INFANT HEALTH AND SAFETY
TEST WHAT YOU KNOW

Take this quiz and compare your knowledge to the best practices described below.

1. What’s the best sleep position for infants?
2. How do you heat baby bottles safely?
3. How do you prepare formula for baby bottles?
4. How do you prevent infant choking accidents?
5. When should you start feeding babies solid foods?
6. What is the easiest way to prevent the spread of infection?
7. What is Shaken Baby Syndrome and how is it avoided?
8. What is the safest way to diaper babies?
9. Can you identify five significant safety hazards for babies?
10. What’s the best way to take a baby’s temperature?

Infant health and safety concerns often steer families away from regulated care toward the perceived safety of kin care and privately hired nannies and babysitters. If fact, both licensing rules and teacher preparation endeavors make regulated care the safest option for families and their children—especially babies.

The health and safety of infants focuses on four primary areas: feeding, sanitation, environmental risks, and sleeping. Best practices, formulated by professional educational organizations, child development experts, and medical professionals, give teachers (and families) guidance on the most current ways to support infant growth and development.

Food and feeding
Out-of-home care for infants starts when babies—tiny, vulnerable, and helpless—are as young as a few weeks old. Best practices dictate that you work closely with the baby’s parents to establish a feeding routine that suits you, the parents, and most of all, the infant.

Experts agree that for infants, breast is best. If a mother must work outside the home and is unable to nurse on demand, she may choose to express breast milk for you to feed the infant from a bottle. Alternatively, a family might opt for infant formula for bottle feedings. In either case, how you clean bottles, prepare the milk, and use the bottle will make a big difference in the safety of the infants involved.

Safe heating

Never use a microwave to heat bottles. Unfortunately, microwaves heat unevenly. Uneven heating can make the milk too hot and scald the baby. The uneven heating also increases the risk of the bottle exploding. Additionally, there is evidence that this method of heating destroys the nutritional quality of both breast milk and formula.

For safe warming, place the bottle in a bowl of hot (not boiling) water and let it stand for a couple of minutes. Shake the bottle and test the liquid’s temperature on the back of your wrist. It should feel neutral on your skin—not hot and not cold.

If you use a Crock-Pot® for heating bottles, be certain that it’s placed next to the electrical outlet. Never use extension cords and always make sure electrical cords are inaccessible to children.
### Storing and preparing expressed breast milk

The Centers for Disease Control and Prevention and the American Academy of Pediatrics offer the following guidelines for maintaining the high quality of expressed breast milk.

- Wash your hands.
- Use storage containers with screw caps or heavy-duty bags that fit directly into bottles. Avoid ordinary plastic storage bags that could leak or spill.
- Have all containers clearly labeled with the baby’s name and the date.
- Don’t save milk from a used bottle for use at another feeding.
- Thaw frozen breast milk in a refrigerator. Alternatively, swirl it in a bowl of warm water.
- Don’t re-freeze breast milk once it has been thawed.
- Never use a microwave for heating bottles. (See box on safe heating.)
- Encourage parents to transport milk in insulated cooler bags with ice packs that hold the temperature under 40 degrees. This milk can be stored for no more than 24 hours if it is kept cold.
- Frozen milk can be stored for three to six months at 0 to minus-18 degrees without degradation.

### Storing and preparing formula

Families, with the advice of the infant’s pediatrician, might choose one of three types of manufactured infant formula:

- A cow’s milk formula that has been chemically modified to resemble breast milk with the right balance of nutrients that facilitate digestion
- A soy-based formula for babies who are intolerant to cow’s milk, or
- A protein hydrolysate formula for babies that have both milk and soy allergies. These are called hypoallergenic formulas.

Formula is available in powdered, concentrated liquid, and ready-to-use forms. The powdered form is least expensive to buy but demands the most attention to prepare. The FDA ensures that all infant formulas—brand name and generic—meet the same nutritional and safety standards. These standards are only maintained, however, if the formula is used by its expiration date.

To safely prepare formula, follow these guidelines.

- Wash your hands.
- Prepare utensils. Make sure bottles and nipples are clean and dry. The Mayo Clinic recommends rinsing nipples daily in equal parts of vinegar and water to inhibit fungal growth. Make sure mixing containers are clean too.
- Measure the formula accurately. Shake ready-to-use formula well and pour enough for one feeding into a clean bottle; don’t add water. For powdered formula, use the provided scoop, determine the amount of formula you want to prepare, and follow the instructions on the container. Always use level measurements.

#### EXPERTS AGREE THAT FOR INFANTS, BREAST IS BEST.

- Use clean water—bottled or tap—for liquid concentrate and powdered formulas. Be careful to measure—too little water makes digestion difficult; too much reduces nutrients and calories necessary for growth.
- Warm the formula if needed. (See box on safe heating.)
- Feed the baby immediately. Discard formula left in the bottle after a feeding.
- If families bring prepared formula for their babies, make sure bottles are labeled and dated. Store in

#### Plastic or glass?

Consumers and researchers are engaged in an ongoing debate about the impact of bisphenol A (BPA), a compound used to make polycarbonate plastic in food and beverage containers including baby bottles. While manufacturers say the levels of BPA are safe, some parents are insisting on BPA-free plastic bottles or are returning to glass bottles. Be aware of the controversy and work to assure parents that you will be careful with all food preparation and service containers.
the refrigerator and discard any unused formula after 24 to 48 hours.

Solid foods
Pediatric experts recommend a diet of breast milk or formula for babies younger than 4 months. Increasing evidence suggests that the introduction of solid food too early increases the likelihood of digestive problems, food sensitivities (allergies), and subsequent childhood obesity. The American Academy of Pediatrics recommends that this milk-only diet be maintained until 6 months.

When the baby is ready for pureed solid foods, work with parents to choose which foods to introduce and when. The baby will need to work hard to learn how to move the jaw and manipulate the tongue and throat to chew and swallow. What had been a reflex will now be a deliberate activity!

Keep foods soft and mushy until the baby has back teeth that can be used for chewing (18 months to 2 years).

Be alert to choking and stay vigilant about hand washing and careful food preparation and storage.

Sanitation
Sanitation and infection prevention go hand-in-hand. Following recommended hand washing and diapering procedures goes a long way in preventing the numerous opportunistic illnesses that sometimes overwhelm infant care programs.

Diapering
Designate a single space for diaper changing to make cleaning and sanitizing procedures easier. Help babies learn that diaper changing is social and pleasant—an opportunity for some exclusive contact with you.

The procedure for diaper changing is designed to avoid cross-contamination with surfaces, hands, and other people.

Step 1. Get organized. Wash your hands and gather supplies. You’ll need a liner for the diaper changing surface, a fresh diaper, wipes, and a plastic bag for soiled items. Some programs also insist that diaper changers wear latex gloves.
Step 2. Carry the child to avoid cross-contamination. Place the child on the changing table and remove outer clothes that are soiled. Place these in the plastic bag.

Step 3. Unfasten the diaper but leave on the child. Lift the baby’s legs and use disposable wipes to clean the skin. Wipe from front to back. Put the soiled wipes in the soiled diaper or directly into a plastic-lined, covered, foot-operated garbage can.

Step 4. Fold the soiled diaper inward and place in the garbage can. If you wore gloves, remove and put into the garbage can. Use a disposable wipe to clean your hands and another to clean the baby’s hands. Put wipes into the garbage can.

Step 5. Slide a fresh diaper under the child and fasten the diaper. Re-clothe the child.

Step 6. Wash the baby’s hands and return the child to the play area.

Step 7. Clean and sanitize the diaper changing table. Leave the sanitizing solution on the surface for at least two minutes.

Step 8. Wash your hands and make notes in the child’s daily record. Make special note of, and report, the following: infrequent (fewer than three wet diapers a day) urination or dark-yellow urine that may be a sign of dehydration; painful urination; and raw, blemished, or bleeding skin.

Remember to follow general cleaning and sanitizing recommendations for classroom and play areas, feeding areas, as well as diapering areas.

The standard sanitizing solution formula is ¼ cup of bleach to 1 gallon of water (1 tablespoon bleach to 1 quart water) mixed fresh daily. Leave the solution on surfaces for at least two minutes.

Sleeping
Suffocation hazards have again been in the news with renewed evaluations of cribs, bedding, and plush toys. The risk of Sudden Infant Death Syndrome (SIDS) is too great to succumb to the temptation of cute over safe.

SIDS is defined as the sudden death of an infant under a year old that remains unexplained after a complete investigation, which includes an autopsy, examination of the death scene, and review of the symptoms or illnesses the infant had prior to dying, and any other pertinent medical history—a death that has no explanation.

There’s no way to guarantee that a particular child won’t die of SIDS, but experts can offer guidelines that significantly minimize the risk.

Most important, put babies to sleep on their backs—not stomach and not side. The Back to Sleep campaign has dramatically decreased the number of SIDS deaths in recent years. Additionally, avoid overheating rooms or using excessive bed clothes and coverings. And last, remove stuffed, lofty, or plush bedding and toys from sleeping areas.

When babies get sick
Tiny bodies get sicker faster than bodies with stronger immune systems. Infant care requires hyper vigilance and careful planning on the part of caregivers. Surely, your program policies cover the basics of
defining exclusion of sick children, identifying the person to contact when a baby gets sick while in your care, and knowing when to call emergency medical services (usually 911).

Medical and policy experts also identify and encourage a daily health check to help you immediately recognize and respond to potential illness. A health check should include observations of the following:

**The child’s behavior**
- What’s the child’s general mood—happy, cranky, or sad—and is the mood typical for the time of day and circumstance?
- What is the child’s activity level—sluggish, sleepy, engaged, or reluctant, for example?

**The child’s appearance**
- Is the skin pale or flushed? Is there a rash? Is the skin warm to the touch?
- Are the eyes, ears, and nose dry or is there a discharge? Is the child rubbing one of these areas?
- Is breathing normal or different? Is there a cough?

Query parents on any unusual behavior, activity, illness, or injury since the last time the child was with you. Ask if the baby is sleeping, eating, drinking, and behaving as usual. When you have established good communication lines with families, there are far fewer questions of trust when you have to report an illness.

When a baby appears to be mildly ill, remove the child from the group, offer restful comfort, and assess the situation. Remember, your job is to identify and report symptoms, not diagnose illness.

Typically assessment of illness includes determining the baby’s body temperature and the presence of fever. Because elevated body temperature can have many causes—strenuous exercise, time of day, environment (like a hot room or being bundled up), individual variations, or infection—it’s essential to make your assessment broad. When fever is a baby’s response to infection, it is usually accompanied by behavior change and related symptoms—a rash, vomiting, diarrhea, mucus discharge, or cough, for example.

Learn how to properly take a child’s temperature and make sure your method is safe and appropriate to the child’s age.

Oral digital thermometers are less dangerous and offer reliable feedback if used properly. All thermometers demand attention to manufacturer directions for appropriate and safe use.

**Birth to 3 months.** Use a regular digital thermometer to take a rectal temperature. Turn on the thermometer and lubricate the tip with petroleum jelly. Hold the baby tummy down on your lap. Insert the thermometer about a half inch into the baby’s anus and hold in place for about one minute or until the thermometer signals its reading. Remove the thermometer and read and record the number and the time the temperature was taken.

**3 months and older.** For older infants and toddlers it’s easier to use a digital ear thermometer or a digital pacifier thermometer. Carefully follow the manufacturer’s directions.

Use a regular digital thermometer to take an axillary or armpit temperature. Turn on the thermometer and place the tip in the child’s dry armpit next to skin (not over clothes). Hold in place for about one minute or until the thermometer signals its reading. Remove the thermometer and read and record the number and the time the temperature was taken.

Temperature strips contain liquid crystal that reacts to heat. Apply the strip to the forehead and the strip will register the body temperature by changing color. The strip isn’t precise and the child’s surroundings can affect the recorded temperature. Use strips for screening but a digital thermometer if you need precision.

Remember to wash your hands before and after taking a child’s temperature. Wash the thermometer with cold water and soap; rinse in cold water. Wipe the tip with rubbing alcohol or dip in a sanitizing bleach solution and allow to air dry.

**Environmental risks**
Infant mobility is a challenge to caregivers who must attend to several babies at once. There is a temptation to restrain the movement in activity chairs, slings, and cribs. Remember: Mobility, curiosity, and sensory explorations are building neural networks—the basis for social, physical, emotional, and cognitive development. Awake babies need interactions with you, other children, and the environment. Allow—and encourage—safe explorations.

It’s a magical day when the infant who could be relied on to stay in one place suddenly rolls, creeps, or wiggles to a new one. Because even the most
experienced professionals can’t predict this day, it’s prudent to prepare well ahead of time. Curiosity and sensory stimulation drive infant learning—a dropped grape or dangling blind cord can suddenly become a major hazard.

**Choking.** Choking is scary and largely preventable. Keep babies safe by following these guidelines:
- Introduce solid food only after the baby has the motor skills to swallow.
- Avoid high-risk foods like seeds, nuts, nut butters, gum, and hard candy.
- Supervise mealtimes—with your eyes and your ears.
- Evaluate playthings for safety risks.
- Keep hazardous materials out of reach.

If choking occurs, hold the baby face down on your forearm and thump the baby on the back with the heel of your hand. The combination of gravity and the back blow will likely dislodge the object. If the baby continues to have trouble breathing, call 911. Always be ready to perform CPR and choking first aid.

**Shaken Baby Syndrome.** Sometimes adults are instruments of the most unacceptable environmental risk to babies: Shaken Baby Syndrome, a serious brain injury that occurs when an infant or toddler is forcefully shaken. It destroys brain cells and interrupts oxygen flow to the brain. It is a form of child abuse that can result in permanent brain damage or even death. (See *Texas Child Care* Spring 2000). No behavior—endless crying, biting, screaming, or kicking—ever justifies shaking a child.

**Consider other environmental risks**

**Crib.** The Consumer Product Safety Commission has issued new guidelines for cribs to help ensure infant safety. These new requirements include the following:
- Traditional drop-side cribs cannot be made or sold; immobilizers and repair kits are not allowed.
- Wood slats must be made of stronger woods to prevent breakage.
- Crib hardware must have anti-loosening devices to keep the hardware from loosening or falling off.
- Mattress supports must be more durable.
- Safety testing must be more rigorous.

Beginning June 28, all cribs sold in the United States must meet the new federal requirements for overall crib safety.

**Stair.** Stairs are irresistible mountains to a mobile baby eager to try out new skills.

**Open water.** Children—mostly infants—die every year from drowning. Buckets, dishpans, wading pools, and bath seats are potentially lethal when babies are unattended for even a moment.

**Stoves, heaters, and scalding liquids.** Yes, your hot coffee is important but it’s also a danger to a too-wiggly baby with hands that want to grab. Check that the hot water heater—and the faucets children use—don’t risk burns. Make kitchen areas off limits for play. Check smoke alarms and fire extinguishers routinely.

**Equipment and furniture.** If the object is unsteady, move it out of the area or anchor it to a wall.

**Recalled items.** Many materials in resale shops and garage sales are there because they’ve been deemed unsafe for children. Bargains on strollers, baby carriers, cribs, and toys are tempting but it’s no bargain if it’s dangerous. Get in the habit of checking the Consumer Product Safety Commission website for recalls and alerts at www.cpsc.gov/.

**Resources**