Tips for Pediatric Phlebotomy & Injections

COURSE DESCRIPTION

Needles and children just do not “go together”. More often than not, both the child and the healthcare worker with the needle are upset by the end of the procedure. This continuing education course will focus on methods used by healthcare workers to obtain the best possible outcomes when giving injections and/or collecting blood specimens from pediatric patients aged 1½ - 12 years of age.

*Valid for P.A.C.E.® credit through 12/31/2017*

* ASCLS P.A.C.E.® is an approved continuing education agency by the California Department of Health Laboratory Field Services, Accrediting Agency #0001.

*NCCT is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® Program, provider #122.
OBJECTIVES

Upon completion of this continuing education course, the professional should be able to:

1. Identify components of a child-friendly waiting and/or procedure room.
2. Describe fears a child might have when receiving vaccinations and/or having blood collected.
3. List socialization, cognitive, and emotional characteristics for toddlers, young children, and older children.
4. Identify communication tips to use for conversations with pediatric patients and their parents.
5. List topical anesthetics that can be used prior to needlestick procedures.
6. Describe the pros and cons of topical anesthetics.
7. Identify ways parents can become involved in needlestick procedures.
8. Describe comfort positioning techniques.
9. Identify distraction methods useful in needlestick procedures.
10. Identify sites to perform venipuncture on pediatric patients.
11. List venipuncture equipment used for pediatric patients.
12. Describe injuries that can occur in pediatric patients having needlestick procedures and methods used to avoid these injuries.
13. List age-appropriate rewards for pediatric patients.

Disclaimer

The writers for NCCT continuing education courses attempt to provide factual information based on literature review and current professional practice. However, NCCT does not guarantee that the information contained in the continuing education courses is free from all errors and omissions.
INTRODUCTION

No one is happy when it comes to giving injections to or collecting blood from children. The patient, the parents, and the healthcare worker holding the needle are all anxious. It doesn’t matter if the child is healthy or seriously ill—needles are just plain scary. This continuing education course will focus on methods the healthcare worker can to use to obtain the best possible outcome when injections are given and/or blood specimens are collected.

For the purpose of this continuing education course, pediatric ages are defined as follows.

- Toddlers: 1½ – 3 years old
- Young children: 4 – 7 years old
- Older children: 8 – 12 years old

The words parent and parents are used throughout the course. These words are used to represent any adult associated with the child, such as guardian, aunt, uncle, etc.

TIP 1: PROVIDE A CHILD-FRIENDLY ENVIRONMENT

First impressions count! When children enter a doctor’s office, clinic, or hospital, they should immediately see an environment that draws their attention. Child-friendly environments include:

- Child-size chairs and tables;
- Books, including some that describe procedures the child may experience;
- Games/toys;
- Primary colors on walls, floors, furniture; and
- Television with DVD players placed at a child-friendly height.

Many studies recommend that both the waiting room and the procedure room be child-friendly. If it is not possible to make the procedure room child-friendly, the child should not be brought into this room until immediately before the procedure to minimize the child's fear and anxiety.

TIP 2: DEAL WITH FEARS

Children have fears of many kinds—just like adults. Common fears include:

- “What’s wrong with me?”
  - A child may be getting ready to have surgery and is scared about what will happen.
  - A child may have received previous treatments for cancer, and he/she is now being tested to see if the cancer has returned.
  - A child may think he/she is being punished. Assure that the child knows the benefits of the procedure(s).
• “Is it going to hurt?”
  o No one likes to be “stuck”.

• “You look scary!”
  o Gloves, gowns, masks, and other personal protective equipment that healthcare workers must wear can make a child very apprehensive.

• “Mommy, Daddy, I don’t want to be here!”
  o A child may not understand that he/she has to receive vaccinations to stay healthy.

The best way to help a child deal with fears is to have one or both parents stay with him/her. The mere presence of one or both parents reduces the amount of pain and anxiety the child experiences during a procedure.

Other ways to help a child deal with fears are discussed in following tips.

**TIP 3: HAVE A CONVERSATION**

Both children and parents need reassuring and accurate explanations of the procedure(s) taking place. Research studies have shown that children and parents who receive pre-procedural information are more cooperative and less upset both during and after the actual procedure.

To deal successfully with children and their parents, the healthcare worker needs a working knowledge of pediatric psychological development and the use of good interpersonal skills. Following is a table that provides information on socialization, cognitive, and emotional development for children.

<table>
<thead>
<tr>
<th>Socialization</th>
<th>Cognitive &amp; Emotional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toddler</strong></td>
<td></td>
</tr>
<tr>
<td>• egocentric</td>
<td>• short attention span</td>
</tr>
<tr>
<td>• separation from mother or father may be very traumatic</td>
<td>• follows directions and requests to some extent</td>
</tr>
<tr>
<td>• may be frightened of unfamiliar environments</td>
<td>• asks questions (who, what, when, why); may repeat questions often</td>
</tr>
<tr>
<td></td>
<td>• understands more than he/she can actually speak</td>
</tr>
<tr>
<td></td>
<td>• may have temper tantrums</td>
</tr>
<tr>
<td></td>
<td>• lacks judgment</td>
</tr>
<tr>
<td><strong>Young Child</strong></td>
<td></td>
</tr>
<tr>
<td>• egocentric</td>
<td>• asks questions almost constantly</td>
</tr>
<tr>
<td>• knows actions may result in punishment</td>
<td>• talks constantly</td>
</tr>
<tr>
<td>• always busy with projects</td>
<td>• imaginative</td>
</tr>
<tr>
<td>• less dependent on parents</td>
<td>• difficult to separate fantasy from reality</td>
</tr>
<tr>
<td></td>
<td>• may think that being sick is a punishment</td>
</tr>
<tr>
<td></td>
<td>• lack of judgment</td>
</tr>
</tbody>
</table>
### Socialization

- learning to cope with rules, regulations
- begins to gain a sense of competence
- friends are important
- occasional privacy is important
- often forgets manners and courtesy

### Cognitive & Emotional Development

- rapid intellectual change
- likes to reason
- understanding is important
- feelings of inferiority may surface
- must feel she/he has significance

---

**Conversations with Children**

When discussing injections and blood collection with children, the conversations must be age appropriate. Following are communication tips for handling children.

- Physically bring yourself to the child’s level, i.e., sit, bend, or stoop down to talk with him/her.
- Make eye contact and smile.
- Greet the child with a quiet and friendly voice but an authoritative manner. Avoid a singsong or super high voice, and don’t talk down to the child,
- Introduce yourself. Use the child’s name when talking with him/her.
- Explain the procedure in simple language.
  - If the child is older, more information can be given.
  - Offer an explanation even to toddlers, as they can understand more than they can verbalize.
  - Stress the importance of the procedure such as how an antibiotic shot will help him/her feel better.
  - Examples of simple language for child-friendly explanations follow.

### Say this..... Not that.......

<table>
<thead>
<tr>
<th>Say this.....</th>
<th>Not that.......</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need to give you some medicine using a small needle.</td>
<td>I need to give you a shot.</td>
</tr>
<tr>
<td>I need to get some blood so your doctor can see how you are doing inside your body.</td>
<td>I need to draw your blood for some lab tests.</td>
</tr>
</tbody>
</table>
| • The tourniquet will be tight like a rubber band around your arm.  
• You will feel a ‘pinch’ when the needle goes in your skin. | This won’t hurt at all. |
| • The needle will put medicine in your skin or muscle so your body can use it to make you feel better.  
• The needle will help blood go into a tube so it can be tested in the lab. | I am going to stick you with a needle |
| I need you to help me by staying very still, OK? | Don’t move! |
| • You are being very brave!  
• You are doing such a good job! | Big boys and girls don’t cry. |

- Ask the child if he/she has had the procedure before, and to describe how it went.
- Tell the child that it is OK to be scared and that even adults do not like getting shots or having their blood collected.
• Tell the child that it is OK to cry or yell if he/she feels pain but he/she must not move.
• Tell the child how to stay in control of the situation, such as deep breathing, counting, thinking about a fun activity, etc.
• Be prepared to answer the child’s questions. Give simple answers that will make the procedure interesting to the child. For example, if a child asks about a tourniquet you could say, “This will help your muscles make your veins big. See how much bigger they are now?” Distract older children from the procedure by asking questions about school, sports, etc.
• When the procedure is over, help wipe away any tears and always thank the child for his/her help. If the child is older than two years of age, place a bandage on the finger or arm and tell the child that only “good kids” get a bandage. However, do not use bandages on children aged 2 or younger as they can be an aspiration risk.

Conversations with Parents

If a phlebotomist is collecting a blood specimen, he/she should be very careful when giving test information to the parents. The phlebotomist should never tell parents what disease or condition a specific blood test detects. When parents ask questions about blood tests, the phlebotomist’s responses should be as general as possible. The phlebotomist should refer the parents to the child’s doctor for specific information.

NOTE: Healthcare workers other than phlebotomists, such as nurses and medical assistants, may be in a position to know what has and has not been discussed with parents regarding their child’s test procedures. If this is the case, more information may be discussed with the parents.

TIP 4: USE A TOPICAL ANESTHETIC

Information about procedure pain in children is growing, as there is increased interest and awareness among healthcare workers. Due to the increased awareness, the use of topical anesthetics prior to IV insertion, injection, and venipuncture is increasing. Before initiating the use of any topical anesthetic, the literature should be researched and the manufacturer’s instructions reviewed and followed. Information on some common topical anesthetics follows.

L.M.X.4®
• L.M.X.4® is a non-prescription topical cream containing 4% lidocaine.
• The 4% strength of lidocaine causes a loss of feeling in the skin and surrounding tissues. As numbing occurs, a slight cooling sensation may occur.
• L.M.X.4® is applied at least 30-45 minutes before the start of the procedure.
• The manufacturer provides a clear plastic film to cover the cream after application to prevent accidental ingestion or removal of the cream.

ELMA® (Eutectic Mixture of Local Anesthetics) Cream/Transdermal Patch
• ELMA® is a prescription cream/transdermal patch containing 2.5% lidocaine and 2.5% prilocaine.
• The cream must be covered with a clear plastic film after applied to the skin. The transdermal patch is simply applied to the skin.
• ELMA® takes at least 60 minutes to provide numbing sufficient for needle insertion.

Pain Ease® Instant Topical Anesthetic
• Pain Ease® is a skin refrigerant that provides immediate temporary numbing that lasts up to one minute. It is applied by spraying and it can be reapplied as needed.
• Pain Ease® contains pentafluoropropane and tetrafluoroethane.

Gebauer’s Fluoro-Ethyl® Topical Anesthetic Skin Refrigerant
• This spray skin refrigerant is very similar to Pain Ease®. It provides immediate temporary numbing that lasts from a few seconds to a minute.
• Gebauer’s Fluoro-Ethyl® contains ethyl chloride and dichlorotetrafluoroethane.

Zingo®
• Zingo® was approved by the FDA on 8/17/2007 for venous access procedures (IV insertions and venipuncture) in children aged 3-18 years.
• Zingo® is a hand-held device that delivers sterile lidocaine powder into the skin via a needle-free helium-powered delivery system. Numbing of the site occurs in one to three minutes.

Synera®
• Synera® is a prescription patch that contains lidocaine and tetracaine and a warming technology that enhances the anesthetic effect.
• The patch resembles a large adhesive bandage. It is placed on the skin at the injection site and removed after 20-30 minutes.
• Synera® is safe to use in children as young as 3 years of age.

A drug-free option for pain relief called Buzzy® can be used to help with venipuncture, injections, and IV insertions. Buzzy®, which looks like a yellow and black bumble bee, or a red and black lady bug, uses cold and vibration to overwhelm the body’s peripheral nerve endings, thus blocking pain from a needle insertion.

TIP 5: GET THE PARENTS INVOLVED

Many studies have demonstrated that the presence of a child’s parents during a medical procedure greatly reduces the anxiety of the child. When a child’s anxiety is reduced, he/she is more cooperative, more open to understanding the procedure, cries less, etc. Parents can help their child by:

• Remaining calm (as anxiety is contagious),
• Sitting near the child’s head so he/she can see your face,
• Holding the child’s hand,
• Distracting the child by talking about a favorite place, activity, etc.,
• Telling the child it is OK to be afraid and to cry,
• Praising the child when he/she is cooperative, brave, etc. and,
• If asked, helping restrain the child per the healthcare worker’s instructions.
Concerning restraining, there may be instances where the parents may be unwilling to assist or the healthcare worker may not want them to assist. Each situation should be evaluated on an individual basis.

**TIP 6: USE COMFORT POSITIONING**

Toddlers and younger children should always be restrained during venipuncture and injection procedures. Restraining older children should be determined on a case-by-case basis. NOTE: It may be necessary to get additional assistance for restraining a child.

The parent can be asked to assist by holding the child in a comfort position. In the absence of a parent, another healthcare worker must assist with the restraining. The least amount of restraint necessary should be used.

Studies have shown that children placed in a supine position for venipuncture struggle, become angry, and/or agitated more than children placed in a comfort position. The following comfort positions are recommended for use when giving injections and collecting blood.

- **Parent hugging child:** The child sits on the parent’s lap chest-to-chest and the parent hugs the child. The parent secures one of the child’s arms by wrapping his/her arm around it. The child’s other arm is used for the procedure. Using this position, the child should only be able to kick from the knee down.

- **Child sitting on parent’s lap facing forward:** The child sits on the parent’s lap with his/her back to the parent’s chest. The parent hugs the child, securing one arm with the hug, and leaving one arm available for the procedure. With this position, the child has a sense of control as he/she can look all around. If needed, the child’s legs can be secured by having the parent cross his/her legs, containing the child’s legs.

- **Child sitting on bed:** The child sits up on a bed/exam table and the parent sits in a chair next to the bed/exam table. With one arm, the parent can assist with holding the child’s arm in a straight position; with the other arm, the parent can restrain the child’s hand and leg.

- **Child sitting sideways on lap:** The child sits on the parent’s lap with his/her legs off to one side. The parent holds the arm not involved in the procedure. The parent can also trap the child’s legs within his/her crossed legs.

In all of the comfort positions discussed, a third individual can be brought in to provide a distraction. If a parent is not available, another healthcare worker should be used to help with restraining the child.
**TIP 7: USE DISTRACTION**

Distracting a child during a blood draw or an injection is a helpful way to minimize pain and anxiety. The following distractions have been researched and found to be useful in diverting a child’s attention.

- **Watching television**
  - An article published in the 11/28/06 issue of the *Archives of Disease in Childhood* reported that children who were distracted by television more than by their mothers reported less pain during venipuncture.
  - To implement this distraction, a room where venipuncture and injections on children occur could have a small television or DVD player featuring popular children programs.
  - Electronic tablets and game players can also be used for visual distraction.

- **Blowing out air**
  - A very simple distraction is to instruct the child to take in a deep slow breath right before the needle stick. Instruct the child to quickly blow out the air and insert the needle while the air is blown out.
  - This technique can be used several times during the procedure such as when a tourniquet is applied, when a site is cleaned with alcohol, when a needle is inserted, and when a needle is removed.

- **Using of party horns and bubbles**
  - NOTE: To assure the safety of the child, these items should not be used for children aged 3 years or younger.
  - Have the child blow out a paper party blower (the curled up paper horn that extends out when air is blow into it) at the time of needle insertion. As a plus to using the party blower, the child can take it home as a reward.
  - The same principle is applied by having the child blow bubbles. The bottle of bubbles and bubble wand can also be given to the child as a reward.

- **Coughing**
  - A study performed in Germany identified a “cough trick” as effective in reducing pain at the time of a needle stick.
  - Cough trick procedure
    - After preparing a site for injection or selecting a vein for venipuncture, ask the child to turn his/her head in the opposite direction of the arm being used.
    - Tell the child to cough, making sure he/she does not move the arm.
    - At the time of needle insertion, have the child cough a second time.

- **Other useful distractions include asking the child to sing his/her favorite song, count to 10 (or 20), describe his/her favorite toy, sport, etc.**
TIP 8: USE PEDIATRIC SUPPLIES

Before performing pediatric phlebotomy procedures, the healthcare worker should be competent and proficient in collecting blood from adults. A thorough training (both didactic and practical) and assessment of pediatric competencies is recommended before the individual begins performing blood specimen collection.

Blood specimens may be collected by venipuncture or skin puncture (i.e., fingerstick). Advantages of venipuncture over skin puncture include less dilution of the specimen with tissue fluid, less chance of hemolysis, and fewer punctures. In addition, venipuncture is generally less stressful for both the child and the healthcare worker collecting the specimen.

Venipuncture

- Venipuncture in children is best performed using a winged infusion set ("butterfly") and 23-gauge needle. A 21-gauge needle can be used on older children.
- The winged infusion set will allow for a lower angle of insertion, which is useful when accessing small veins.
- In the antecubital area, the median cubital and cephalic veins can be used for venipuncture. Due to possible nerve damage, the basilic vein should NOT be used.
- Dorsal hand veins may also be used for venipuncture.
- Pediatric volume evacuated tubes should be used. Red closure (no additive), green closure (sodium/lithium heparin), lavender closure (EDTA), and light blue (sodium citrate) closure tubes come in sizes that collect 2 mL or 3 mL of blood.

Skin puncture

If only small quantities of blood are needed, a skin puncture can be performed. Only the index and middle fingers can be used for skin puncture. Blood is collected into micro-collection tubes.

Following a fingerstick, venipuncture, and/or injection, a colorful bandage should be placed on all children with the exception of those younger than 2 years. Bandages in children aged 2 years or younger pose a potential aspiration hazard. The parent or healthcare worker should hold gauze over the puncture site until bleeding has stopped.

It is useful to carry bandages of several different prints so the child can select the bandage that most appeals to him/her.

TIP 9: AVOID INJURY

Due to their smaller veins and the tendency of a child to move unexpectedly, pediatric patients are prone to injury resulting from blood collection procedures. Following is a table summarizing potential phlebotomy injuries and methods used to prevent these injuries.
### Age Group

**Potential Phlebotomy-Related Injuries**

**Prevention of Injuries**

**Toddlers**

- Falls
- Aspiration
- Suffocation
- Hematoma
- Nerve damage

- Do not leave unattended during the procedure.
- Do not have child bend his/her arm to hold gauze following venipuncture. Instead, the phlebotomist/parent should hold the gauze firmly over the puncture site, checking frequently to see if bleeding has stopped.
- Place a bandage on all children older than 2 years. Do not use bandages on children 2 years or less as it can present an aspiration hazard.
- Always obtain assistance with restraining the child.
- Use a winged infusion set with the smallest needle gauge as possible. Use pediatric evacuated tubes.
- If only small quantities of blood are required, skin puncture may be performed.
- Do to potential permanent nerve damage, do not use the basilic vein due to its proximity to nerves.
- Assure that all phlebotomy equipment is out of the reach of the child.

**Young/older children**

- Hematoma
- Nerve damage
- Fainting*

- Do not leave the child unattended during the procedure.
- Do not have the patient bend his/her arm to hold gauze following venipuncture. Instead, the patient can hold the gauze firmly over the puncture site until the phlebotomist is able to check to see if bleeding has stopped. Alternately, the phlebotomist can hold the gauze firmly over the puncture site until bleeding has ceased.
- Assure that all phlebotomy equipment is out of reach of the child.
- Use smallest needle gauge as possible. The use of a winged infusion set is recommended. However, older children may have veins of sufficient size as to use a tube holder with “regular” needle and evacuated tubes.
- Do to potential permanent nerve damage, do not use the basilic vein due to its proximity to nerves.

*Fainting does not frequently occur with toddlers.

### TIP 10: REWARD THE CHILD

After the injection and/or blood collection procedure is completed, provide the child with verbal praise and a token prize as a reward for bravery. This small gesture can raise the child’s self-esteem, make him/her feel special, and provide a positive “spin” on the procedure.

The prizes can be printed with the doctor office, clinic, or hospital name for promotional purposes. It can be useful to have a variety of prizes placed in a colorful container so the child can select the prize that appeals to him/her the most. NOTE: Toys and prizes must be age-appropriate to assure the safety of the child.

Following are suggested rewards.

- Verbal: Verbal rewards such as “Good job!” or “You are so brave!” are very effective in lifting up a child’s self-esteem. Kristen M. Buckbee, author of “Implementing a Pediatric Phlebotomy Protocol” (*Medical Laboratory Observer*, April 2004), recommends returning to the child’s room shortly after the procedure just to say hello and check on how he/she is doing. This action allows the child to see the “needle person” as someone who is nice and concerned about
him/her. However, on the follow up visit, be sure to leave the phlebotomy tray outside the room!

- Stickers: Stickers of all kinds are popular rewards. Include a variety of stickers so there is something that will appeal to both boys and girls.

- Bravery certificates: Colorful certificates can be preprinted and the child's name and the date can be hand written in by the healthcare worker who performed the procedure. An example follows.

- Games/Toys: Games like small puzzles, yo-yos, word jumbles, word searches, connect-the-dots, etc.

- Coloring books/crayons, sidewalk chalk.

CONCLUSION

Many factors must be taken into consideration when needles are used on pediatric patients. These 10 tips provide information that should be useful to assure a positive outcome for both the child and the healthcare worker holding the needle.

REFERENCES

Buckbee, Kristen. Implementing a Pediatric Phlebotomy Protocol. *Medical Laboratory Observer*, April, 1994


Cooper, Miranda. Practical Aspects of Pediatric Phlebotomy. Oral Presentation, Clinical Laboratory Conference, Overland Park, Kansas, August 2007


Award for Bravery

Presented to

__________________________
for courage demonstrated during a needlestick procedure.

________________________________________________________________________________________
(Signature of healthcare worker)                                                            (Date)
TEST QUESTIONS
Tips for Pediatric Phlebotomy & Injections Course # 1221916

Directions:
- Answer sheets: Read the instructions to assure you correctly complete the answer sheets.
  o NOTE: If the online test questions differ from the course test that follows the reading material, the CE course you are using is outdated or the question has been revised since you downloaded it. The online question is the most current and it should be answered accordingly.
- Select the response that best completes each sentence or answers each question from the information presented in the course.
- If you are having difficulty answering a question, go to www.ncctinc.com and select Forms/Documents. Then select CE Updates and Revisions to see if course content and/or a test questions have been revised. If you do not have access to the internet, call Customer Service at 800-875-4404.

1. Which one of the following would be found in a child-friendly waiting room?
   a. Beige walls and beige carpet  
   b. Dr. Seuss books and pictures  
   c. Medical journals and magazines  
   d. TV playing patient information on diabetes

2. Which one of the following is NOT recommended when conversing with a child?
   a. Don’t answer the child’s questions.  
   b. Give a simple explanation of the procedure.  
   c. Have an authoritative but friendly manner.  
   d. Tell the child it is OK to cry or yell.

3. Which age group is known for asking questions almost constantly?
   a. Young child  
   b. Older child  
   c. Toddler

4. In which age group is it important for the pediatric patient to understand a procedure?
   a. Young child  
   b. Older child  
   c. Toddler
5. Which one of the following topical anesthetics takes 30-45 minutes to produce numbing?
   a. EMLA®  
   b. Gebauer’s Fluoro-Ethyl®  
   c. L.M.X.4®  
   d. Zingo®

6. Which one of the following topical anesthetics provides immediate numbing?
   a. EMLA®  
   b. Gebauer’s Fluoro-Ethyl®  
   c. L.M.X.4®  
   d. Zingo®

7. Which one of the following topical anesthetics containing lidocaine produces numbness in one-three minutes?
   a. EMLA®  
   b. Gebauer’s Fluoro-Ethyl®  
   c. Synera®  
   d. Zingo®

8. Which one of the following is a drug-free option for pain control?
   a. Buzzy®  
   b. EMLA®  
   c. Gebauer’s Fluoro-Ethyl®  
   d. Pain-Ease®

9. When a child needs to be restrained for a needlestick, the healthcare worker should __________.
   a. ask the parents to help  
   b. force the parents to assist  
   c. make the parents leave the room  
   d. put his/her leg over the child’s arm

10. When undergoing a needlestick procedure, children are more likely to become agitated and struggle when placed in which one of the following positions?
    a. child sitting on parent’s lap facing forward  
    b. child sitting sideways on parent’s lap  
    c. child laying supine on bed  
    d. parent hugging child (chest-to-chest)
11. Which one of the following distractions is NOT recommended for children aged 3 years or less?
   a. asking about favorite toy
   b. blowing on a party horn
   c. coughing when needle inserted
   d. watching TV

12. Which one of the following statements is TRUE regarding venipuncture on pediatric patients?
   a. An 18-gauge needle with a winged infusion set is preferred for venipuncture in toddlers.
   b. Bandages should be used on all pediatric patients to cover the puncture site.
   c. The basilic vein in the antecubital area is the preferred vein for pediatric venipuncture.
   d. The healthcare worker should be competent in performing venipuncture on adults before training and performing pediatric venipuncture.

13. Nerve damage caused by venipuncture usually results from __________.
   a. collecting blood into pediatric evacuated tubes
   b. using a dorsal hand vein for the collection side
   c. using a small gauge needle and winged infusion set
   d. using the basilic vein for the collection site

14. Which one of the following statements is FALSE regarding rewards given to pediatric patients following a needlestick procedure?
   a. It is useful to have a variety of prizes so the child can select the prize that most appeals to him/her.
   b. Prizes can be printed with the hospital, clinic, doctor office name and be used as promotional items.
   c. Returning back to the child’s room to see how he/she is doing a while after the procedure is a good verbal reward.
   d. The same toy can be given as a reward to all ages of pediatric patients.

*End of Test*
P.A.C.E.® Program Evaluation

Directions: Please let us know whether this CE course met your expectations by answering the following questions. Your feedback helps us to make our products better for you!

<table>
<thead>
<tr>
<th>Course Title: Tips for Pediatric Phlebotomy &amp; Injections</th>
<th>Course Number: 1221916</th>
</tr>
</thead>
</table>

**OBJECTIVES**

1. Did you meet the objectives while reading this CE course?
   - Yes  No

2. Did the test measure what you learned?
   - Yes  No

**COURSE CONTENT**

3. Were you satisfied with this course?
   - Yes  No

4. Was the CE course organized and useful for learning?
   - Yes  No

5. Was this CE course written at the right level for the practicing professional?
   - Yes  No

**VALUE**

6. Did you learn anything new?
   - Yes  No

7. Did you learn anything you might use at work?
   - Yes  No  Maybe

What can NCCT do to make the CE courses better for you?

What would you like to learn about in the future? Please list specific topics!

*Please include this evaluation with your answer sheet.*