



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

Demographics	
<i>Procedural Skill</i>	King- LTD Supraglottic Airway Device
<i>Date of Development</i>	Jan, 2020
<i>Target Learning Group</i>	ACP/PCP
<i>Associated KSBs</i>	B.3.1.0: Insert supraglottic airway in an adult B.3.1.2: confirm placement of supraglottic airway
<i>Institution/Organization</i>	Middlesex-London Paramedic Services
<i>Contact Information</i>	Mslack@mlems.ca

Logistical Requirements			
Patient	Computerized Mannequin	Setting	Indoors
	LFS Mannequin		Outside
	Other: Airway Task Trainer		Ambulance
Equipment			
PPE – Airborne Precautions	King –LT pack of various sizes	Lubricant	
Bag Valve Mask with PEEP	Securing Tie	ETCO2 Filter Line	
Oxygen tank and regulator	Tape	LP15	
Submicron Filter	Tube extender		
Approximate Timing (min)			
Set up:	5 min	Skill:	2 min
		Debrief:	5 min

Indications and Conditions (4)		
S	N	Securing and maintaining a patent airway in resuscitation of the cardiac arrest patient
S	N	Early insertion as per OBHM Memo

Contraindications (7)		
S	N	Limited mouth opening
S	N	Presence of pharyngo-perilaryngeal abscess
S	N	Active vomiting
S	N	Inability to clear the airway
S	N	Airway edema
S	N	Stridor
S	N	Caustic ingestion

Complications (7)		
S	N	Damage to tissues of excessive force used
S	N	Gastric insufflation potentially leading to aspiration
S	N	Soft tissues damage, nerve damage, or pharyngeal
S	N	Airway obstruction if improper sizing
S	N	Displacement during patient movement
S	N	Coughing, bucking, excessive salivation, retching, or laryngospasm if patient not unconscious
S	N	Tracheal placement or lateral displacement into piriform fossa
S	N	Carotid artery compression from balloon



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

Preparation (12)		
S	N	Obtain consent (if possible)
S	N	Don appropriate PPE – AIRBORNE (Gown, Respirator, Goggles, Face Shield, Gloves)
S	N	Properly position the patient - ear to sternal notch
S	N	Prepare all equipment in advance and pre-oxygenate patient with FLO2MAX mask at 8 L/min - Extender and ETCO2 on BVM with PEEP at 5cmH2O
S	N	Choose the correct size based off patient's height - Yellow = 4-5 ft tall, Red = 5-6 ft tall, Purple = 6+ ft tall
S	N	Inflate with maximum recommended pressure to test cuff and then remove all air from cuff (volume written on the King-LT below the adapter) - Yellow = approx. 50 ml, Red = approx. 70 ml, Purple = approx. 80 ml
S	N	Apply tape to the suction hole on King-LT under adapter – close conduit for aerosols
S	N	Attach the hydrophobic submicron filter to the King-LT adapter
S	N	Apply lubricant to distal tip

Procedure (15)		
S	N	Maintain aseptic/clean technique throughout procedure (keep in package if possible)
S	N	STOP CHEST COMPRESSIONS FOR INSERTION
S	N	With non-dominant hand, insert thumb into patient's mouth, grasp the tongue and pin it against the mandible. Lift thumb and mandible up to pull tongue off posterior pharynx
S	N	Holding the King-LT on the adaptor with dominant hand
S	N	Insert tip into the corner of the mouth and rotate 45-90° as King-LT is inserted into mouth
S	N	Advance the tip beyond the base of the tongue and rotate the tube back to midline
S	N	Do not exert excessive force, but attempt to advance until the adapter is aligned with teeth
S	N	Inflate the cuff with maximum volume and watch the King-LT "sit" itself in position
S	N	Attach the ETCO2 tube extender and BVM (in that order) to the filter adapter
S	N	Gently squeeze the BVM and confirm placement with wave form capnography - If no chest rise, pull back slowly and squeeze BVM until chest rise
S	N	Secure the King-LT with tube tie
S	N	Keep syringe on person incase King LT needs to be removed quickly
S	N	If placement is not adequate, deflate the cuff and remove
S	N	Re-oxygenate the patient
S	N	Make no more than 2 attempts at insertion
S	N	Reassess patient and continue care

Teaching Aids	
Video	AMBU King-LTD Insertion: https://www.youtube.com/watch?v=IFHDH0HxGyg
References	OBHG Memo – ALS PCS COVID19 recommendations King-LT User Guide: https://www.ambuusa.com/products/airway-management/laryngeal-tubes/product/ambu-king-lts-d-disposable-laryngeal-tube



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

Demographics	
<i>Procedural Skill</i>	Endotracheal Intubation with Pocket Bougie
<i>Date of Development</i>	March, 2020
<i>Target Learning Group</i>	ACP (PCP as assistant)
<i>Associated KSBs</i>	B.3.2.0: perform endotracheal intubation of an adult B.3.2.1: perform endotracheal intubation of a pediatric B.3.2.2: perform endotracheal intubation with a bougie B.3.2.3: confirm placement of endotracheal tube B.3.3.3: perform suction assisted laryngoscopy and airway decontamination
<i>Institution/Organization</i>	Middlesex-London Paramedic Services
<i>Contact Information</i>	Mslack@mlems.ca

Logistical Requirements			
Patient	Computerized Mannequin	Setting	Indoors
	LFS Mannequin		Outside
	Other: SALAD Airway Task Trainer		Ambulance
Equipment			
PPE – Gloves, face shield	ET Tubes of various sizes	Lubricant	
Stylet	Securing Device	ETCO2 Filter Line	
10cc syringe	OPA/NPA (inserted already)	Metered Dose Inhaler Adapter	
Submicron Filter	Tube extender	Stethoscope	
Suction unit	Yankauer suction tip and tubing	Laryngoscope and blades	
Oxygen tank and regulator	BVM of various sizes		
Approximate Timing (min)			
Set up:	5 min	Skill:	2-3 min
		Debrief:	5 min

Indications and Conditions (2)		
S	N	Need for ventilatory assistance or advanced airway control AND other means ineffective

Contraindications (3)		
S	N	Age < 50 years old and currently presenting with asthma exacerbation AND not in or near cardiac arrest state
S	N	If using topical lidocaine – allergy or sensitivity, unresponsive patient not requiring cardio-protective properties of topical lidocaine
S	N	Use caution in cervical spinal cord injured patients

Complications (6)		
S	N	Failed intubation – cannot visualize, esophageal placement, right main stem placement
S	N	Hypoxia, Hypercarbia, Acidosis
S	N	Hypotension/hypertension, brady/tachyarrhythmia's
S	N	Raised ICP
S	N	Laryngospasm, bronchospasm
S	N	Trauma to oropharyngeal structures



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

Preparation (13)		
S	N	Obtain consent (if possible)
S	N	Don appropriate PPE – AIRBORNE (Gown, Respirator, Goggles, Face Shield, Gloves)
S	N	Properly position the patient – Ear to sternal notch
S	N	Assess for difficult airway – Anatomically, Physiologically, Psychologically
S	N	Prepare all equipment in advance: Use ABC SLOPE Pneumonic <ul style="list-style-type: none"> - Airways (OPA/NPA) inserted - Bougie/BVM - CO2 Monitoring - Suction, Stylet (as back-up), Syringe, securing device - Laryngoscope with second blade - Oxygen - Position is optimized - ETT tube selected and back up, extender ready
S	N	Ensure attempts at oxygenation and ventilation during preparation with BVM + OPA/NPA
S	N	Inspects all equipment for functionality and damage
S	N	Selects appropriate ETT size: <ul style="list-style-type: none"> - Large men: 8.0 - Average woman: 7.5 - Small adult: 7.0 - Pediatric >1 year: (age yrs/4) + 4 - 1 year = 4.0-4.5 - 6 months-11 months = 4.0 - 1-6 months = 3.5-4.0 - Term infant (>3kg) = 3.5
S	N	Remove pocket bougie from packaging <i>and place it back on the packaging</i>
S	N	Lubricate distal tip of ETT
S	N	Attach the syringe with 10cc of air <i>and place it back on the packaging</i>
S	N	Remove any dentures or false teeth plates prior to intubation

Procedure (35)		
S	N	Maintain aseptic/clean technique throughout procedure
S	N	STOP CHEST COMPRESSIONS FOR INSERTION
S	N	Open patients mouth and insert laryngoscope blade with left hand into the mouth
S	N	Slide down along the tongue until the epiglottis is visualized, displacing the mandible
S	N	Do not “rock back on teeth” – perform laryngoscopy with “cheers” motion
S	N	Suction any foreign material or secretions. <i>If continuous suctioning is required, perform SALAD technique:</i> <ul style="list-style-type: none"> - Tape over yankauer suction control port or use DuCanto catheter. Suction palm down - Move the catheter to the left side of the mouth and insert between the lateral edge of the Macintosh blade and the left hand corner of the mouth. Pin it with palm.
S	N	If unable to obtain <i>Grade 1</i> view (full view of glottis), attempt to identify <i>Grade 2</i> view and identify arytenoid cartilage.
S	N	If required with <i>Grade 2</i> view, take right hand and perform manipulation of the cricothyroid membrane to bring glottis into view. Have assistant replace their hand with yours
S	N	Grasp bougie near the center at the 3-lined mark to avoid having to reposition hand and gently insert into the mouth and through the glottic opening with bent tip facing anteriorly
S	N	Pass bougie deep until you see the 1-line mark go just past the glottis



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

S	N	<i>For Single Person Bougie Intubation:</i>
S	N	- Do not take the laryngoscope out of the patients mouth
S	N	- Pass the excess of the bougie into your left hand, positioning against the right side of the laryngoscope. Lock the bougie under your 4 th and 5 th fingers
S	N	- With your right hand, grab the distal aspect of the ETT and slide it over the distal tip of the bougie down into the patients mouth and through the glottis
S	N	- Ensure proper depth – visualize cuff pass through glottis if possible
S	N	- If the ETT is getting caught, pull back slightly , rotate to the right and attempt to advance the ETT
S	N	- Pass the ETT with bougie into your left hand, positioning it against the right side of the laryngoscope. Lock the ETT under you 4 th and 5 th fingers
S	N	- With your right hand, inflate the cuff with the 10cc syringe
S	N	- Remove the bougie from the ETT with your right hand, holding ETT in place with left
S	N	<i>For Two Person Bougie Intubation:</i>
S	N	- Do not take the laryngoscope out of the patients mouth
S	N	- Hold the bougie in position
S	N	- Have your assistant slide the ET tube over the distal end of the bougie
S	N	- With your right hand, grab the distal aspect of the ETT and slide it along the bougie into the patients mouth and through the glottis
S	N	- Ensure proper depth – visualize cuff pass through glottis if possible
S	N	- If the ETT is getting caught, pull back slightly , rotate to the right and attempt to advance the ETT
S	N	- Hold the ETT tube in place and have your assistant pull the bougie from the ETT
S	N	Confirm appropriate tube depth (cm marker) at teeth:
		- Adults = approx. 3x tube length
		- Pediatrics = approx. (age in yrs/2) + 12
S	N	Remove the laryngoscope from the mouth and hold ETT until secured
S	N	Attach the BVM with submicron filter, ETCO2 filter line, and tube extender
S	N	Gently squeeze the BVM and listen over the epigastrium for sounds
S	N	Watch for ETCO2 waveform capnography as primary confirmation
S	N	Auscultate lung fields left side first while observing for chest rise as secondary method
S	N	Secure the ETT and ensure depth has not changed
S	N	Re-evaluate placement after moving patient each time

Teaching Aids	
Video	One-Person Pocket Bougie Technique: https://www.youtube.com/watch?v=WDnDjfuh1Dc Two-person Bougie Technique: https://www.youtube.com/watch?v=E7Lo1JD2Brk&t=92s Suction Assisted Laryngoscopy Airway Decontamination: https://emcrit.org/pulmcrit/large-bore-suction/
References	See ALS PCP Standards – Endotracheal intubation See OBHG COVID19 MEMO (April 6 th , 2020)



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

DEMOGRAPHICS	
<i>Procedural Skill</i>	The LUCAS 2 Mechanical CPR Device
<i>Date of Development</i>	Jan, 2020
<i>Target Learning Group</i>	ACP/PCP
<i>Associated KSBs</i>	E.2.3: Utilize the LUCAS II CPR Device
<i>Institution/Organization</i>	Middlesex-London Paramedic Services
<i>Contact Information</i>	Mslack@mlems.ca

Logistical Requirements			
Patient	Computerized Mannequin	Setting	Indoors
	LFS Mannequin		Outside
	Standardized Patient (Preferred)		Ambulance
Equipment			
Defibrillator	Defibrillator Pads	LUCAS 2 CPR Device	
Approximate Timing (min)			
Set up:	5	Skill:	Under 2
		Debrief:	5

Basic Orientation (7)	
	<p>Contraindicated if it is not able to position safely or properly around patient' chest</p> <ul style="list-style-type: none"> - Can be used on children, obese and pregnant patients as long as it fits - For proper fit – Suction cup should lower to chest so pressure pad rests on sternum - If cup unable to lower or does not reach, the LUCAS 2 cannot be used
	<p>Review User Control Panel:</p> <ul style="list-style-type: none"> - ON/OFF Button - Adjust Button (1) - Pause (locked) Button (2) - Active (Continuous) button – continuous chest compressions - Active (30:2) button – performs 30 compressions then stops for 3 seconds and resumes compressions in cycle - Battery Indicator - Mute - Alarm indicator
	Bag packaging
	Back plate
	Leg clips and release rings
	Stabilization straps and patient straps
	Cleaning – clean all surfaces with warm water and mild detergent or disinfecting agent



Middlesex-London Paramedic Service

Clinical Simulation and Skills Training

Assembly and Activation On Patient (14)	
	Being CPR
	Unpack the LUCAS 2 and back plate from the bag
	Push the ON/OFF for 1 second to start the self-test and power up the LUCAS 2
	Stop CPR, roll or lift the patient and position the back plate so it rests just below the armpit
	Place the posterior defibrillation pad of a second set of pads – <i>vector change or DOSE VF</i>
	Resume manual CPR
	Extend the legs on the LUCAS 2 and make sure the claw locks are open – pull up on green rings
	Connect upper part to the back plate by clicking leg claws into back plate posts
	Listen for click and pull up once to ensure it is on
	Press the ADJUST (1) button
	Position the suction cup down with 2 fingers above the sternum centered over the chest so the pressure pad is touching the patient's chest.
	Press PAUSE (2) button to lock in start position
	Press ACTIVATE (3) button, either continuous or 30:2
	Attach the stabilization strap and fasten arms into patient straps

Teaching Aids	
Video	LUCAS II Training Device: https://www.youtube.com/watch?v=cRpJYT7M0Eo
References	LUCAS Training Centre: https://www.lucas-cpr.com/web_training_center/?top=lucas2&sub= Quiz: https://www.lucas-cpr.com/web_training_center/?top=lucas2&sub=selftest