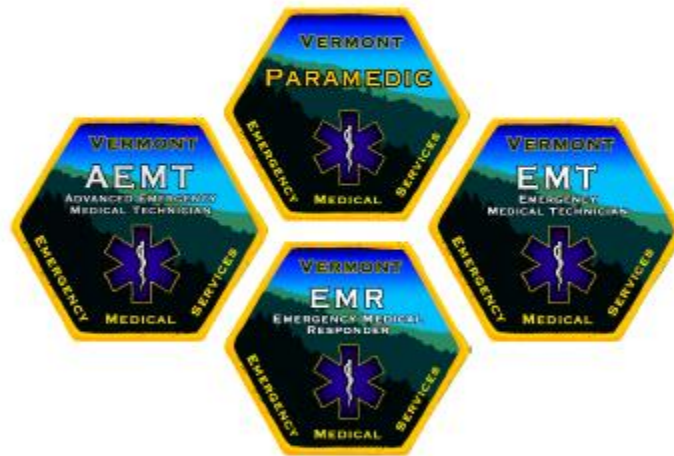




Vermont Statewide
Emergency Medical Services
Protocols

2015



Protocol Education Modules – Resource Kit

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***Note:** the information contained in this resource kit serves as guidance from VT EMS on the subject of protocol education/training. It is not intended to take the place of comprehensive initial or continuing education, including transition courses, and is designed to be used in conjunction with other educational resources such as VT EMS developed presentations, knowledgeable instructors, etc.*

Overview of the Education Module - Resource Kit for the Vermont Statewide EMS Protocols

This document has been created as a guide for both EMS providers and EMS Services to complete the education modules for the 2015 Vermont Statewide EMS Protocol Updates. **This training is required for any level of licensure and does not require the provider to be transitioned to the new education standards.** Thus, a provider that has not transitioned and completes this training will be authorized to use these new skills, but will still have to complete a transition course within their recertification period as outlined by the National Registry (see previously published guidance and FAQs on the VT EMS website). This training will also be required within all initial EMR, EMT, AEMT, and Paramedic courses commencing after October 1, 2015.

If an EMS Service does not carry the equipment necessary for a protocol, then that protocol cannot be used and the training does not need to be completed (examples: Pediatric CPAP, i-gel). When an EMS Service purchases the necessary equipment, it will be expected that the training will then be completed.

If a district or EMS Service has already completed training on a skill listed due to a waiver granted under the previous set of EMS protocols, providers and/or services must be able to provide documentation to VT EMS that verifies the curricula and attendance of members.

This Resource Kit has been developed to provide both providers and EMS Services with multiple options for completing the education.

Each new protocol topic that requires education has been broken down into the following reference categories:

Presentation Methods: There are several possible formats in which topics may be presented and learned:

- **Individual learning:**
 - **LearnEMS:** All presentations are on LearnEMS and can be accessed by logging in. The course title and course number (if applicable) are listed. Presentations on LearnEMS may be viewed individually or as a group. Some of the presentations have quizzes; the quiz does not have to be completed to receive credit, but is a useful review.
 - **Some topics require additional practical skills component that must be completed at the EMS Service level (see below).**
- **EMS Service-level Trainings (at the department, agency, squad, etc.):** To benefit from group learning opportunities, the protocol material can be delivered in a classroom

setting by several methods, making use of qualified instructors including Training Officers, VT EMS I/Cs, hospital staff, senior EMS crew members, etc.

- **LearnEMS:** As stated above, the presentations on LearnEMS can be done as a group. (Example: Training Officer connects a projector to a computer at the station, logs into LearnEMS and runs the course live for the group.)
- **Physician/Allied Health Qualified Instructors:** These instructors may use their own educational material as long as it is in line with the Vermont Statewide EMS Protocols. For example, a respiratory therapist can deliver instructions on the indications for CPAP and principles of use for CPAP, but they should be familiar with the nuances of the protocol. *****Exceptions to this option: Spinal Motion Restriction Protocol and the 2015 Vermont Statewide EMS Protocols Update Module – for which the Vermont EMS Presentation must be used.*****

Required Participants: Who is required to complete this education? The options are for FRECA/EMR, EMT-B/EMT, EMT-I/AEMT, and/or EMT-P/Paramedic. Both the Quick Reference Chart beginning on page 5 and each individual topic list will include which license level is required to take each course.

Practical Skills: Is there a practical requirement for the topic? If yes, this section will provide guidance for how to perform that training at the EMS Service level. The practical component must be instructed by a higher level licensure. For example: AEMT can instruct a practical for EMTs, or a Paramedic/RN/RT/MD can instruct a practical for AEMT. At the EMT-P/Paramedic level, the only practical, at this time, is for Spinal Motion Restriction and i-gel. This practical should be facilitated by the Paramedic's training officer.

Documentation: Documentation of completion of both the presentation and practical components should be completed at the EMS Service level with a roster. (The exceptions are all courses *individually* completed in LearnEMS, which that system tracks automatically. Enhanced permissions for Training Officers will eventually allow for group training to be entered and tracked in the LearnEMS accounts of all participants.) A sample roster can be found on page 36 of this document. The roster should be kept at the EMS Service. In addition, each provider should keep track of their own protocol education. At the end of this document is a tracking template that can be utilized. Both the provider and service should track all protocol training hours as they do for all other continuing education requirements.

Implementation:

The final protocols were released in early September. Once posted, EMS Services and districts are authorized to begin training their personnel. Before an agency may begin to use the new protocols, **ALL** of the agency's providers must be trained on the new protocols. Once an agency

has trained all of their providers, they **MAY** begin to use the new protocols as of **00:01 hours on October 1st, 2015**. **ALL** agencies **MUST** begin to use the new protocols no later than **23:59 hours on December 31, 2015**.

Any questions or concerns should be directed to Chris Bell at Vermont EMS
Chris.Bell@vermont.gov

Quick Reference Chart					
Topic/Skill	Presentation Availability/Practical Component	FRECA/ EMR	EMT-B/ EMT	EMT-I/ AEMT	EMT-P/ Paramedic
2015 Vermont Statewide EMS Protocols Update Summary	<p>LearnEMS: 2015 VT EMS Protocols Update</p> <p>EMS Service Level Training: Use of the 2015 VT EMS Protocols Update presentation required</p> <p>Practical: Optional*</p> <p>*Practical required only if your agency plans to use i-gel and/or pediatric CPAP</p>	X	X	X	X
Spinal Motion Restriction (with Advanced Spinal Assessment review)	<p>LearnEMS: Spinal Motion Restriction</p> <p>EMS Service Level Training: Use of the Spinal Motion Restriction presentation required.</p> <p>Practical: YES</p>		X	X	X
Heparin for Interfacility Transfer by Paramedics (Only required if agency plans to utilize protocol)	<p>LearnEMS: Heparin for Interfacility Transfer by Paramedics</p> <p>EMS Service Level Training: Strongly encouraged to use LearnEMS presentation.</p> <p>Practical: YES</p>				X
Quantitative Waveform Capnography	<p>LearnEMS: A295 – <i>Introduction to Capnography (ALS)</i>.</p> <p>EMS Service Level Training: Strongly encouraged to use LearnEMS presentation.</p> <p>Practical: YES</p>			X	

2015 Vermont EMS Protocols Update

Presentation Methods:

- **Individual Learning:**
 - LearnEMS: The presentation is on LearnEMS under the title *2015 VT EMS Protocols Update*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - LearnEMS: The presentation is on LearnEMS under the title *2015 VT EMS Protocols Update*. The presentation can be viewed individually or as a group.
 - Physician/Allied Health Qualified Instructors: It is required that the presentation titled *2015 VT EMS Protocols Update* be used for an in-service training.

Required: FRECA/EMR, EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: A practical is required for the following components of the presentation: i-gel and/or pediatric CPAP if your agency plans on using these devices— see additional information in practical sections below.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document

i-gel Practical

Presentation:

- The presentation is on LearnEMS under the title *2015 VT EMS Protocols Update*. Refer only to section of presentation related to i-gel. The presentation can be viewed individually or as a group. Also refer to the manufacture's training video at https://www.youtube.com/watch?v=ao-Sb_OuE8

Required: EMT-I/AEMT, EMT-P/Paramedic (Only required if agency plans on using this device)

Practical:

- Materials required (to be completed with squad specific equipment):
 - i-gel practice devices, intubation manikin head, weight-based resuscitation tape, i-gel Procedure 5.7.
- Objectives:
 - Review indications and contraindications to use of i-gel supraglottic airway device.
 - Demonstrate proper size selection and placement of i-gel
 - Demonstrate troubleshooting techniques for placement of i-gel.
 - Review proper documentation in SIREN for placement of i-gel
 - Demonstrate proper technique for insertion and troubleshooting as per i-gel protocol 5.7.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

i-gel

5.7

ADVANCED EMT STANDING ORDERS – ADULT IN CARDIAC ARREST ONLY
PARAMEDIC STANDING ORDERS – ADULT & PEDIATRIC

INDICATIONS

- Inability to adequately ventilate a patient with a bag-valve-mask or longer EMS transports requiring a more definitive airway. Prolonged transport time alone should not warrant more invasive interventions.
- Back-up device for failed endotracheal intubation attempt. Patient must be unconscious.

CONTRAINDICATIONS

- Intact gag reflex.
- Severe maxillofacial or oropharyngeal trauma.

RELATIVE CONTRAINDICATIONS

- Ingestion of a caustic substance.
- Burns involving the airway.
- Known esophageal disease (e.g. cancer).

PROCEDURE

1. Estimate ideal body weight from length-based resuscitation tape for pediatric patient. Choose correct size.

i-gel size	Patient size	Patient weight guidance (kg)
1	Neonate	2-5
1.5	Infant	5-12
2	Small paediatric	10-25
2.5	Large paediatric	25-35
3	Small adult	30-60
4	Medium adult	50-90
5	Large adult+	90+

2. Prepare i-gel. Refer to manufacturer's guidelines. Open packaging and set up equipment. Pre-oxygenate the patient if possible.
3. Open the lubricant and place a small bolus on the inner side of the main shell of the packaging.
4. Lubricate the back, sides and front of the i-gel with a thin layer of enclosed lubricant.
5. Grasping the i-gel firmly along the bite block, place the patient in the sniffing position (unless contraindicated) with the head extended and the neck flexed.
6. Position the device so that the i-gel O2 cuff outlet is facing the patient. Introduce the leading soft tip into the mouth of the patient in the direction of the hard palate.
7. Glide the device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt.
8. The tip of the airway should be located into the upper esophageal opening with the cuff located against the laryngeal framework. The incisors should be resting on the bite block.
9. For sizes 3-5, secure the device by sliding the strap underneath the patient's neck and attaching to the hook ring. Take care to ensure the strap is not secured too tight. For sizes 1-2.5, the device can be secured by taping maxilla to maxilla.
10. Commence with positive pressure ventilation per appropriate protocols.
11. Reassess tube placement frequently, especially after movement of the patient.
12. Document the time, provider, provider level and success for the procedure. Complete all applicable airway confirmation fields including chest rise, bilateral, equal breath sounds, absence of epigastric sounds and end-tidal CO₂ readings.



Airway Procedure 5.7

Pearls

- Insertion can be achieved in less than 5 seconds.
- Sometimes a feel of "give-way" is felt before the end point resistance is met. This is due to the passage of the bowl of the i-gel through the faucial pillars. It is important to continue to insert the device until a definitive resistance is felt.
- Once correct insertion is achieved and the teeth are located on the integral bite block, do not repeatedly push down or apply excessive force during insertion.
- If there is resistance, remove, re-lubricate, and reposition the airway before repeat insertion. No more than three (3) attempts on one patient should be attempted.
- It is not necessary to insert fingers or thumbs into the patient's mouth during insertion.
- Use supplemental oxygen port for delivery of passive oxygenation as part of an appropriate CardioCerebral Resuscitation (CCR) protocol.
- Adult sizes accept a 12 French suction tube for insertion through the gastric channel to empty fluid from the stomach.

Vermont EMS has taken extreme caution to ensure all information is accurate and in accordance with professional standards in effect at the time of publication. These protocols, policies, or procedures MAY NOT BE altered or modified.

Pediatric CPAP Practical

Presentation: The presentation is on LearnEMS under the title *2015 VT EMS Protocols Update*. Refer only to the section on use of pediatric CPAP under the airway management section. The presentation can be viewed individually or as a group.

Required: AEMT (Only required if agency plans on using this device)

Practical:

- Materials required: Pediatric sized CPAP equipment.
- Objectives:
 - Be familiar with the pediatric sized CPAP equipment carried by your EMS agency
 - Review indications and contraindications to use of CPAP for the pediatric patient.
 - Practice applying pediatric CPAP to appropriately sized child or manikin.
 - An EMT-P/Paramedic or higher should facilitate this practical. Practice applying pediatric sized CPAP to appropriately sized child or manikin.

CPAP Procedure: It is the responsibility of each squad to ensure proper in-service training, according to the manufacturer's recommendations, for the CPAP device used by the squad

- Assessment
 - Indications & contraindications
 - History of present illness
 - Vital signs
 - Lung sounds
 - Pulse oximetry and capnography if available
- Equipment
 - Pediatric sized CPAP mask
 - BSI
 - Oxygen cylinder or oxygen supply
 - Regulator with quick connect (DISS)
 - Oxygen tubing & corrugating tubing
 - Pressure release valve
 - CPAP Device should at a minimum include:
 - PEEP valve/control
 - Oxygen flow rate valve/control
 - Mask
 - Head strap
 - Additional accessories may include pressure gauges

- Procedure:
 - Determine appropriate sized CPAP device for pediatric patient
 - Place the patient in the upright position
 - Explain the procedure to the patient
 - Monitor ECG, vital signs, oxygen saturation, capnography (if available), and lung sounds
 - Attach to appropriate oxygen supply to device (some devices require an oxygen source with a psi gas source, such as that found on a wall outlet)
 - Turn on oxygen supply and set flow meter per manufacturer's recommendation
 - Attach face mask with corrugating tubing to device
 - Select pressure setting of 5-10 cm H₂O
 - Again explain procedure to patient
 - Attach mask to patient
 - Secure mask with head strap
 - Check for leaks and adjust as necessary
 - Reassess the patient frequently

The chart below can be utilized for the application of CPAP training:

Step	Yes	No
Scene Safety & BSI		
Lists the indications and contraindications for using CPAP		
Determines appropriately sized pediatric CPAP equipment		
Properly positions patient in the upright position		
Auscultates lung sounds to verify ventilation of both lungs and obtain baseline		
Explains procedure to patient & applies 100% oxygen		
Attaches CPAP device to oxygen supply and checks connections of oxygen hoses & tubing		
Turns oxygen supply on and checks cylinder contents		
Verifies controls and/or valves are set to desired parameters per manufacturer's recommendation		
Sets air mix to 100% (if applicable)		
Sets pressure to no greater than 10 cm H ₂ O		
Turns switch on and briefly occludes patient connections port with thumb to check that peak inflation pressure reading on manometer is appropriate for patient condition (if applicable)		
Applies patient port to face mask to patient & checks for leaks		
Monitors rise and fall of chest, breath sounds & pressure manometer (if applicable)		
Continues to assess patient		
Explains the procedure/appropriate actions should the patient deteriorate (discontinue CPAP)		

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

Spinal Motion Restriction (with Advanced Spinal Assessment Review)

Presentation Methods:

- **Individual Learning:**
 - LearnEMS: The presentation is on LearnEMS under the title *Spinal Motion Restriction*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - LearnEMS: The presentation is on LearnEMS under the title *Spinal Motion Restriction*.
 - Physician/Allied Health Qualified Instructors: It is required that the presentation titled *Spinal Motion Restriction* on LearnEMS or the Vermont EMS Website be used.

Required: EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: Yes. See following section for practical instructions.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document

Spinal Motion Restriction (with Advanced Spinal Assessment Review) Practical

Practical:

- Materials required: Cervical spine collar, backboard, straps, ambulance stretcher
- Show protocol
 - The instructor will demonstrate the general assessment of a patient with a possible spinal cord injury and determine the proper treatment plan using the Advanced Spinal Assessment per the Vermont Statewide EMS Protocols. The instructor should demonstrate a variety of scenarios that show students examples of each of the treatment plans
 - The student will then demonstrate the general assessment of a patient with a possible spinal cord injury and determine the proper treatment plan using the Advanced Spinal Assessment per the Vermont Statewide EMS Protocols
 - If the patient has unstable vital signs or abnormal peripheral perfusion, spinal motion restriction is required.
 - Determine patient reliability
 - Reliable
 - Calm, cooperative, sober, and alert and oriented to person, place, and time. If child, able to participate.
 - If reliable, then may continue assessment
 - Unreliable
 - Child not able to participate
 - Anxious and uncooperative
 - Communication barriers (e.g., deafness, hard of hearing, language, understanding)
 - Altered mental status (not alert and oriented x3)
 - Evidence of alcohol or drug intoxication
 - Distracted by circumstances or injuries to self or others (i.e., any other injury capable of producing significant pain in this patient)
 - Performs motor exam
 - Any abnormal neurologic function in extremities requires spinal immobilization, including:
 - Numbness or tingling (paresthesia)
 - Motor strength not full and symmetrical
 - Sensation not intact and symmetrical
 - Palpate entire spine for tenderness

- Explain to the patient the actions that you are going to take. Ask the patient to immediately report any pain, and to answer questions with a “yes” or “no” rather than shaking the head
- With the patient’s spine supported to limit movement, begin palpation at the base of the skull at the midline of the spine
- Palpate the vertebrae individually from the base of the skull to the bottom of the sacrum
- On palpation of each vertebral body, look for evidence of pain and ask the patient if they are experiencing pain. If evidence of pain along the spinal column is encountered, the patient should be immobilized
- If patient meets above criteria are they able to rotate neck?
 - If the capable patient is found to be pain free, ask the patient to turn their head first to one side (so that the chin is pointing toward the shoulder) then, if pain free, to the other. If there is evidence of pain the patient should be immobilized
 - With the head rotated back to its normal position, ask the patient to flex and extend their neck. If there is evidence of pain, the patient should be immobilized. Do not assist patient in attempts to rotate neck.
- There may be the rare exception and there are different levels of provider comfort. With that in mind, each provider and team must determine a management plan on a case-by-case basis, and when in doubt may fully immobilize the patient
- Perform on-going assessment
- Communication
 - What
 - Assessment findings (including the results of Advanced Spinal Assessment)
 - Treatments
 - Results of treatments
 - Who
 - Personnel at receiving facility
 - Other EMS providers
- Documentation
 - What
 - Assessment findings (including the results of Advanced Spinal Assessment)
 - Treatments
 - Results of treatments

- Where
 - PCR/SIREN
 - Performance improvement – Quality improvement
- The student will then practice and demonstrate proper technique for patients that require Spinal Motion Restriction
 - Apply a rigid cervical collar
 - Self-extrication by patient is allowable if patient is capable, otherwise utilize backboard as an extrication device
 - Position backboarded patient on stretcher then remove backboard by using log roll or lift-and-slide technique.
 - Explain that situations or treatment priorities may require patient to remain on rigid vacuum mattress or backboard including the multi-trauma patient who requires rapid transport, or the combative patient.
 - With the patient lying flat, secure patient firmly with all stretcher straps and leave the cervical collar in place. Instruct the patient to avoid moving head or neck as much as possible.
 - Elevate stretcher back ONLY if necessary for patient compliance, respiratory function, or other significant treatment priority.
 - If patient poorly tolerates collar (e.g. due to anxiety, shortness of breath, torticollis), replace with towel roll and/or padding.
 - Patients with nausea or vomiting may be placed in a lateral recumbent position. Maintain neutral head position with manual stabilization, padding/pillows, and/or the patient's arm.
 - Review Pediatric Transportation Policy 8.12

The chart below can be utilized for practicing Spinal Motion Restriction and Advanced Spinal Assessment:

Step	Yes	No
Scene Safety & BSI		
Manual immobilization if indicated		
Determines high risk or questionable injury mechanism		
Determines if patient has unstable vital signs or abnormal and/or abnormal peripheral perfusion – if yes, must immobilize		
Determines reliable patient (Calm, cooperative, sober, alert and oriented to person, place, and time, etc.) If child, able to participate.		
Performs motor exam in all extremities assessing for numbness, tingling, motor strength, and sensation		
Palpates the entire spine for tenderness		
If patient meets above criteria, has patient flex, extend, and rotate their neck without pain		
Verbalize documentation		
Instructor asks the candidate what action would be taken if one of the above criteria resulted in an abnormal exam		
Student indicates appropriate actions		
Student demonstrates proper SMR technique		
Student demonstrates how to use backboard as extrication device		
Demonstrate SMR while removing patient from backboard onto stretcher		
Verbalize when it would be appropriate to transport patient on backboard		

Heparin for Interfacility Transfer by Paramedics

Presentation Methods:

- **Individual Learning:**
 - LearnEMS: The presentation is on LearnEMS under the title *Heparin for Interfacility Transfer by Paramedics*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - LearnEMS: The presentation is on LearnEMS under the title *Heparin for Interfacility Transfer by Paramedics*. This presentation can be viewed individually or as a group
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that the presentation titled *Heparin for Interfacility Transfer by Paramedics* be used for in-service training.

Required: EMT-P/Paramedic (Only required if agency plans on using this protocol)

Practical: Yes: Review use of infusion pumps at your agency. It is the responsibility of each squad to ensure proper in-service training, according to the manufacturer's recommendations, for the pump device used by the agency.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document

Quantitative Waveform Capnography

Presentation Methods:

- **Individual Learning:**
 - LearnEMS: The presentation is on LearnEMS under the title *A295 – Introduction to Capnography (ALS)*. This presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - LearnEMS: The presentation is on LearnEMS under the title *A295 – Introduction to Capnography (ALS)*.
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that the presentation titled *A295 – Introduction to Capnography (ALS)* be used for an in-service training.

Required: AEMT

Practical: Yes: The EMS Service's Training Officer should facilitate this practical based on agency equipment.

- Review agency equipment and proper application of device to patient
- Be able to obtain waveform and quantitative capnography readings on practice patient

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

<i>FRECA/EMR Protocol Education Tracking Document</i>		
Name:		
VT License #:		
Topic/Skill	Presentation View Date:	Instructor or Squad Training Officer Signature:
2015 Vermont Statewide EMS Protocols Update		

<i>EMT-B/EMT Protocol Education Tracking Document</i>			
Name:			
VT License #:			
Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
2015 Vermont Statewide EMS Protocols Update		N/A	
Spinal Motion Restriction (with Advanced Spinal Assessment review)			

<i>EMT-I/AEMT Protocol Education Tracking Document</i>			
Name:			
VT License #:			
Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
2015 Vermont Statewide EMS Protocols Update		N/A	
Spinal Motion Restriction (with Advanced Spinal Assessment review)			
Quantitative Waveform Capnography			
i-gel (AEMT only, required only if agency plans to use device)	N/A		
Pediatric CPAP (AEMT only, required only if agency plans to use device)	N/A		

EMT-P/Paramedic Protocol Education Tracking Document

Name:

VT License #:

Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
2015 Vermont Statewide EMS Protocols Update		N/A	
Spinal Motion Restriction (with Advanced Spinal Assessment review)			
Heparin for Interfacility Transfer by Paramedics (Required only if agency plans to use protocol)			
i-gel (Required only if agency plans to use device)	N/A		

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