Thank you for serving as a Skill Examiner at today’s examination. Before you read the instructions for the skill you will be evaluating today, please take a few moments to review your general responsibilities as a Skill Examiner:

- Conducting examination-related activities on an equal basis for all candidates, paying particular attention to eliminate actual or perceived discrimination based on race, color, national origin, religion, gender, age, disability, position within the local EMS system, or any other potential discriminating factors. The Skill Examiner must help ensure that the EMT Assistant and/or Simulated Patient conduct himself/herself in a similar manner throughout the examination.
- Objectively observing and recording each candidate’s performance
- Acting in a professional, unbiased, non-discriminating manner, being cautious to avoid any perceived harassment of any candidate
- Providing consistent and specific instructions to each candidate by reading the “Instructions to the Psychomotor Skills Candidate” exactly as printed in the material provided by the National Registry. Skill Examiners must limit conversation with candidates to the communication of instructions and answering of questions. All Skill Examiners must avoid social conversation with candidates or making comments on a candidate’s performance.
- Recording, totals and documenting all performances as required on all skill evaluation forms
- Thoroughly reading the instructions for the assigned skill before actual evaluation begins
- Checking all equipment, props, and moulage prior to and during the examination
- Briefing any Simulated Patient and EMT Assistant for the assigned skill
- Assuring professional conduct of all personnel involved with the particular skill throughout the examination
- Maintaining the security of all issued examination material during the examination and ensuring the return of all material to the National Registry Representative

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**Pediatric Ventilatory Management**

**Only Intermediate/99 candidates complete this skill.** These sequential skills are designed to test a candidate's ability to provide ventilatory assistance to an apneic infant with a palpable brachial pulse and no other associated injuries. For the purposes of these testing skills, the cervical spine is intact and cervical precautions are not necessary. This skill was developed to simulate a realistic situation where an apneic infant with a palpable pulse is found. Bystander ventilations have not been initiated. A two minute time period is provided for the candidate to check and prepare any equipment he/she feels necessary before the actual timed evaluation begins. An array of appropriate equipment is essential for these skills. You must ensure that pediatric bag-valve-mask (BVM) devices, oropharyngeal and nasopharyngeal airways, laryngoscope blades, and uncuffed endotracheal tubes (sizes 3.0 – 5.0) are available and work adequately throughout the examination. The choice of appropriate equipment is essential when assisting ventilation in the infant. Using an oropharyngeal airway that is too large may obstruct the airway or displace the tongue in the pharynx, resulting in obstruction. The BVM device must be of appropriate size to provide an adequate mask seal and not over-inflate the lungs.

When the actual timed evaluation begins, the candidate must immediately open the patient's airway and initiate ventilations using a BVM unattached to supplemental oxygen. The candidate may set up the reservoir
and attach supplemental oxygen to the BVM device prior to establishing a patent airway and ventilating the patient. Regardless of the candidate’s initial ventilatory assistance (either with room air or supplemental oxygen attached), ventilation must be initiated within the initial 30 seconds after taking appropriate PPE precautions or the candidate has failed to ventilate an apneic patient.

In children less than two years of age, padding may need to be placed under the scapulae to properly position the head in a neutral or sniffing position. If you are using a manikin where it is not possible to demonstrate elevation of the upper torso, simply ask the candidate to describe how he/she would place a live infant in a neutral or sniffing position.

It is acceptable to insert a simple airway adjunct prior to ventilating the patient with either room air or supplemental oxygen. It is currently acceptable to insert the oropharyngeal airway using a tongue blade and following the natural curvature of the oropharynx. If a tongue blade is not available, it is acceptable to insert the oropharyngeal airway with the tip toward the roof of the mouth and curve of the adjunct pressing on the tongue, then rotating the adjunct 180° into the correct position. The adjunct should not scrape the palate (see PEPP). You must inform the candidate that no gag reflex is present when he/she inserts the oropharyngeal airway.

After the candidate ventilates the patient for a minimum of 30 seconds, you must inform the candidate that ventilation is being performed without difficulty. The candidate should call for integration of supplemental oxygen at this point in the procedure (if it was not attached to the BVM initially). After supplemental oxygen has been attached, the candidate must ventilate the patient at a rate of 12 – 20 ventilations/minute (1 ventilation every 3 – 5 seconds) with adequate volumes of oxygen-enriched air. It is required that an oxygen reservoir (or collector) be attached. Should the candidate connect the oxygen without such a reservoir or in such a way as to bypass its function, he/she will have failed to provide a high percentage (at least 85%) of supplemental oxygen. You must mark the related statement under “Critical Criteria” and document his/her actions. Determination of ventilation volumes is dependent on your observations of technique and the manikin’s response to ventilation attempts. Ideally, these volumes should be sufficient to cause visible chest expansion and air movement in and out of the lungs. Specific and accurate measurements of these volumes are quite difficult with the intubation manikins currently available. If two or more rooms are set up and one is using a disposable BVM, be sure to leave the mask and reservoir attached to all the non-disposable BVMs throughout the examination. To assist in containing costs of the practical examination, the oxygen tank used may be empty. The candidate must be advised to act as if the oxygen tank were full. However, the supplemental oxygen tubing, regulator, BVM, and reservoir should be in working order.

After the candidate ventilates the patient with supplemental oxygen for at least 30 seconds, you must automatically auscultate breath sounds. Inform the candidate that breath sounds are present and equal bilaterally and medical control has ordered endotracheal intubation. You must then take over ventilation while the candidate prepares all intubation equipment. When the candidate is prepared to insert the airway and instructs you to move, you must also remove the oropharyngeal airway (nasopharyngeal airways may be left in place). The candidate has only three attempts to successfully intubate the infant. An “attempt” for this examination is defined as introduction of the laryngoscope blade into the manikin’s mouth regardless of trying to pass the tube or not. Throughout these attempts, ventilation may not be interrupted for more than thirty 30 seconds. At this point, you may only ventilate the patient upon the candidate’s command and must document any interruption in ventilation for more than 30 seconds under “Critical Criteria” on the evaluation form. Do not stop the candidate's performance if he/she exceeds this 30 second maximum time limit on any attempt but document the ventilation delay as required.

The infant’s head should not be excessively flexed during intubation, but rather placed in a neutral or sniffing position.
position by placing padding under the scapulae. The straight (Miller) laryngoscope blade may be preferred for infant intubation over the curved (Macintosh) blade. Uncuffed endotracheal tubes must be used in the infant. Once inserted, the uncuffed tube seals in the narrowing trachea just distal to the cricoid cartilage.

It is essential that tube placement be confirmed immediately after the tube is inserted. As soon as the candidate verifies tube placement, you must verify his/her knowledge of proper tube placement by asking, “How would you confirm that the tube has been correctly placed?” The candidate’s response must include visualizing chest rise and auscultation over both the epigastrium and lungs bilaterally. Breath sounds should be assessed in the upper and lower fields as well as auscultation over the epigastrium. The candidate should also observe the rise and fall of the chest with each ventilation and look for condensation in the tube. Any omitted or inappropriate response to these questions must be documented under “Critical Criteria” and the point for confirming proper placement must be deducted. The use of an end-tidal CO₂ detection device is not required in the infant portion of these skills. To assist in controlling costs of the practical examination, it is acceptable to have the candidate explain how he/she would secure the ET tube rather than actually taping and securing the tube to the manikin.

Throughout these skills, the candidate should take or verbalize appropriate PPE precautions. At a minimum, examination gloves must be provided as part of the equipment available in these skills. If the candidate does not protect himself/herself with at least gloves or attempts direct mouth-to-mouth ventilation, appropriate PPE precautions have not been taken. Should this occur, mark the appropriate statement under “Critical Criteria” and document the candidate’s actions as required.

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**Pediatric Respiratory Compromise**

**Only Advanced EMT candidates complete this skill.** This skill may be set up and tested in a separate Pediatric Skills area or incorporated into the other Ventilatory Management skills as the Examination Coordinator chooses. These sequential skills are designed to test a candidate’s ability to provide ventilatory assistance to a one year old child who progresses from respiratory distress to respiratory failure. For the purposes of these testing skills, no spinal injury is suspected and spinal immobilization precautions are not necessary. This skill was developed to simulate a realistic situation where a one year old child in respiratory distress is found sitting in his mother’s lap. No bystander interventions have been initiated. An array of appropriate equipment is essential for these skills. You must ensure that an appropriate volume/size pediatric BVM device, oropharyngeal and nasopharyngeal airways, pediatric oxygen adjuncts (simple face mask, non-rebreather face mask), pulse oximeter, and capnography/capnometry (waveform or colorimetric) are available and work adequately throughout the examination. The choice of appropriate equipment is essential when assisting ventilation in the pediatric patient who is experiencing respiratory distress or failure. Using an oropharyngeal airway that is too large may obstruct the airway or displace the tongue in the pharynx, resulting in obstruction. The BVM device must be of appropriate size to provide an adequate mask seal and not over-inflate the lungs. If two or more rooms are set up and one is using a disposable BVM, be sure to leave the mask and reservoir attached to all the non-disposable BVMs throughout the examination. To assist in containing costs of the practical examination, the oxygen tank used may be empty. The candidate must be advised to act as if the oxygen tank were full. However, the supplemental oxygen tubing, regulator, BVM, and reservoir should be in working order.

When the actual timed evaluation begins, the candidate must begin to assess the patient who initially presents sitting upright in his mother’s lap with signs of respiratory distress. The candidate should form a general impression of the patient’s condition by observing the patient and his interaction with the mother and the environment. These assessments should be accomplished without approaching or touching the patient to
avoid upsetting the child which could worsen respiratory distress and hasten the progression to respiratory failure. You should inform the candidate that the child is alert but anxious and is being consoled by his mother. The child should present with a 2 – 3 day history of recent upper respiratory infection and low-grade fever. The symptoms have worsened over the past four hours which caused the parents to call 9-1-1. The candidate should continue to assess the child from a distance, looking for secretions, drooling, and signs of foreign body airway obstruction as well as listening for audible noises. The candidate should be informed that he/she observes increased work of breathing with retractions and hears audible grunting. The initial respiratory rate is 60 breaths/minute.

As the candidate begins his/her primary survey and initial treatment with supplemental oxygen, you should report that the initial SpO2 is 82% on room air. The candidate should leave the child in his mother’s lap while coaching the mother to assist with administration of blow-by oxygen for her child. At this point, you should provide signs of a patient who is progressing from respiratory distress to respiratory failure. The child should become drowsy and the head should begin bobbing. Despite a few minutes of supplemental oxygen administration, the hemoglobin saturation does not increase appreciably. The candidate should observe saw-saw respirations and the pulse rate begins to decrease. You should also describe signs of a decreasing level of responsiveness, such as drowsiness, lethargy and eventually unresponsiveness.

It is imperative that the candidate recognizes the signs of a worsening patient and immediately begins effective ventilation of the child. Supplemental oxygen delivery should be discontinued at this point and the patient should be removed from his mother’s lap and placed in the supine position. Padding must be placed under the scapulae to properly position the head in a neutral or sniffing position in children less than two years of age. If you are using a manikin where it is not possible to demonstrate elevation of the upper torso, simply ask the candidate to describe how he/she would place a one year old child in a neutral or sniffing position. The candidate should assess the child’s airway and consider insertion of a nasopharyngeal or oropharyngeal airway. [It is currently acceptable to insert the oropharyngeal airway using a tongue blade and following the natural curvature of the oropharynx. If a tongue blade is not available, it is acceptable to insert the oropharyngeal airway with the tip toward the roof of the mouth and curve of the adjunct pressing on the tongue, then rotating the adjunct 180° into the correct position. The adjunct should not scrape the palate (see PEPP).] After advising the candidate that the adjunct was accepted without difficulty, you should inform the candidate that the patient is breathing at a rate of 20/minute. An appropriately sized BVM device should be chosen and immediately attached to the oxygen regulator flowing at 12 – 15 L/minute. While maintaining the head in a neutral or sniffing position, a tight mask seal should be obtained and assisted ventilations should be initiated. Be sure to time the candidate for at least one minute and count the ventilations delivered. If the candidate does not ventilate the manikin at a rate of 12 – 20/minute (1 ventilation every 3 – 5 seconds), be sure to mark the related “Critical Criteria” and document the exact rate that you observed. Determination of ventilation volumes is dependent on your observations of technique and the manikin’s response to ventilation attempts. Remember that each ventilation should be sufficient to cause visible chest rise in a real patient. If the candidate does not explain how he/she would assess the effectiveness of ventilations, you should ask him/her, “How would you know if you are ventilating the patient properly?” No more than two ventilatory volume errors in a one minute time period are acceptable. You should document any incorrect responses concerning the ventilatory rate and/or tidal volume and check any related “Critical Criteria” statements if necessary.

Throughout these skills, the candidate should take or verbalize appropriate PPE precautions. At a minimum, examination gloves must be provided as part of the equipment available in these skills. If the candidate does not protect himself/herself with at least gloves or attempts direct mouth-to-mouth ventilation, appropriate PPE precautions have not been taken. Should this occur, mark the appropriate statement under “Critical Criteria” and document the candidate’s actions as required.
Pediatric Intraosseous Infusion

These skills are designed to evaluate a candidate’s ability to establish an intraosseous infusion in the pediatric patient. An array of commonly used equipment to establish an intraosseous line in a pediatric patient should be available on the testing table from which the candidate must select the appropriate materials. **Manual insertion of Jamshidi® needles as well as the use of electric, drill-type devices and spring-loaded devices such as the B.I.G. Bone Injection Gun® are permitted in this skill.** To help control costs for the examination, expired solutions may be used. As soon as the candidate chooses the solution from the representative sample of equipment assembled, you will need to hand them the expired solution and state, “For the purposes of this evaluation, we’ll assume this is the solution you selected. You may continue.” In a similar way, any other equipment in this skill may be repackaged and reused. If multiple skills are set up, be sure all equipment is identically labeled.

After reading the prepared scenario, each candidate must select, prepare, and establish an intraosseous infusion in the pediatric intraosseous infusion manikin. **The use of wet tissue (chicken legs, etc.) for this skill is prohibited.** You should respond to the candidate’s questions as the parent of this patient would in the field. Do not provide any misleading or “tricky” responses. If asked, you should answer any questions about the patient and should state the weight of the patient in pounds only as listed in the scenario.

When preparing the solution, administration set, and syringe, some systems use a three-way stopcock valve instead of the additional extension tubing. The use of extension tubing is optional in this skill and subject to local practices. Please keep this in mind when reviewing the step that reads, “Attaches syringe and extension set to IO needle and aspirates; or attaches 3-way stopcock between administration set and IO needle and aspirates; or attaches extension set to IO needle.” Remember that many successful IO sticks are “dry sticks” that yield no marrow return upon aspirating the IO needle. It is acceptable for the candidate to immediately connect the infusion set to the IO needle and slowly infuse fluid while watching for early signs of infiltration. In this case, the candidate properly evaluated the patency of the IO line in an acceptable manner.

The candidate has a maximum of two attempts to establish an intraosseous infusion within the six minute time limit. You should immediately dismiss the candidate when the six minute time limit expires, or he/she is unsuccessful in placing the needle after two attempts. It is imperative that the correct landmark be identified before insertion of the needle to avoid damage to the epiphyseal plate. The candidate should locate the tibial tuberosity and insert the needle 2 – 3 fingers’ width below this landmark on the anteromedial surface. After properly cleansing the site, the needle should be inserted at about a 90° angle or slightly directed away from the joint. The Jamshidi® needle should be inserted using firm pressure and in a twisting, back-and-forth, boring motion until penetration through the bone is noted by feeling a “pop” and the sensation of a sudden lack of resistance. When using an electric, drill-type device, the needle is advanced until there is a noticeable lack of resistance. When using the B.I.G. Bone Injection Gun®, the depth of insertion should be adjusted based on the patient’s age. No matter what device is used, the site should also be stabilized in a safe manner while the puncture is being performed.

If the candidate holds the leg in the palm of one hand while performing the puncture directly over top of his/her hand, you should mark the related “Critical Criteria” statement for this potentially dangerous action and document the candidate’s actions as required. Additionally, it is imperative that the safety device is only removed after firmly placing the B.I.G. Bone Injection Gun® on the leg and stabilizing the device before deploying the trochar. The Skill Examiner must be vigilant and immediately stop any dangerous act before actual harm may occur. Be sure to dismiss the candidate, check the Critical Criteria statement for “Uses or
orders a dangerous or inappropriate intervention,” and specifically document the situation on the back side of the skill evaluation form.

After removing the trochar, the IO catheter should stand up unsupported if it has been properly placed in the bone. Extension tubing or a three-way stopcock valve with a syringe should be attached and aspiration of blood or bone marrow can be attempted to confirm proper placement or fluid can be injected slowly while watching for signs of infiltration. Remember that it is not always possible to aspirate cloudy marrow or blood from a properly placed intraosseous needle and you may wish to alter your response between candidates accordingly. The candidate should slowly inject fluid and observe for signs of infiltration around the injection site and then adjust the appropriate flow rate. Finally, the needle should be secured in place and stabilized with sterile gauze or other bulky dressings.

The scenario lists the weight of the patient and the amount of fluid to be administered. You may alter the weight of the patient throughout the examination as long as you note the weight on the candidate’s evaluation form. Given the scenario, the candidate should bolus an appropriate amount of fluid or calculate and set the appropriate drip rate as he/she would in the field. If the fluid is not administered appropriately, you should deduct the point for the step which reads, “Connects administration set and adjusts flow rate as appropriate,” check the related “Critical Criteria” statement, and completely document the error as required on the back side of the evaluation form. Do not let any candidate leave the room with any documentation of his/her calculation.

At the conclusion of the performance, carefully review all “Critical Criteria” statements on the evaluation form and be sure to document your rationale for checking any of these statements. Be sure that all your paperwork is complete, totaled, signed, and your room has been prepared to appear in a consistent manner before accepting the next candidate for evaluation.

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**Equipment List**

Do not open these skills for testing until the following equipment is available. If the Pediatric Ventilatory Management skill is being evaluated in a separate Pediatric Skills area, disregard all pediatric equipment in the following list. You must ensure that all equipment is working adequately throughout the examination. All equipment must be disassembled (reservoir disconnected and oxygen supply tubing disconnected when using only non-disposable equipment, regulator turned off, laryngoscope disassembled, cuffs deflated with syringes disconnected, etc.) before accepting a candidate for evaluation:

- Examination gloves (may also add masks, gowns, and eyewear)
- Intubation manikins (infant)
- Manikin (approximate size of a one year old child)
- Laryngoscope handle and blades (straight and curved – infant)
- Endotracheal tubes (3.0 – 5.0 mm)
- End-tidal CO₂ detector and/or esophageal detector device (EDD)
- Syringes (10 mL, 20 mL, etc.)
- Stylette
- Bag-valve-mask device with reservoir (infant)
  - Oxygen cylinder with regulator (may be empty)
  - Oxygen connecting tubing
  - Selection of oropharyngeal airways (infant)
  - Selection of nasopharyngeal airways (infant)
  - Various supplemental oxygen devices (nasal cannula, non-rebreather mask with reservoir, etc. for infant)
- Stethoscope
- Lubricant
- 1/2" tape
- Spare batteries
- Tongue blade
- Towel or other appropriate padding
- Intraosseous infusion manikin with replacement tibias (6 – 8 sticks/tibia)
- IV solutions*
- Administration sets**
- IV extension tubing or 3-way stopcock
- Intraosseous needles (Jamshidi®, electric, drill-type and/or spring-loaded device)
- Gauze pads (2x2, 4x4, etc.)
- Alcohol preps or similar substitute
- Bulky dressing
- Approved sharps container

* Need a selection array but may be expired
** Need a selection array and must include microdrip (60 gtt/mL) tubing
INSTRUCTIONS TO THE PSYCHOMOTOR SKILLS CANDIDATE FOR PEDIATRIC VENTILATORY MANAGEMENT

Since you are testing at the Intermediate/99 level today, these progressive skills are designed to evaluate your ability to provide immediate and aggressive ventilatory assistance to an apneic infant who has no other associated injuries. This is a non-trauma situation and cervical precautions are not necessary. You are required to demonstrate sequentially all procedures you would perform, from simple maneuvers and adjuncts to endotracheal intubation. You will have three attempts to successfully intubate the manikin. You must actually ventilate the manikin for at least 30 seconds with each adjunct and procedure utilized. I will serve as your trained assistant and will be interacting with you throughout these skills. I will correctly carry out your orders upon your direction. Do you have any questions?

At this time, please take two minutes to check your equipment and prepare whatever you feel is necessary.

[After two minutes or sooner if the candidate states, "I'm prepared," the Skill Examiner continues reading the following:]

-Upon your arrival to the scene, you observe the infant as he/she goes into respiratory arrest and becomes unresponsive. A palpable brachial pulse of 106 is still present. Bystander ventilations have not been initiated. The scene is safe and no hemorrhage or other immediate problem is found.
INSTRUCTIONS TO THE PSYCHOMOTOR SKILLS CANDIDATE FOR PEDIATRIC RESPIRATORY COMPROMISE

Since you are testing at the Advanced EMT level today, these progressive skills are designed to evaluate your ability to provide immediate and aggressive ventilatory assistance to a one year old child in respiratory distress. No other associated injuries are present. This is a non-trauma situation and cervical precautions are not necessary. You must actually perform all assessments and interventions that you feel are necessary. If you choose to ventilate the manikin with a BVM device, you must do so for at least one minute. I will serve as your trained assistant and will be interacting with you throughout these skills. I will correctly carryout your orders upon your direction. Do you have any questions?

At this time, please take two minutes to check your equipment and prepare whatever you feel is necessary.

[After two minutes or sooner if the candidate states, "I'm prepared," the Skill Examiner continues reading the following:]

You respond to a residence for a sick child who is having difficulty breathing. The scene is safe and no hemorrhage or other immediate problem is found. As you enter the residence, you see a one year old child sitting on his mother’s lap.
The Skill Examiner reads the following instructions to all Advanced EMT and Intermediate/99 candidates who must complete the Pediatric Intraosseous skill:

**INSTRUCTIONS TO THE PSYCHOMOTOR SKILLS CANDIDATE FOR PEDIATRIC INTRAOSSEOUS INFUSION**

Welcome to the Pediatric Intraosseous Infusion skill. This skill is designed to test your ability to establish an intraosseous infusion in a pediatric patient just as you would in the field. You will have a maximum of two attempts to establish a patent and flowing intraosseous infusion within a six minute time limit. Within this time limit, you will be required to properly administer fluid to a pediatric patient just as you would in the field based on a given scenario. Although we are using the manikin, you should conduct yourself as if this were a real patient. You should assume that I am the parent of this patient and may ask me any questions you would normally ask in this situation. Do you have any questions?

The patient you are treating is... [Skill Examiner to alternate between the following:]

- A six month old who was just removed from a burning house. The patient has deep superficial and full thickness burns to the arms and chest. The patient is tachycardic with other signs of inadequate perfusion. Your partner has secured an airway and your standing orders require fluid to be administered through an intraosseous line at 20 mL/kg. The child weighs 15 pounds.

- An eight month old with a history of diarrhea and decreased fluid intake for the past two days. There are signs of circulatory compromise and your standing orders require fluid to be administered through an intraosseous line at 20 mL/kg. The child weighs 20 pounds.