations for each problem.

Table 3: Ergonomic Analysis of the Child Care Work Environment

PROBLEM	RECOMMENDATIONS
1. Incorrect lifting of children, toys, supplies, equipment, etc.	<ul style="list-style-type: none"> • Educate on proper lifting and carrying techniques. • Promote job rotation where possible. • Encourage independence in children whenever feasible.
2. Inadequate work heights (e.g. child-size tables and chairs)	<ul style="list-style-type: none"> • Create a chair that would allow the staff to slide their legs under the table. • Use sit/kneel chairs. • Educate staff on proper body mechanics. • Provide the staff with adult-size chairs for occasional use.
3. Difficulty lowering and lifting infants in and out of cribs	<ul style="list-style-type: none"> • Modify crib sides to enable them to slide down or modify the legs of the cribs to accommodate the staff. • Educate staff on the proper use of body mechanics.
4. Frequent sitting on the floor with back unsupported	<ul style="list-style-type: none"> • When possible, have staff sit up against a wall or furniture for back support. • Perform stretching exercises. • Educate staff on proper body mechanics.
5. Excessive reaching above shoulder height to obtain stored supplies	<ul style="list-style-type: none"> • Redesign kitchen area, placing heaviest items at waist height. • Reorganize snacks and supplies to simplify snack preparation procedures. • Utilize step stools when retrieving items which are above cupboard height.
6. Frequent lifting of infants and toddlers on and off changing tables	<ul style="list-style-type: none"> • Educate staff on proper body mechanics. • Have toddlers use steps in order to decrease the distance staff are lifting the children.
7. Forceful motions and awkward posture required to open windows	<ul style="list-style-type: none"> • Use step stool to allow for better leverage and reduce awkward posture. • Have maintenance staff improve quality of window slide.
8. Carrying garbage and diaper bags to dumpster	<ul style="list-style-type: none"> • Provide staff with cart to transport garbage. • Relocate garbage cart closer to work area. • Reduce size and weight of loads. • Educate staff on proper body mechanics.

Source: King P, Gratz R, Scheuer G, Claffey A. The ergonomics of child care: conducting worksite analyses. *WORK* 1996;6:25-32.

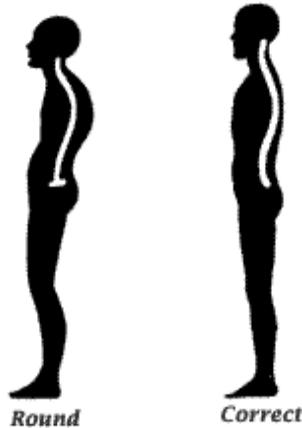
Education in Proper Body Mechanics for the Maintenance of Good Posture: The major principles of body mechanics are to:

- Maintain normal spine curves
 - Use a wide base of support
 - Keep the center of gravity over the base of support
- (Gratz and Claffey, 1997)

The natural curves of the spine provide the shock absorption, stability, and mobility, and they must be supported and maintained (Wortman, 2001). Good posture at all times is the primary mechanism for supporting normal spine curves and reducing the risk of injury. Good posture requires that the ears, shoulders, hips, knees and ankles conform to a vertical straight line. For

example, the spine is not supported during sitting or standing in a slumped position as indicated in Figure 1, below (AAOS, 2000a).

Figure 1: Spine in Correct Posture



To maintain good posture during child care work, experts recommend the following practices:

- Use adult-size furniture whenever possible, and adjust the height of changing tables to waist level.
 - When rising from child-size chairs, providers should assume a squat position keeping the back straight, pelvis level, and abdomen tight while using the thigh muscles to raise the body to standing.
 - When floor sitting is necessary, caregivers/teachers should sit with their backs against a firm support (such as a wall).
 - Avoid sitting or standing for long periods of time. When standing for long periods, shift weight from side to side and change positions to avoid stress on certain muscles.
 - Store most commonly used items where they are accessible from a normal standing position; use stepping stools for reaching high places.
 - To get down to child level, assume a squatting or kneeling position (maintaining normal spine curves) instead of bending forward and downward from the waist.
- (Aronson, 1996; Gratz and Claffey, 1997; AAOS, 2000a; Wortman, 2001)

Education in Proper Lifting Techniques: Back injuries, especially those caused by lifting a child, account for the greatest proportion of total injuries to staff in child care settings (Brown and Gerberich, 1993). The key to proper lifting is to maintain good posture, i.e., normal spine curves, as much as possible during the lift. Gratz and Claffey (1997) point out that it is usually not the amount of weight lifted but how the lifting is done that can lead to injury.

When lifting children or other heavy objects, child care staff should following these guidelines:

- Plan ahead and do not rush. For example, know where the child is going to be set down and the best path to get there.
- Make sure there is enough room to lift safely.
- Use a firm base of support (feet about shoulder width apart, with one foot alongside the child and the other slightly back).
- Squat down, bending at the knees, not the waist. Tighten stomach muscles and keep the back as straight as possible.
- Have a firm grasp of the child before beginning to lift.
- Use leg strength to lift slowly. Never twist the body. Twisting stresses the muscles, ligaments and joints of the spine.
- Use slow and smooth movements.
- To put the child down again follow the same steps in reverse order. Have a firm grasp on the child, and place feet shoulder width apart, one foot slightly forward of the other. Keep the back vertical and bend at the knees to lower the child. Extend arms straight down and do not rotate the trunk.

(AAOS, 2000a; AAFP, 2001a; NAEYC, 2002; Gratz and Claffey, 1997; Wortman, 2001)

Provision of Adult-size Furniture and Fixtures: Ergonomic analyses of the child care setting commonly emphasize the following problems:

- Crib designs (especially low playpen type cribs with no side openings). Staff were often forced to bend forward at the waist at a 90 degree angle while keeping the legs straight to lower, lift and adjust children – in violation of proper body mechanics.
- Food items and other supplies stored overhead. Staff was forced to reach and lift above shoulder height.
- Lack of adult chairs.

(King et al., 1996; Gratz and Claffey, 1997)

The major injury associated with use of child-size furnishings and inadequate work surface heights is back injury (King et al., 1996).

The *CFOC* standards (3rd ed., 2011) echo the concerns and recommendations of ergonomic experts for child care workspaces. To reduce risk of staff injuries, especially back injuries, the standards recommend the use of :

- Adult-height changing tables.

- Small, stable stepladders, stairs, and similar equipment to enable children to climb to the changing table or other places to which they would otherwise be lifted.
- Convenient equipment for moving children reducing the necessity of carrying them.
- Adult furniture that eliminates awkward sitting or working positions in all areas where adults work. [5.3.1.7](#)

The Infant/Toddler Environment Rating Scale -Revised (ITERS-R) (Harms, Cryer and Clifford, 2002) consider the provision of furniture that promotes self-help skills in children (e.g., steps to the changing table or sink), some adult-size seating for routine care, and comfortable adult seating for working with children essential components of a good or excellent quality child care program. An *excellent* rating on the scale of *Furniture for Routine Care and Play* requires that:

“Adult seating should be provided next to child-sized furnishings for care and learning (e.g., diapering/toileting, meals, play activities) so helping adults do not strain their backs while assisting children” (ITERS-R, 2002, p.13).

Adult-size chairs should have good lumbar support, no sharp edges, and be wide enough and tall enough (or adjustable) so that the employees’ thighs are parallel to the floor and lower legs are perpendicular to the floor, with the feet resting flat (Cornell University Ergonomics Web, 2002).

Regular Exercise and Stretching: Maintaining general fitness and flexibility is essential to maintaining musculoskeletal health (Aronson, 1996; Wortmann, 2001; Gratz and Claffey, 1997). Please see the section of this Module on physical activity for more information on the benefits of physical activity for neuromuscular health.

Maintaining Proper Body Weight: Maintaining proper body weight through a nutritious diet and physical activity supports musculoskeletal health and reduces the risk of back strain (AAOS, 2000a; Gratz and Claffey, 1997).

Proper Footwear: Wortman (2001) stresses that wearing comfortable shoes with good shock absorption will help reduce musculoskeletal injuries to child care workers.

Particular Musculoskeletal Risks for Staff Who Are Pregnant: Awareness of musculoskeletal risks is particularly important for staff who are pregnant. Back problems, swollen feet, and varicose veins are common problems during pregnancy under the best of conditions (Gratz and Boulton, 1994; Aronson, 1987), and the physical requirements of child care work such as bending, squatting, sitting on the floor, and lifting would be expected to increase their frequency and intensity. In addition to the musculoskeletal problems and preventive measures listed above, Table 4, on the following page, presents some additional recommendations for staff who are pregnant:

Table 4: Common Ergonomic Problems and Recommendations for Child Care Staff Who Are Pregnant

Problem	Recommendation
Back Problems	<ul style="list-style-type: none"> • Avoid heavy lifting • Avoid sitting on the floor • Avoid squatting • Avoid bending. Have children climb up to the caregiver/teacher • Trade strenuous chores of lifting/moving heavy objects with other staff
Swollen feet, varicose veins	<ul style="list-style-type: none"> • Wear support hose • Avoid prolonged standing • Change position frequently • Rest with feet elevated
Fatigue	<ul style="list-style-type: none"> • Take frequent breaks • Rest on side during breaks with feet elevated • Rest when fatigued • Avoid frequent stair climbing • Keep workday to no more than 8 hours

(Adapted from Gratz and Boulton, 1994)

Falls

Falls are the second most commonly reported injury for child care workers, accounting for 21% of all injuries (Brown and Gerberich, 1993). Moreover, most falls occur in the home (NSC, 2001), and the child care setting resembles the home environment more than most other work settings.

The NSC distinguishes two types of falls: same-level falls, such as slips and trips, and falls from an elevation such as a ladder or down stairs. Same-level falls are more frequent (60% of falls), but are usually less serious than elevated falls (NASD, 1992; CCOHS, 1999).

Some of the major hazards listed for same level falls, such as clutter or wet spots on the floors, characterize child care settings. The Gratz and Claffey (1996) survey found that child care caregivers/teachers reported a number of sprained ankles caused by tripping on toys and equipment. Similarly, in an earlier survey, Whitebook and Ginsburg (1983) reported that 32% of their sample of providers listed trips and falls over toys and equipment as an important cause of accidents in the child care setting. In the Brown and Gerberich (1993) survey “work surfaces, including floors and stairs” accounted for 20% of injuries.

When falls occur, the back is the area most often injured, followed by joint injuries, e.g., wrist, elbow, shoulder, ankle, knee and hip (NASD, 2002). This coincides with reports from child care

surveys. Brown and Gerberich (1993) found that falls were the second major source of reported back injuries for child care staff (after lifting).

Preventive Measures

Table 5, below and on the following page, presents some of the most likely causes of falls in a child care setting and ways that child care staff and facilities can prevent them.

Table 5: Falls: Causes and Prevention

Causes of Falls	Ways Child Care Staff Can Prevent Falls	Ways Child Care Facilities Can Prevent Falls
Slippery surfaces/ walkways	Clean up spills immediately.	<ul style="list-style-type: none"> • Train child care and housekeeping staff about the importance of cleaning up spills immediately. • Use a non-slip finish 5.1.6.4 • Keep walkways free of loose material (e.g. gravel, sand), water, ice and snow. 5.1.6.4, 5.7.0.1, 5.7.0.2 • Place safety signs to remind people of potential hazards (particularly where the hazards cannot be removed).
Uneven surfaces ⁵	Make sure you can see where you are walking and that the things you are carrying or pushing do not prevent seeing any obstructions.	<ul style="list-style-type: none"> • Have maintenance fill any holes and depressions on playground and in other outside areas surrounding child care facility. 5.7.0.2 • Keep walking surfaces free of loose material. 5.1.6.4 • Make sure carpeting doesn't move or slide. Rugs should be firmly fastened to the floor or have nonskid backing.
Improper footwear	<ul style="list-style-type: none"> • Wear slip-resistant footwear. • Do not wear high heels, cleats on heels or shoes with leather or hard, smooth-surfaced soles. 	<ul style="list-style-type: none"> • Slips occur when there is too little friction or traction between footwear and the walking surface. • Develop policy about appropriate footwear for staff.
Obstacles	Remove objects which obstruct working and walking areas. 5.7.0.2	Consider painting yellow lines to identify working and walking areas. This is only effective if enforced.

Causes of Falls	Ways Child Care Staff Can Prevent Falls	Ways Child Care Facilities Can Prevent Falls
Behaviors (e.g., walking too fast, carrying large objects, etc.)	<ul style="list-style-type: none"> • Don't run in hallways. • Avoid rapid change in direction. • Watch where you are going. • Don't carry objects which obstruct vision. • Don't wear sunglasses in low-light areas, unless medically necessary. • Exercise regularly to keep bones and muscles strong. (For more information see Staff Physical Activity in this Module.) • Have vision and hearing checked regularly. 	<ul style="list-style-type: none"> • Provide staff training. • Make sure hallways are well-lighted.
Unsafe use of stairs stepstools and ladders	<ul style="list-style-type: none"> • Keep one hand free so you can use handrail. • Avoid carrying objects which obscure your vision and/or require you to use both hands. • Carry lighter loads, make more trips, or get help with carrying larger objects. • Read the instructions for proper use of ladders, step stools and other related equipment. 	<ul style="list-style-type: none"> • Make sure stairs are well lighted. Replace old light bulbs with the appropriate listed wattage. • If possible, have a light switch at the top and the bottom of the stairs. • Handrails should be provided on both sides of stairways, be securely attached to the walls or stairs, and at a maximum height of 38 inches. 5.1.5.2 The balusters should be at intervals of less than 3.5 inches or have sufficient protective material to prevent a 3.5 inch sphere from passing through. 5.1.5.1 • Make sure all stepstools/ladders are in proper working condition.

(Sources: CCOHS, 1999; NASD, 1992; NSC, 2001; AAFP, 2001b; AAP, APHA, NRC, 2011)

Exposure to Toxic Materials

Like other risks in child care, concerns about environmental hazards have focused almost exclusively on the children in care and virtually ignored the staff. However, in this case, the attention to children may be justified in that they are much more susceptible to environmental hazards than adults. (Detailed information on children's unique vulnerability to environmental hazards, as well as further information about the topics covered below, is presented in the *Environmental Health in Child Care* Module.) Nonetheless, some environmental hazards appear to present greater risks for child care staff than for the children in their care. The primary environmental risks for staff in the child care setting are explored below.

Cleaning Products

In a quality child care setting, staff are exposed to disinfectants and sanitizers throughout most of the day. The sanitation and disinfection solution should consist of chlorine bleach diluted with water (*CFOC 3rd ed.*, 2011). The fact that the sanitation and disinfection products used are typically common household cleaners may induce staff to overlook their toxicity.

Kitchen and laundry disinfectants and sanitizers and products that kill mold and mildew are technically referred to as pesticides. The Environmental Protection Agency (EPA) points out that pesticides, by definition, are harmful to humans because they are designed to destroy living organisms (EPA, 2002). Chlorine bleach, for example, is irritating to the skin and can cause serious damage to the eyes. Other common cleaning products, such as furniture cleaners and polishes, floor cleaners, carpet shampoos and disinfectants contain volatile organic compounds. When inhaled, these compounds may cause ear, nose, and throat irritation and/or headaches. With repeated exposure, loss of coordination, nausea, and damage to the liver, kidneys and central nervous system may result.

Preventive Measures: Employers should provide staff with hazard information, including access to and review of the Material Safety Data Sheets (MSDS) as required by the Occupational Safety and Health Administration (OSHA), about the presence of toxic substances such as cleaning, sanitizing, and disinfecting supplies in use in the facility. [3.3.0.1](#) MSDSs explain the risk of exposure to products so that appropriate precautions may be taken. They must list the manufacturer's contact information, the chemical's ingredients, exposure limits, flammability, health hazards, how to prevent overexposure, symptoms of overexposure, and what to do in case of overexposure and instructions for safe use. An MSDS is specific to a commercial brand name. In addition, employees should receive training on the proper handling, usage, storage and transportation of the chemicals.

MSDS must be available onsite for each hazardous chemical that is on the premises. [5.2.9.1](#) Child care staff should carefully review labels and MSDSs prior to the use of any cleaning products so they can handle them properly. For example, the MSDS for a product may recommend using safety goggles and/or protective gloves to avoid injury.

All cleaning products should be used as recommended by the manufacturer and should be stored in the original labeled containers. [5.2.9.1](#) For example, when the instructions state, "use with adequate ventilation," the product should preferably be used outside the building. If used inside, the ventilation should be increased during and after use by opening windows and using exhaust fans.

- Child care staff should limit or avoid use of high solvent cleaners when cleaning carpets.
- When following the Integrated Pest Management [5.2.8.1](#) approach to pest control in deciding between two products that produce the same cleaning results, the facility should choose the least toxic alternative. Under the heading, "Health Hazard Rating," on product labels or MSDSs is a rating from 0-4; the lower the number, the less toxic the product.

Art Materials

Child care staff are more likely to be exposed to hazardous arts and crafts materials than the children they care for. The reason is that the more toxic art substances (e.g., metals such as lead, mercury, cadmium and cobalt) are characteristic of sophisticated artists' materials, such as pastels, pigments, inks, glazes, enamels, and solder. These kinds of materials are unlikely to be used by children in child care, but may be used by staff to create posters or art work for room display. Other toxic art materials commonly used by caregivers/teachers (rubber cement, spray-on enamels, and spray-fixatives) contain organic solvents, which can cause dizziness and sleepiness in the short term. Chronic low level exposure to hazardous art materials in adults is associated with allergies, asthma, central and peripheral nerve damage, psychological and behavioral changes, respiratory damage, skin damage, and cancer (AAP, 1999).

Preventive Measures: All arts and crafts materials used in child care should be approved by the Art and Creative Materials Institute (ACMI) and should be labeled in accordance with the chronic hazard labeling standard, ASTM D4236. [5.2.9.7](#). These labels provide information for safe use and certify that an art material can be used without risk of acute or chronic health hazards by anyone, including children and impaired adults (AAP, 1999). Products that are labeled toxic, and those that are unlabeled, improperly labeled old, or donated materials with potentially harmful materials are prohibited. [5.2.9.7](#), [5.2.9.8](#)

The staff should carefully review the toxicity of all art supplies used in the child care setting and whenever possible substitute less hazardous products. For example, water-based paints can replace paints containing lead, and permanent markers, which may contain toxic solvents, can be replaced with non-toxic markers. Wet, rather than powdered clays, eliminate exposure to silica which is easily inhaled and harmful to the lungs, and new less-toxic brush cleaners are now available to replace those containing organic solvents (Daniel Smith, Inc., 2002).

When using solvents such as turpentine or aerosol fixatives, good ventilation is critical. Work using fixatives and brush cleaning should be performed outdoors if possible. Also, solvents should be used sparingly to reduce exposure (Daniel Smith, Inc., 2002).

Lead, Mold, and Mildew

Particularly in metropolitan areas, child care facilities are often housed in older buildings, probably because such buildings are plentiful and have lower rents. However, if the facility was built before 1978, the paint likely contains lead. Moreover, in most cases, the older the building, the higher the percentage of lead in the paint. Lead paint deteriorates over time due to moisture, normal use, and disturbance during renovation projects. The paint flakes and breaks down into dust that may be so fine it is invisible to normal vision and can be inhaled or ingested. Older buildings also commonly contain asbestos (a fire resistant material) in ceiling or floor tiles, pipe or furnace insulation, or on other surfaces. Over time asbestos can also deteriorate and flake into fine dust, which can be inhaled or ingested. Finally, older buildings are more susceptible to mold and mildew through excessive moisture buildup due to leaks in the roof or basement, drafty windows and doorways, and inefficient ventilation and/or air conditioning systems. All of these characteristics of older buildings pose a risk to child care staff as well as to the children they care for. For example:

- Even at low concentrations, lead can affect the central nervous system and is associated with lower IQ scores and neurobehavioral deficits (AAP, 1999).
- Exposure to asbestos has a strong association with lung cancer (AAP, 1999).
- Mold and mildew are associated with asthma and respiratory symptoms (AAP, 1999). Li, Hsu and Tai (1997) found a positive association between measured degrees of dampness in child care centers in Taiwan and the frequency of reported respiratory illnesses among child care staff.

Preventive Measures: Experts should be called in to assess and eliminate any lead, asbestos, or mold issues in the child care environment. Child care staff should not attempt to remove these hazards without professional guidance. Detailed information on management of exposure to lead, asbestos, and mold are presented in the NTI *Environmental Health in Child Care* Module and in the *Environmental Health: Lead Trainer's Toolkit*.

Stress

Stress among child care staff is an especially important concern because it not only affects health and safety of the staff members themselves, but also affects the quality of care they are able to provide. Staff under too much stress may be unable to offer the praise, nurturing, and direction children need for optimal development.

Research indicates that child care staff generally report high levels of satisfaction with their work. They are proud of their occupation and identify child care as a skilled teaching profession (Whitebook, Sakai, Gerber, and Howes, 2001; Kaiser, Rogers and Kasper, 1993; Bollin, 1993). However, given the characteristics (teaching/caretaking) and conditions of their work (long hours, often working alone with few breaks, and low pay), it should come as no surprise that child care workers also report occupational stress. In a survey of Wisconsin child care workers, Gratz and Claffey (1996) confronted participants directly about stress in child care, asking, "Emotionally, how stressful do you feel working with young children is for you?" Participants were asked to rate themselves on a 4-point scale from very stressful to not stressful. The results indicated that only 5% of the child care workers found working with children *not stressful*. Directors reported the most stress: 57% found working with children either stressful or very stressful. Thirty-five percent of center providers and 29% of family home providers found child care work stressful or very stressful. Participants were also asked if "working with other adults in child care" was a "stress factor." Again, directors reported the most stress (69%) followed by center staff (45%) and family home providers (9%).

Definition of Occupational Stress

A major difficulty with many descriptions of stress in the child care environment is that *stress* is rarely defined. For example, the Gratz and Claffey (1996) survey asked participants about stress, but apparently they did not define the term for them.

The National Mental Health Association (2003) acknowledges that stress is difficult to define because it means different things to different people. The only agreement they note is that stress is considered a negative feeling rather than a positive feeling.

NIOSH (2002) defines job stress as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.” An advantage of this definition is that it captures the consensus among stress researchers that occupational stress is an interactional concept. It depends upon the external demands of the workplace, the workers’ interpretations of those demands, and the worker’s resources for resolving or minimizing them. A child care provider may find a situation stressful at one time but not another, and one provider may interpret a situation as very stressful, while another considers it routine.

Literature on occupational stress often states that some job stress is energizing and “good for you.” NIOSH (2002) disagrees. They claim that this confuses job stress with job challenge. They note that job challenge is a positive experience which “energizes us psychologically and physically and motivates us to learn new skills and master our jobs” (p.5). Job stress, on the other hand, is a negative experience which results from a mismatch between job demands and worker characteristics.

Sources of Stress in the Child Care Environment

NIOSH (2002) states that while most agree that job stress results from the interaction of the worker and conditions of the work, views differ on the relative importance of worker characteristics and working conditions as the primary cause of job stress. These viewpoints are important because they suggest different ways to prevent stress at work. NIOSH contends that working conditions are the key source of job stress, but individual worker characteristics can intervene to strengthen or weaken their influence. Research in child care tends to concur. Examinations of sources of stress for child care staff have focused primarily on the working conditions in child care facilities rather than on the unique personality traits of the staff members. Sources of occupational stress that have been documented for child care staff are presented below.

Staff/Child Ratio: Studies have shown that in facilities with high child:staff ratios (up to 1:12), the staff like their jobs less; have less interaction with children, parents, and other staff; and were more likely to endorse practices harmful to children, such as compulsory naps and use of tranquilizers for hyperactive children (Maslach and Pines, 1977; Turk, Meeks, and Turk, 1982).

Number of Hours Working with Children: Staff who work longer hours directly with children versus staff who divide time between direct work with children and other non-child work are likely to have more negative attitudes toward children, feel less happy on the job, approve of compulsory naps, and have negative feelings after the end of the work day (Maslach and Pines, 1977).

Break Time: In facilities where break times (non-child related work) are not available, staff have reported increased negative feelings about the facility, less ability to influence their work environment, and after work, they reported feeling more impatient, more irritable, more strained, more upset and more psychologically distant (Maslach and Pines, 1977).

The importance of breaks also appeared among written comments by participants in the Gratz and Claffey (1996) survey. For example,

I feel I am generally in good health but also feel having an in-home day care is stressful because you don't get any breaks during the day: you can't even use the bathroom as often as you wish because someone needs something just as soon as the door is closed (p. 256).

Program Structure: Staff in non-structured facilities are less cheerful, tolerant, and alert, and more moody and irritable at the end of the day. In their study, Maslach and Pines (1977) defined 'open non-structured facilities' as those where arrival and departure times of children varied, activities were flexible and spontaneous, all of the children had free access to all parts of the facility, and all of the caregivers/teachers shared coverage of all parts of the facility.

Staff Meetings: Aronson (2001) describes staff meetings as a time when staff can join together in seeking solutions to anxiety causing problems. In their study, Maslach and Pines (1977) concluded that staff meetings afforded staff the opportunity to socialize informally, give each other support, confer about problems with children and parents/guardians, clarify goals for themselves and the facility, and exert direct influence on the policies of the center.

Lack of Social Support: Kontos and Riessen (1993) surveyed job stress among family home providers. They found that caregivers/teachers who perceived little social support reported higher levels of stress. Gratz and Claffey (1996) reported similar findings for family providers. While providers in child care centers found working with other adults a source of stress, family home providers reported in open-ended written comments that not having other adults to work with was a source of stress.

Controlling Children's Behavior: Kaiser et al. (1993) examined the relative stressfulness of various child care activities for caregivers/teachers of 4-year-old children. They found that nurturing children and working with parents were the most enjoyable and least stressful tasks, while toileting supervision was the least enjoyable, and controlling children's behavior was the most stressful activity in child care.

Relationships with Co-Workers/Parents/Guardians: As mentioned earlier in the Gratz and Claffey (1996) study, 69% of directors, 45% of teachers, and 9% of family providers reported that working with other adults in child care was stressful. Turk, Meeks, and Turk (1982) found the same to be true for elementary and secondary school teachers. These teachers reported the highest stress levels in connection with relationships with school personnel and parents.

Proposed Sources of Stress

While not clearly documented, the following sources of occupational stress have been proposed for the child care environment.

Novelty and Uncertainty/Unpredictable Change: Hyson (1982) notes that caregivers/teachers of young children emphasize the importance of exploration, creativity, and spontaneous play. The daily routine typically includes large segments of free time and unstructured materials. While this environment may foster children's creativity, it makes events less predictable and may be stressful for the caregiver/teacher (Gruenberg, 1998).

Significant Demands and a High Level of Responsibility for Children’s Welfare: Jorde describes child care as one of the most demanding occupations.

“The physical stamina alone required for the daily functions of preparing activities, providing instruction, supervising projects, setting limits, handling collisions, arbitrating disputes, and maintaining the learning environment is beyond what most people can be expected to endure. What makes the role so potentially stressful, however, is that this physical outpouring is coupled with a tremendous emotional giving. Teachers must comfort, console, and nurture children” (Jorde, 1982, p. 29).

In addition, Hyson (1982) points out that child care staff often set unrealistically high goals for themselves.

“They often choose their profession because of the opportunity to influence children’s development in the most formative years. Teachers impose upon themselves the responsibility for unlocking each child’s potential. They often have September fantasies of creating a sensitive, stimulating, perfect classroom like those described in workshops and books” (Hyson, 1982, p. 27).

Inadequate Professional Support and Recognition: Child care is rarely considered a high status profession and also offers little room for advancement. This may be a factor in caregivers/teachers leaving the field to obtain more highly regarded professions. Other caregivers/teachers may deal with their need for achievement by placing excessive demands for perfection on themselves and their classrooms. Such demands, in the long run, may be inappropriate and stress producing (Hyson, 1982).

Inadequate Salaries and Benefits: [1.8.1.1](#) The deplorable state of financial support for child care workers is well known. Whitebook and Phillips (1999) contend that two-thirds of full time child care workers have annual salaries below the poverty level. Even providers at the upper end of the child care pay scale, with a BA and several years of experience, earn an average of less than \$20,000 a year. Moreover, few centers offer fully-paid health insurance, and for those that do, staff frequently do not utilize it because they can’t afford the premiums. Very few child care facilities offer retirement plans (Whitebook and Phillips, 1999). Low wages and lack of benefits are cited as potential sources of stress for staff and major factors in staff turnover.

Lack of Clear Job Expectations and Methods of Evaluation: Elementary and secondary school education programs follow officially mandated curricula with specific goals and evaluation procedures for each unit of work. Child care workers, on the other hand, operate without a prescribed curriculum and method of evaluation. As a result, “teachers are often uncertain about just what they are supposed to be doing and how they will know if they are doing it well”. This ambiguity may create anxiety and stress (Hyson, 1982, p. 27).

Noise/Activity Level: Unpleasant conditions such as crowding and noise are considered generally stressful in job situations. Gruenberg (1998) notes that noisy classrooms and a high level of activity characterize many child care facilities.

Symptoms and Effects of Stress

Workplace stress in child care may well play a key role in causing physical illness among staff (Aronson, 2001). Some of the symptoms or early warning signs of job stress include:

- Tense muscles: sore neck, shoulders, and back
- Upset stomach
- Headaches
- Sleep disturbances, insomnia
- Fatigue even when getting adequate sleep hours
- Boredom, listlessness, low morale
- Self medicating with alcohol, caffeine and other drugs
- Loss of appetite
- Irritability
- Difficulty in concentrating

(Aronson, 2001; NIOSH, 2002; Hyson, 1982; and UNC Center for Healthy Student Behaviors, 2002.)

Additionally, in child care, anger and physical abuse directed at children is considered a symptom of high levels of stress. [1.7.0.5](#)

Prolonged or severe stress has been shown to weaken the immune system, strain the heart, damage memory cells in the brain, lead to musculoskeletal disorders, depression, and burnout, and cause injuries (NIOSH, 2002).

Preventive Measures

Strategies for preventing occupational stress fall into two categories: some strategies focus on changing stressful working conditions while others focus on teaching workers how to cope with or manage stressful job situations. NIOSH (2002) maintains that improving working conditions should be given top priority. However, they acknowledge that even the best efforts to improve the workplace will not significantly reduce stress for all workers. For this reason, NIOSH recommends an approach that combines changes to the work situation and stress management as the most useful prevention strategy. Information on the use of stress prevention strategies in the child care setting is presented below.

Changing the Child Care Workplace to Reduce Stress: In one remarkable longitudinal study, the researchers Maslach and Pines (1977, 1980) found that the following interventions reduced staff stress:

- Staff who were previously responsible for all children, parents, and volunteers in all parts of the center were made responsible only for the children in a particular room. (To achieve this, the center's open physical space was divided into rooms with two staff members assigned to each room. The rooms were made age specific, i.e., infant rooms,

- toddler rooms, etc. The children, who previously moved freely about all areas of the center, were confined to age appropriate rooms.)
- Each room had its own toys and materials. Staff were expected to plan activities only for the group of children in their room.
 - Arrival and departure times that had previously been on a “drop in” basis for both children and volunteers were changed to a fixed schedule.
 - Volunteers who previously moved freely about the center were assigned a specific room.

In the initial survey staff had reported that they were “subjected to tremendous stresses”, had a “growing sense of burn-out”, and were “dissatisfied with the way things were.” In the interviews six months after the above changes were implemented, the same staff members reported “a stronger sense of order, security, and belonging than they experienced before,” and improved interactions with the children, parents, and other caregivers/teachers.

The *CFOC* standards (3rd ed., 2011) state that documentation of implementation of stress reduction measures should be on file in the facility.^{1.7.0.5} Short, but relatively immediate break times away from children should be available to prevent potentially stressful situations for caregivers/teachers

Other proposed workplace interventions for reducing staff stress include:

- Written job descriptions and personnel policies to insure staff clarity about their responsibilities.
- Regular staff meetings so that members can share feelings and concerns and feel supported by supervisors and colleagues.
- Involvement of staff in program decisions so that they feel control over their work environment.
- Regularly scheduled trained volunteers to assist during the busiest times of the day so staff can take breaks or provide individual attention to children.
- Someone always on call so staff members who feel overwhelmed by the demands of the job can take a break from the children.
- A pleasant, comfortable place with adult-size furniture for staff to use on breaks so that their time away from the children is relaxing.
- Regularly scheduled exercise breaks for staff such as a 10 minute walk twice a day. (Aronson, 2001; Prevent Child Abuse North Carolina, 2000)

Family-Friendly Workplace: Family-friendly policies are an effective way to combat the stress faced by women in the workplace. Researchers have found that supportive family policies allow workers better control over work-family conflict, resulting in improved mental and physical health (Swanson, 2000). These policies, especially support for breastfeeding, will result in fewer absences to care for sick children, reduced staff turnover, and greater workplace morale (USBC, 2002).

Examples of policies that are needed to make the child care workplace family-friendly include:

- Paid time off (vacation, sick time, personal leave, holidays, family, parental, and medical leave, etc.) [1.8.1.1](#)
- The ability to set a flexible schedule and/or to share a job so that workers can work fewer hours or arrive or leave at times that best meet their family's needs
- Breastfeeding support including education about the benefits of breastfeeding, the ability to enroll their own infants in the facility, private nursing/pumping rooms, and breaks to facilitate nursing/pumping

Stress Management: Instead of changing stress producers in the workplace, stress management programs teach providers ways to change their response to stress events. Stress management programs teach workers about the nature and sources of stress, the effects of stress on health, and personal skills to reduce stress, such as time management or relaxation exercises. The advantages of stress management programs are that they are inexpensive, and easy to implement. However, without accompanying workplace modifications, the effects of these programs are often short lived (NIOSH, 2002).

To date, stress management attempts in child care have focused on providing tips for building personal skills to manage stress (Aronson 2001; Mayer, 2002). These include:

- **Prioritize:** Identify tasks that are most important and take care of those first.
- **Set limits:** Don't take on others' problems.
- **Assert oneself:** Enforce written program policies.
- **Use appropriate resources:** Recommend community resources to parents/guardians when appropriate. Don't try to solve all children's' issues alone.
- **Maximize job satisfaction:** Structure the day to include as many benefits and enjoyable tasks as possible. Even five minutes of an enjoyable activity can improve morale.
- **Sustain oneself:** Make one's own well-being a high priority during the work day.
- **Get support:** Identify other child care staff with whom work issues can be discussed. Share concerns and ideas.
- **Laugh:** Laughter is good medicine.
- **Exercise:** Physical activity is relaxing and releases hormones that self-medicate.

Steps for Establishing a Stress Prevention Program in Child Care

The caution from NIOSH (2002) that stress management interventions often have fleeting effects suggests that occasional workshops with child care staff consisting largely of "stress tips" will provide limited benefits. To work effectively, stress management tips should be incorporated into a comprehensive, ongoing stress management program that also includes workplace interventions to reduce stressors. Some important steps for developing a stress prevention program are presented below. These steps have been adapted for the child care setting from NIOSH (2002) and Cahill, Landsbergis, and Schnall, (1995).

Step 1: Make a Commitment: The most important step in reducing stress in the child care workplace is to make a serious and sustained commitment to it. Reducing workplace stress does not come quickly, and a serious effort to do so must be given plenty of time.

Step 2: Identify the Problem: Hold group discussions among all staff members (from director to substitute caregivers/teachers) to track down stress problems. Elicit staff perceptions of their job conditions, levels of stress, health, and satisfaction. The sources of stress and the symptoms/effects of stress described on the preceding pages may provide a useful starting point for collecting information. Also use objective measures such as absenteeism, illness and turnover rates, and performance problems to gauge the presence and scope of job stress.

Step 3: Design and Implement Interventions: Informal discussions among staff may provide leads to preventive measures. The staff may also want to consult an expert for recommendations. Notify all staff about interventions decided upon and when they will occur.

Step 4: Evaluate the Interventions: Evaluation is essential to determine whether the interventions are producing the desired effects or if additional changes are needed. Conduct both short and long term evaluations. For example, some interventions may provide short term benefits but do not persist. Long term evaluations are necessary to determine lasting effects. Evaluations should use the same measures as the problem identification step, e.g., staff perceptions of their job conditions, levels of stress, health, and satisfaction; and objective measures such as absenteeism, illness and turnover rates, and performance problems. Use the evaluation data to refine or redirect the intervention strategy (return to Step 1).

Action Items for the CCHC

The CCHC's role in the area of staff health is important, mostly because few other sources of support are available for staff health and safety needs.

Infectious Disease

- Assist staff in developing health policies and procedures to prevent the spread of illness among adults. For example, exclusion policies for staff illness would help limit the spread of illness and assure that a staff member experiences a full recovery from illness before returning to work. An exclusion policy for staff who are ill [3.6.1.2](#), [9.3.0.1](#), [9.3.0.2](#) protects the staff and the children. It also alerts parents/guardians to their role in child care illness prevention. Just as staff are obligated to exclude themselves when ill, parents/guardians are obligated to exclude their ill children. In assisting with staff illness exclusion policies, the CCHC should bear in mind that such policies require that the facility has in place a way to maintain child/staff ratios, e.g., trained substitutes available at short notice to fill in for ill staff members.
- Provide training about how infectious diseases are spread.
- Teach staff about universal precautions.
- Assist programs to develop an Injury and Illness Prevention Program (e.g. education and training in blood borne pathogens, hazardous chemical identification, proper lifting techniques, etc.).

- Assist staff in developing a written exposure control plan for bloodborne pathogens to comply with OSHA Bloodborne Pathogens standard 1910.1030.
- Provide training about risks to child care staff who are pregnant. [1.7.0.4](#)
- Review immunization records with staff and especially with new employees. Pre-employment health assessments [Appendix E](#) can be helpful in identifying caregivers'/teachers' susceptibility to occupational hazards [Appendix B](#) (Pennsylvania AAP, 2003). The *CFOC* standards for pre-employment and ongoing staff health assessments are listed in standard [1.7.0.1](#) on p. 39.
- Assist child care directors to develop a system for monitoring staff immunizations.
- Provide community resources for needed referrals for immunizations.

Musculoskeletal Injuries

- Collaborate with the child care staff to conduct a worksite analysis to identify ways to decrease back injury risks (see Table 3: Ergonomic Analysis of the Child Care Work Environment in this Module).
- Recruit an ergonomics expert or provide training yourself about proper lifting techniques and other measures to prevent back injuries.
- Assist staff in developing policies for prevention of musculoskeletal injuries.

Falls

- Provide safety training to staff on how to prevent slips, trips, and falls. Training should include: proper walking, carrying, climbing, descending stairs and ladders, and getting in and out of vehicles. Repeat and/or update training as needed.
- Encourage staff administrators and caregivers/teachers to perform regular inspections to identify and correct any hazards which could cause slips, trips, and falls. These inspections should include attention to working and walking surfaces, housekeeping, lighting, vision, and stairways.

Environmental Hazards

- Encourage child care staff to check the composition of any toxic materials being used inside the facility or on outside facility areas. Consider using only non-toxic materials.
- Advise staff to check with their Poison Control Center [5.2.9.2](#) or the manufacturer if they have any questions about materials. Encourage staff to periodically review MSDSs on all potentially hazardous products used.
- Provide staff with health education programs on the risk of toxic exposure—sources, first aid response to exposure, and prevention measures.

- If the facility is housed in an older building, or if lead, asbestos, and mold hazards are suspected, advise staff administrators to have facility checked.
- Assist staff in developing a written hazard communication program for the workplace to comply with OSHA Hazard Communication standard 1910.1200.

Stress

- Work with staff to establish a comprehensive program for stress reduction in the child care setting, including the establishment of family-friendly policies such as paid family leave, breastfeeding support, and flexible scheduling.
- Advocate for a time and a place for staff breaks and remind staff of the need to take breaks.
- Provide training in stress management/coping with stress.
- Through public policy and community awareness efforts, advocate for higher staff wages and benefits.

WHAT THE CCHC SHOULD KNOW: PERSONNEL REGULATIONS GOVERNING THE CHILD CARE WORKPLACE

Two sets of policies apply to the child care workplace for the protection of employees: the OSHA employee regulations and the *CFOC* standards. The CCHC should be familiar with both.

OSHA Regulations

The OSHA Occupational Safety and Health Act of 1970 is a federal law and must be followed in the child care workplace to protect employers and employees. As applied to child care, the law stipulates that:

The child care employer must:

- Have an illness and injury prevention program
- Display the OSHA poster
- Identify job hazards and train employees regarding those hazards (e.g., bloodborne pathogens, cleaning products, etc.) [1.7.0.4.7.6.1.3](#)
- Correct hazardous conditions that may result in serious injury
- Report serious injury or fatality to nearest state OSHA office

The child care employer must **never**:

- Permit an employee to do work that violates OSHA law
- Permit an employee to be exposed to a hazardous chemical without protection
- Allow an untrained employee to perform hazardous work

The child care employee must:

- Keep workplace and coworkers safe
- Report hazardous conditions
- Obey state job health and safety laws

In order to carry out the purposes of this Act, OSHA representatives are authorized to visit child care workplaces:

- To provide guidance in implementing an injury and illness prevention program
- In response to an employee complaint
- To investigate OSHA/state violations

Additional OSHA laws that may or may not apply depending upon state regulations appear below:

- Notice to Employees regarding Worker's Compensation Benefits
- Job Safety and Health Protection
- Family and Medical Leave Act
- Americans with Disabilities accommodations
- Federal Minimum Wage
- Equal Opportunity Employment requirements
- Drug Free, Smoke Free workplace

When they apply, these regulations usually must be posted along with federal OSHA regulations. Check with your state OSHA office for any additional regulations that apply in your state.

Although all relevant OSHA regulations apply to child care, the two that have the greatest impact on the protection of child care staff are the Bloodborne Pathogens (1910.1030) and Hazard Communication (1910.1200) standards. Both of these standards require from the employer a written plan for the individual workplace. The Bloodborne Pathogen plan must include identification of tasks with potential exposure, work practice controls (e.g., handwashing, personal protective equipment [gloves], housekeeping, infectious waste disposal), and education and training of employees on the epidemiology and transmission of bloodborne diseases and the control measures in effect at the facility. The Hazard Communication plan must include identification of the hazards, labeling of containers in the workplace, distribution of MSDSs and a training and education program for employees with respect to the hazards. The CCHC should be very familiar with these standards so that s/he can assist child care facilities in implementing them.

CFOC Standards

Generally, the OSHA regulations establish the minimum requirements to prevent employer/employee injury and harm in the workplace. By contrast, the *CFOC* standards (3rd ed., 2011) provide the best practice benchmark against which efforts to improve staff health and safety in the child care setting should be measured.

Action Items for the CCHC

- The CCHC must make every effort to ensure that all child care facilities she/he consults with abide by OSHA regulations.
- The CCHC should assist providers in developing plans and training programs for meeting the requirements of OSHA's blood borne pathogens and hazardous communication standards.
- The CCHC should encourage familiarity and observance of *CFOC* standards related to staff health among his/her consultees.

WHAT THE CCHC SHOULD KNOW: PROMOTING STAFF HEALTH THROUGH NUTRITION AND PHYSICAL ACTIVITY

Staff Nutrition

Obesity is a growing problem nationwide, and child care workers are not immune. In the Gratz and Claffey (1996) survey of Wisconsin child care workers, staff were asked whether they considered themselves “underweight”, “overweight”, or “about right”. The results indicated that an overwhelming majority (77% of directors, 69% of caregivers/teachers, and 72% of family providers) rated themselves as “overweight”. Even allowing for the fact that women tend to overestimate their weight (Kuchler and Variyam, 2002), these percentages were more than double the state’s statistics for adult women who reported themselves overweight (27%-30%) (Gratz and Claffey, 1996).

Culprits in the rise in American obesity may include the following:

- Eating more calories without increasing physical activity
- Eating more non-nutritious foods (high fat diets and increased consumption of salty snacks and soft drinks)
- Larger portion sizes
- Engaging in physical activity without good nutrition
- Increasing sedentary behaviors

Obesity is a well-documented health hazard. It has been linked to the development of heart disease, certain types of cancer, type 2 diabetes, stroke, arthritis, breathing problems, and psychological disorders, such as depression (Office of the Surgeon General, 2001). However, for child caregivers, obesity may also be an occupational hazard:

Caregiving requires moving quickly in an urgent situation, getting down to child level, and lifting children. Obesity increases the likelihood injury will occur during these caregiving activities. (Aronson, 1997, p.59)

Steps for Establishing a Staff Nutrition Program

Child care staff have a need for education regarding: [1.4.4.1](#), [2.4.2.1](#)

- Which foods to eat
- How much to eat (moderation and portion size)
- How to monitor their intake of different nutrients
- How to combine good nutrition with physical activity

Changing nutritional habits is not as simple or easy as deciding to go on a diet or eating a wider variety of foods. Change comes slowly, and the CCHC should encourage providers to start with a small step and focus on steady steps toward their model of health. Jan Dodds, professor of Nutrition at the University of North Carolina in Chapel Hill, proposes five steps for child care staff to achieve improved nutritional health. The CCHC is in a unique position to facilitate staff progress through these steps.

Step 1: Assess Present Nutritional Intake: Begin by helping the staff to assess what they are doing well and where change is needed. A sample child care staff self-assessment of nutritional intake is presented in Appendix C. The CCHC can also help staff compare their diet with recommendations for good nutrition and physical activity by using tools such as the USDA MyPlate: <http://www.choosemyplate.gov/>.

Step 2: Set Medium and Long Range Goals: If weight loss is a goal, the CCHC should assist the staff in determining the eventual body mass index (BMI) to be achieved. This ultimate goal should be broken down by establishing the BMI goals to be reached in 3 months, 6 months, 9 months, and 12 months.

Step 3: Decide on Food Control Practices To Achieve Goals: For example, if the goal is to reduce intake (“lose weight”), food control practices might include: reduce portion sizes, decrease frequency of eating, increase low fat foods and decrease high fat foods, etc. If the goal is to eat more nutrient dense foods, food control practices might consist of: eating foods with less sugar or less fat, and/or eating more fruits and vegetables. The CCHC can assist staff in selecting the food control practices that will best serve their individual needs.

Step 4: Set Weekly Goals: The CCHC should work with the provider to break down the first 3 month period into 12 weeks. Establish a target food practice for each week.

Step 5: Set Daily Goals: Establish a daily routine. For example, each day select and/or eliminate foods for intake, and/or determine times, settings and frequency of eating.

If progress through the five steps stalls, expert advice from a nutrition professional may be appropriate.

Physical Activity

Gratz and Claffey (1996) report that child care staff have limited engagement in physical activity. Participants in their survey (directors, caregivers/teachers and family providers) were asked the number of times per week that they engaged in physical activity for at least 30 minutes. Forty three percent of the sample reported exercising once a week or not at all.

The CCHC can be a valuable resource in assisting the staff to develop a physical activity program in the child care facility. As a selling point with directors, Aronson (1997) points out that physical activity programs are often offered as employee benefits and may be more economical when conducted at the worksite than elsewhere. The fitness program need not be elaborate and may require little or no equipment. For example, Aronson (1997) suggests scheduling fitness activities during children’s nap times and rotating the caregivers/teachers on duty so that everyone can participate:

“Consider how to schedule such activities so the greatest number of caregivers/teachers can participate. For example, if everyone does not need to stay in the room with napping children, some of the caregivers/teachers can do a fitness activity during nap time as long as they remain close by in case they are needed. Rotating who stays in the room with the sleeping

children during nap time and who can do a fitness activity in a nearby area gives everyone a chance to participate” (p. 59).

Physical Activity Solutions

Health experts recommend that adults engage in moderately intense physical activity for 30 minutes on 5 or more days per week. Examples of moderately intense activity include brisk walking, cycling, swimming, or doing housecleaning tasks or yard work. Any physical activity, any time of the day is good for promoting health, e.g., climbing stairs, sweeping, carrying groceries, etc.

The fitness program for child care staff could include incorporation of fitness activities throughout the work day. Some examples are:

- Taking walks during breaks or when brainstorming ideas with a co-worker.
- Parking farther away from the facility and walking the extra distance.
- Placing posters of stretches and simple exercises in the break room.
- If possible, having jump ropes, a stationary bicycle, or treadmill available in the break room.

In setting up a program, the staff may want to enlist the services of a fitness expert to select appropriate activities and tailor them to the fitness levels of individual staff members.

The CCHC should work with the child care staff to find community fitness programs near the child care setting that would be available for staff during early morning, evening, and weekend hours. Most programs require a fee, but also offer group rates. Also, fitness facilities may be willing to develop programs that are tailored to the needs of the staff.

The benefits of physical activity are well documented. It reduces dangerous risk factors for cardiovascular disease, type 2 diabetes, and certain cancers, helps to lower high blood pressure and cholesterol, prevents or retards osteoporosis, and reduces obesity. In addition, frequent physical activity promotes a sense of well-being and improves appearance. It reduces stress while improving the ability to cope with stress, improves posture and muscle toning, and reduces injuries (Aronson, 1997; American Heart Association, 2002; President’s Council on Physical Fitness and Sports, 2002).

As an occupation, child care work is susceptible to musculoskeletal injuries and in particular, back injuries. Physical activity and regular stretching are especially important to keep the muscles that support the back strong and flexible and reduce the risk of muscle strain (AAOSa, 2002). Aronson (1996) notes that the classic regimen for strengthening the back includes aerobic exercise like walking or swimming along with specific exercises to tone and stretch back muscles. Specific exercises for strengthening back support muscles are available from AAOS (2000b), Hughston Sports Medicine Foundation (1997), Aronson (1996), and Wortman (2001).

Action Items for the CCHC

Staff Nutrition

- Encourage and support the child care provider to establish a comprehensive staff nutrition program for child care staff.
- Provide training to child care staff on how to analyze current eating habits.
- Provide training and support for establishing healthy eating habits with child care staff.
- Identify local nutrition resources that are accessible to child care staff.

Physical Activity

- Encourage and support the child care staff in the effort to incorporate physical activity into the child care workplace.
- Advocate for community physical resources for child care staff.

WHERE TO FIND MORE INFORMATION

Introduction

Center for the Child Care Workforce

<http://www.ccw.org>

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Health and Safety Risks For Child Care Staff and Preventive Measures

Art Hazards Information Center

Center for Safety in the Arts

5 Beekman St. Suite 1030

New York, NY 10038

(212) 227-6229

Belkic K. The Occupational Stress Index: An Introduction. 2000.

<http://www.workhealth.org/OSI%20Index/OSI%20Introduction.html>

Centers for Disease Control and Prevention: Division of Nutrition, Physical Activity and Obesity

<http://www.cdc.gov/nccdphp/dnpa/index.htm>

Centers for Disease Control and Prevention: National Institute for Occupational Safety and Health

<http://www.cdc.gov/niosh/>

Centers for Disease Control and Prevention: Workplace Safety and Health

<http://www.cdc.gov/Workplace/>

Center for Research on Occupational and Environmental Toxicology (CROET) --Artist.

<http://www.croetweb.com/links.cfm?topicID=2>

City of Tucson, Environmental Management Division. Health and Safety in the Arts.

Data base of Art Mediums: Child Art Materials to Avoid and Child Art Safety

<http://www.ci.tucson.az.us/arthazards/medium.html>

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University of North Carolina at Chapel Hill
Counseling and Wellness Services, Stress and Anxiety
<http://campushealth.unc.edu/healthtopics/stress>

Job Stress Network
<http://www.workhealth.org/>

New Jersey Department of Health and Senior Services
Division of Epidemiology, Environmental and Occupational Health
<http://www.state.nj.us/health/eoh/>

University of Michigan
Stress Busters
http://hr.umich.edu/mhealthy/programs/mental_emotional/understandingu/tools/stress_busters.html

U.S. Breastfeeding Committee
<http://www.usbreastfeeding.org>
Breastfeeding and Child Care Facilities
<http://www.usbreastfeeding.org/Workplace/ChildCareFacilities/tabid/107/Default.aspx>

U.S. Department of Health and Human Resources
The Business Case for Breastfeeding. Steps for Creating a Breastfeeding Friendly Worksite: For Business Managers
<http://www.womenshealth.gov/breastfeeding/government-programs/business-case-for-breastfeeding/index.cfm>

U.S. Department of Labor, Occupational Safety and Health Administration
http://www.osha.gov/SLTC/etools/safetyhealth/mod4_factsheets_mgtleader.html

U.S. Department of Labor, Safety and health topics: Ergonomics: Contributing conditions
http://www.osha.gov/SLTC/ergonomics/contributing_conditions.html

U. S. Department of Labor, Safety and health topics: Ergonomics: FAQs
<http://www.osha.gov/ergonomics/FAQs-external.html>

U.S. Environmental Protection Agency, “Pesticides”
<http://www.epa.gov/pesticides/>

U.S. Environmental Protection Agency, “Pollutants/toxics”
<http://www.epa.gov/oppt/>

Personnel Regulations Governing The Child Care Workplace

U.S. Department of Labor
Occupational Safety and Health Administration
<http://www.osha.gov/index.html>
State Occupational Safety and Health Plans
<http://www.osha.gov/dcsp/osp/index.html>

Worker Rights under the Occupational Safety and Health Act of 1970
<http://www.osha.gov/workers.html>

Promoting Staff Health and Safety Through Nutrition and Physical Activity

American Heart Association
<http://www.heart.org/HEARTORG/>

American Physical Therapy Association
<http://www.apta.org>

Centers for Disease Control and Prevention
Physical Activity
<http://www.cdc.gov/nccdphp/dnpa/physical/index.htm>

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APPENDIXES

Appendix A: NTI Child Caregiver/Teacher Lifting Study

Appendix B: Stress Management Test

Appendix C: Staff Nutritional Self-Assessment

Appendix A: NTI Child Caregiver/Teacher Lifting Study

In January, 2003, NTI conducted an informal study of child caregiver/teacher lifting for three consecutive days in the Chapel Hill, North Carolina area. The purpose of the study was to determine the average number of times per day that caregivers lift children, and the average total amount of child weight lifted per day by infant and toddler caregivers.

Data Collection

Three child care centers providing day-long care were recruited for the study. In each center, one toddler classroom and one infant classroom participated over three consecutive weekdays.

Subjects

Caregivers/Teachers

Fourteen caregivers/teachers, all of whom were women, participated in the study. The average age for the caregivers/teachers was 36 years with a range from 20 to 62 years. Eight of the caregivers/teachers worked full day shifts of 7 to 7 ½ hours of classroom time. Six of the caregivers/teachers worked reduced shifts of 5-6 hours in the classroom per day.

Infants

The three infant classrooms contained a combined total of seventeen infants, 10 boys and seven girls. Two infant classrooms contained 6 infants, and one classroom contained 5 infants. The infants ranged in age from 2 ½ months to 13 ½ months with an average age of approximately 8 ½ months. The average weight of the infant group was 18.59 lbs. with a range from 12 to 23 lbs.

Toddlers

The three toddler classrooms contained 21 toddlers, 15 boys and 6 girls. Each toddler classroom contained 6-8 children. The toddlers ranged in age from 12 months to 22 ½ months with an average age of approximately 17 months. The average weight of the toddlers was 22.9 lbs. with a range from 17 to 30 lbs. All toddlers were mobile and all but one toddler were able to walk.

Procedure

Birth dates for all children were obtained using center records and weights were obtained using a digital scale that was transported into each classroom. Children who were unable or unwilling to stand or sit on the scale alone were held by a teacher and both were weighed together. The teacher was then weighed separately and her weight was subtracted from the total. One child, who was absent on the day children were weighed, was weighed on a scale at the center.

Data collection form

All caregivers/teachers were asked to complete a data collection form for each day of the study. On the form, each caregiver/teacher recorded the hours she worked that day, the hours each child was present in the classroom, the number of times she lifted any of the children, and the reason for lifting.

The categories for lifting children listed on the data collection form are listed below. Caregivers/teachers were instructed to place a mark in the appropriate category each time they lifted any child.

Reasons for lifting children

Diapering
Hands washing
Feeding
Moving to another part of the room
Putting down for a nap
Comforting/reading to
Other reasons

Statistical Methods

Since all children were not in attendance for the same number of hours, and data was not collected on which child was lifted each time, a weighted average of child weights was used to determine the average amount of child weight per lift in each classroom on each day. This average was calculated by multiplying each child's weight times the number of hours s/he attended child care that day, adding these values for all children in attendance in that classroom on that day and dividing by the sum of all hours of attendance.

Since the caregivers'/teachers' work time in the classroom also varied, the average amount of weight lifted by caregivers/teachers *per hour* was used to facilitate comparisons. The total number of lifts by each caregiver/teacher was multiplied by the weighted average of child weight of the children in the classroom for that date, then divided by the number of hours that the caregiver/teacher worked in the classroom. This yielded the average weight lifted per hour for each caregiver/teacher in each classroom on each day. The average weight lifted per hour was then averaged for each caregiver/teacher over the three days of observation.

To determine the average weight lifted per hour by infant and toddler caregivers/teachers, the average weight lifted per hour for each caregiver/teacher was averaged across each group. The overall average weight lifted for all caregivers/teachers was obtained by averaging across caregivers/teachers in the two groups.

To determine the average amount of weight per lift for the infant and toddler groups, the weighted average weight for each group was averaged across all three days. For the overall average weight per lift, the weighted averages for both age groups (infants and toddlers) were averaged across all three days.

Results

Summary values for the average number of lifts per hour and the average amount of weight lifted per hour by caregivers/teachers overall and by infant and toddler age group are presented in Table 1 below.

Table 1
Average number of lifts per hour, average weight per lift, and average amount of weight lifted per hour for caregivers/teachers in infant and toddler classrooms

Age Group	Average Number of Lifts Per Hour		Average Amount of Weight Per Lift	Average Weight Lifted Per Hour	
	Mean	Standard Deviation		Mean	Standard Deviation
Infant	6.77 lifts	1.89 lifts	18.76 Pounds	126.72 pounds	31.76 pound
Toddler	6.08 lifts	3.09 lifts	22.91 pounds	134.39 pounds	65.56 pounds
Overall	6.43 lifts	2.54 lifts	20.83 pounds	130.56 pounds	49.65 pounds

Average number of lifts per hour

As indicated in Table 1, overall, infant and toddler caregivers/teachers lifted children an average of 6.43 times per hour. Infants were lifted slightly more than toddlers (6.77 versus 6.08 times per hour). The standard deviation for number of lifts suggests a considerable amount of variability among caregivers/teachers, particularly among toddler caregivers/teachers, in the number of times they lift children.

Average amount of weight per lift

The overall average amount of weight per lift was 20.83 pounds. The average amount of weight per lift for infant caregivers/teachers was 18.76 pounds and for toddler caregivers/teachers was 22.91 pounds.

Average amount of child weight lifted per hour

The overall average amount of weight lifted per hour for infant and toddler caregivers/teachers was 130.56 pounds. The toddler caregivers/teachers lifted somewhat more child weight per hour than the infant caregivers/teachers (134.39 pounds versus 126.72 pounds), but the difference between the age groups in amount of weight lifted was not large. The standard deviations for average amount of weight lifted again suggests substantial variability among caregivers/teachers, particularly among toddler caregivers/teachers, in the average amount they lift in an hour.

Average amount of child weight lifted per day

The full day caregivers/teachers in both infant and toddler classrooms worked an average of 7.125 classroom hours per day and part-time caregivers/teachers in both classrooms worked an average of 5.66 classroom hours per day. To answer the original question regarding the average amount of child weight caregivers/teachers lift in a day, the average amount lifted per hour within each age group was multiplied by the average number of classroom hours for full

time and part-time caregivers/teachers. By these calculations, it was estimated that in this study:

- full day infant caregivers/teachers lifted 902.88 pounds per day,
- full day toddler caregivers/teachers lifted 957.52 pounds per day.
- part-time infant caregivers/teachers lifted 717.23 pounds per day
- part-time toddler caregivers/teachers lifted 760.65 pounds per day

Reasons for lifting children

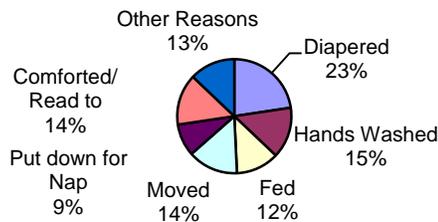
The number of caregiver/teacher lifts, summed over the three days and categorized by reason for lifting, are presented in Table 2 below.

**Table 2
Reasons for Lifting Children**

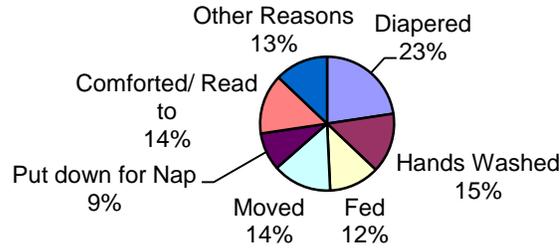
	Diapered		Hands Washed		Fed		Moved		Put down for Nap		Comforted/ Read to		Other Reasons	
Overall	386	23%	247	14%	208	12%	243	14%	156	9%	247	14%	220	13%
Infants	188	20%	142	15%	148	16%	133	14%	111	12%	120	13%	84	9%
Toddlers	198	25%	105	13%	60	8%	110	14%	45	6%	127	12%	136	17%

The numbers in each category of lifting are presented graphically below.

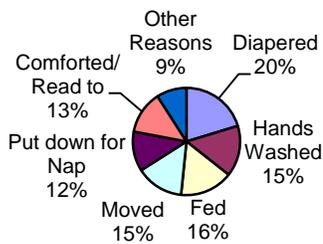
Lifts Categorized by Reason (Overall)



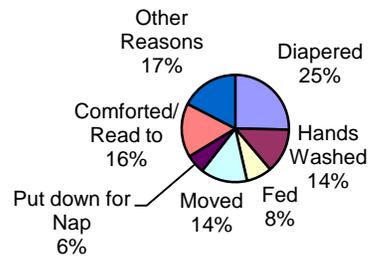
Lifts Categorized by Reason (Overall)



Lifts Categorized by Reason (Infants)



Lifts Categorized by Reason (Toddlers)



The results indicate substantial similarity between the two groups in lifting for reasons of hand washing, moving, and comforting/reading to. Infants were lifted more for feeding and napping purposes, and toddlers were lifted somewhat more for diapering, and for other reasons.

Discussion

The small sample sizes in this study preclude drawing general conclusions. However, the point seems clear that infant and toddler caregivers/teachers are lifting significant amounts of child weight during the workday. The results obtained in this study suggest that the average amount lifted by these caregivers/teachers during a full day shift (7.125 hours) is close to 1000 pounds, or ½ ton.

The small differences between the age groups in number of caregiver/teacher lifts and amount of weight lifted was somewhat surprising. Since toddlers are more mobile than infants, and all but one of the toddlers in this study were walking, it was expected that they would be lifted considerably less often. A possible explanation for the similar results for the two groups is that toddlers' increased mobility may be balanced by infants' tendency to sleep for longer periods during their time in child care, thus reducing their need for lifting. Toddlers also generally

weighed more, causing the caregiver/teacher to lift more weight in fewer lifts in the toddler rooms.

The results also indicated considerable variability in amount of lifting among caregivers/teachers, particularly for the toddler groups. Examination of the raw data indicated that in every classroom one of the caregivers/teachers lifted the children more than the other, but in some classrooms this was quite pronounced. The difference may be due to individual preferences, but it is also possible that in some of the classrooms one of the caregivers/teachers had tacitly chosen or been designated to assume the major lifting/nurturing role.

The results for reasons for lifting between the two groups presented few surprises. The children in both groups were lifted fairly equally for comforting/reading to, moving to another part of the room, and for hand washing. As expected, the less mobile infants were lifted more for feeding (in highchairs) and napping (in cribs). By contrast, all of the toddler groups ate at child-sized tables and slept on mats on the floor level. The higher percentage of toddler lifts for other reasons appeared partly due to lifts during play and outdoor activities.

While the results of this study are suggestive, more research with larger sample sizes, over a greater span of time, and with more precise counts of lifting are needed to draw firm conclusions about the amount of child weight caregivers/teachers are lifting in an hour and/or day.

Appendix B: Stress Management Test

- 1.____ Give yourself 10 points if you exercise for a minimum of twenty minutes three days a week.
- 2.____ Give yourself 10 points if you wake up feeling reasonably rested at least 5 days a week.
- 3.____ Give yourself 5 points if you have a quiet place in which you can relax on a regular basis.
- 4.____ Give yourself 5 points if you take quiet time for yourself during the day.
- 5.____ Subtract 5 points for every time during the week that you use alcohol to relieve stress.
- 6.____ Give yourself 10 points if you have an income adequate to meet basic needs.
- 7.____ Subtract 10 points if you feel you lack a consistent sense of purpose, connectedness, or life meaning.
- 8.____ Give yourself 10 points if you are reasonably comfortable with your body weight.
- 9.____ Subtract 5 points for every time during the week that you smoke cigarettes to relieve stress.
- 10.____ Give yourself 10 points if you have one or more friends with whom you can talk about personal matters.
- 11.____ Give yourself 10 points if you eat at least one balanced meal a day.
- 12.____ Give yourself 10 points if you give and receive affection regularly.
- 13.____ Subtract 5 points for every time during the week that you use a substance other than alcohol or cigarettes to relieve stress.
- 14.____ Give yourself 10 points if you feel that you are in good health.
- 15.____ Give yourself 10 points if you feel supported by your social network.
- 16.____ Give yourself 10 points if you usually communicate effectively in your interpersonal relationships.
- 17.____ Give yourself 10 points if you do something fun at least once a week.
- 18.____ Give yourself 10 points if you drink fewer than three caffeine drinks (coffee, tea, or cola) a day.

SCORE

<40 points

Your test score shows that not only are you living under a lot of stress, but you may also be compromising your health by the ways in which you deal with this stress. But don't panic; there are many healthy ways in which you can handle your stress. See the stress management fact sheet for tips on learning practical skills to help you be more effective in your stress management. If you would like to talk to someone about how to best manage your stress level, please contact your local health department or a local mental health provider.

40 - 80 points

It appears that you currently do some good things to relieve your stress. If you are satisfied with how you manage the stress in your life, great. Keep taking care of yourself. If you feel that you need more practice with stress management, please see tips below on dealing with the negative effects of stress.

>80 points

While you may sometimes feel the effects of too much stress, it appears that you are doing a good job of handling the stress in your life. This is a healthy way to live! If you want to learn even more stress management skills, please see the suggestions below and other recommended web sites.

Informal stress tests such as this one are not intended to be diagnostic. Rather, they are intended to alert you to the levels of stress you experience and assist you in monitoring/maintaining a level of stress that is comfortable for you. Every individual has a different stress comfort level. What may seem hectic and out of control to one person is routine to another. If you are concerned about your stress comfort level, please seek assistance from a local mental health provider.

(Reprinted and adapted with permission from the Center for Healthy Student Behaviors, Student Health Service, Division of Student Affairs, University of North Carolina at Chapel Hill, Chapel Hill, NC; 2001.)

Appendix C: Staff Nutrition Self-Assessment

I. Daily Food Intake

Setting	Food	Amount
What did you eat before you came to the child care facility today?		
What did you eat or drink this morning at the facility?		
What did you eat for lunch?		
What did you eat this afternoon at the facility?		
What will you eat after you leave the facility and before dinner?		
What did you eat for dinner last night?		
What did you eat or drink between dinner and when you went to bed last night?		

II. Weight

Are you satisfied with your weight? ___yes ___no

Have you ever been on a weight-loss diet? ___yes ___no

If yes, how many times?

If you were to go on a diet now, how would you do it at the facility?

III. Food variety

Place a check in the columns below to describe how many times in a month you eat the following foods:

Entree	0	1-3	4-6	7-10	>10
Tacos					
Pizza					
Hamburger					
Chicken, broiled					
Chicken, fried					
Fish, broiled					
Fish, fried					
Garden salad					
Bean burrito					
Macaroni and cheese					
Vegetables					
Sweet potatoes					
French fries					
Mashed potatoes					
Baked potatoes					
Green beans					
Peas					
Corn					
Carrots					
Broccoli					
Other					
Fruits					
Apple					
Banana					
Grapes					
Peaches					
Pears					
Other					
Dairy					
Whole milk					
2% milk					
1% or skim milk					
Yogurt					
Cottage cheese					
String cheese					
Ice cream					
Frozen yogurt					

Please indicate if you have ever tried the following food items:

Food	Yes	No
Asparagus		
Yam or sweet potato		
Eggplant		
Peapods		
Spinach		
Zucchini		
Greens		
Cantaloupe		
Kiwi		
Mango		

On a scale from 1 to 5, circle the number that most closely reflects your willingness to try new foods.

1 2 3 4 5
Always Often Sometimes Rarely Never

IV. Eating Habits

Please fill in the blanks:

When I am working at the child care facility and I **go out** for lunch, I typically eat:

When I am working at the child care facility and I **stay in** for lunch, I typically bring:

Circle the answer that best describes the number of times you eat in a typical day:

- | | |
|---------|-----------------|
| 1 time | 5 times |
| 2 times | 6 times |
| 3 times | 7 times or more |
| 4 times | |

Have you had a course or classes in nutrition? ___yes ___no