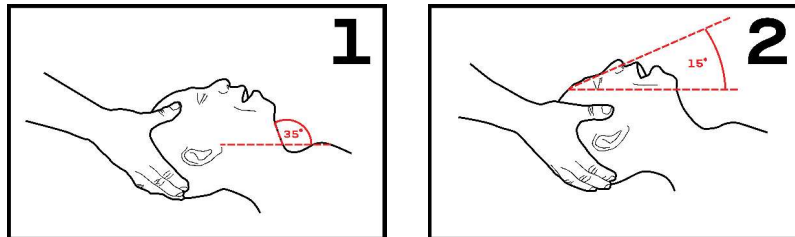
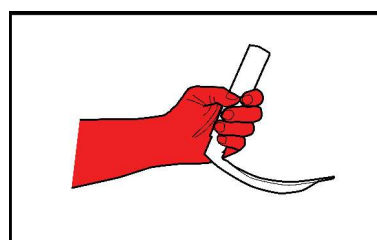


AIRWAY MANAGEMENT: ENDOTRACHEAL INTUBATION

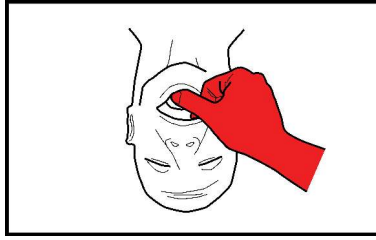
THIS OBSERVATIONAL METRIC IS DESIGNED TO EVALUATE THE QUALITY OF ENDOTRACHEAL INTUBATION (ETI) PERFORMANCE IN ENOUGH DETAIL TO PROVIDE USEFUL FEEDBACK FOR IMPROVEMENT. THE METRIC IS BASED ON THE STUDY TITLED "DEVELOPMENT OF AN ENDOTRACHEAL INTUBATION FORMATIVE ASSESSMENT TOOL" BY ADAM RYASON AND COLLEAGUES, PUBLISHED IN THE JOURNAL OF EDUCATION IN PERIOPERATIVE MEDICINE, VOLUME XXII, ISSUE 1.



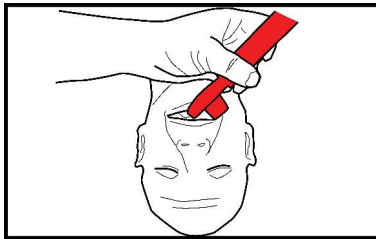
POSITIONING OF THE PATIENT		
1. POSITIONING OF THE PATIENT'S HEAD	POINTS	SCORE
THE OPERATOR PROPERLY TILTED THE HEAD INTO THE SNIFFING POSITION.	1	
THE OPERATOR DID NOT TILT THE HEAD INTO THE SNIFFING POSITION.	0	
COMMENT: THE ANGLE OF NECK FLEXION SHOULD BE APPROXIMATELY 35 DEGREES.		
2. ELEVATION OF THE PATIENT'S HEAD	POINTS	SCORE
THE OPERATOR EITHER PROPERLY ELEVATED THE PATIENT'S HEAD OR DID NOT NEED TO ELEVATE IT.	1	
THE OPERATOR SHOULD HAVE ELEVATED THE PATIENT'S HEAD BUT DID NOT.	-3	
THE ANGLE OF FACE EXTENSION SHOULD BE APPROXIMATELY 15 DEGREES.		



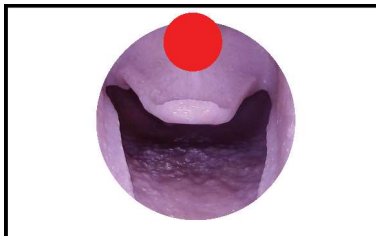
INSERTION OF THE DIRECT LARYNGOSCOPE BLADE		
3. GRIP OF THE LARYNGOSCOPE	POINTS	SCORE
THE OPERATOR HAD A PROPER GRIP ON THE LARYNGOSCOPE.	2	
THE OPERATOR HAD AN IMPROPER GRIP ON THE LARYNGOSCOPE.	0	
THE LARYNGOSCOPE SHOULD BE IN THE LEFT HAND AND HELD HIGH ENOUGH SO THAT IT DOES NOT OBSTRUCT THE BLADE'S ENTRY INTO THE MOUTH.		



4. METHOD TO OPEN MOUTH	POINTS	SCORE
THE OPERATOR ADEQUATELY OPENS THE MOUTH BY SCISSORING THEIR FINGERS AND THUMB.	2	
THE OPERATOR ADEQUATELY OPENS THE MOUTH USING ANOTHER METHOD (E.G., USING THE BLADE).	2	
THE OPERATOR DOES NOT ADEQUATELY OPEN THE MOUTH	-1	
COMMENT: APPLY OPPOSING PRESSURE TO THE LOWER AND UPPER TEETH USING THE THUMB AND MIDDLE FINGER, RESPECTIVELY.		

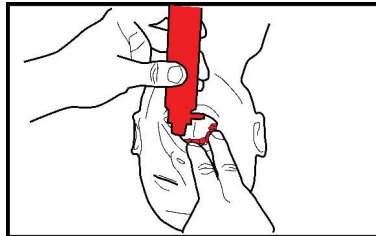


5. LOCATION OF THE BLADE WHILE INSERTING INTO THE MOUTH	POINTS	SCORE
THE OPERATOR INSERTS THE BLADE ON THE RIGHT SIDE OF THE MOUTH AND SWEEPS IT AND THE TONGUE TO THE LEFT UNTIL THE MIDLINE IS REACHED.	1	
THE OPERATOR INSERTS THE BLADE IN THE MIDDLE OF THE MOUTH BUT IS STILL ABLE TO SWEEP THE TONGUE.	-1	
THE OPERATOR INSERTED THE BLADE AT ANOTHER LOCATION.	-3	
COMMENT: START AT THE RIGHT SIDE OF THE MOUTH TO SWEEP TONGUE TO THE LEFT		



6. BLADE INSERTION WITH RESPECT TO THE VALLECULA	POINTS	SCORE
THE OPERATOR INSERTS THE BLADE INTO THE VALLECULA.	0	
THE OPERATOR INSERTS THE BLADE UNDER THE VALLECULA.	-1	
COMMENT: PULL THE BLADE BACK INTO THE VALLECULA.		

7. FORCE USED WHILE INTERACTING WITH THE VALLECULA	POINTS	SCORE
THE FORCE APPEARED EXCESSIVE.	-3	
THE FORCE USED APPEARED APPROPRIATE.	1	
THE FORCE USED APPEARED INSUFFICIENT.	-1	
COMMENT: VERIFY THE CORRECT DIRECTION. USE APPROPRIATE FORCE.		

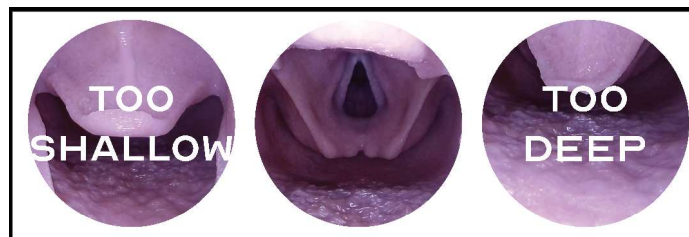


8. CONTACT WITH TEETH DURING LIFTING THE BLADE	POINTS	SCORE
THE BLADE WAS LIFTED WITHOUT CONTACTING THE TEETH.	1	
THE BLADE LIFTED WHILE HITTING TEETH WITH NO DAMAGE.	-2	
THE BLADE WAS LIFTED WHILE HITTING TEETH WITH DAMAGE TO THE TEETH.	-4	
COMMENT: REDUCE LEVERAGING THE BLADE TOWARD THE OPERATOR. THE BLADE SHOULD BE LIFTED AT A 45-DEGREE ANGLE AWAY FROM THE OPERATOR.		

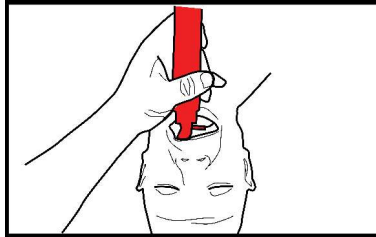
9. ORDER OF EVENTS FOR THE INSERTION OF THE LARYNGOSCOPE	POINTS	SCORE
THE ORDER OF ENEVTS WAS CORRECT.	0	
THE ORDER OF EVENTS WAS INCORRECT.	-1	

COMMENT:

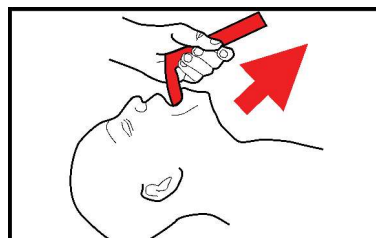
1. POSITION AND RAISE THE HEAD
2. PROPERLY GRIP THE LARYNGOSCOPE
3. SCISSOR OPEN THE MOUTH
4. INSERT THE BLADE ON THE RIGHT SIDE OF THE MOUTH AND SWEEP THE TONGUE LEFT
5. ENTER THE VALLECULA



ACHIEVING THE OPTIMAL LARYNGEAL VIEW		
10. FINAL BLADE POSITION IN THE VALLECULA WHEN LIFTING FOR OPTIMAL VIEW	POINTS	SCORE
THE BLADE IS IN THE CORRECT POSITION IN THE VALLECULA.	1	
THE BLADE IS TOO SHALLOW IN THE VALLECULA.	0	
THE BLADE IS TOO DEEP IN THE VALLECULA.	-2	
THE BLADE IS NOT IN THE VALLECULA.	-3	
COMMENT: REPOSITION THE BLADE TO SIT PROPERLY IN THE VALLECULA		



11. BLADE POSITION WITH RESPECT TO THE OROPHARYNX	POINTS	SCORE
THE BLADE IS IN THE MIDLINE OF THE PATIENT'S OROPHARYNX.	2	
THE BLADE IS NOT IN THE MIDLINE OF THE PATIENT'S OROPHARYNX, BUT THE OPERATOR STARTED AGAIN FROM THE RIGHT (CORRECT) SIDE.	-2	
THE BLADE IS NOT IN THE MIDLINE OF THE PATIENT'S OROPHARYNX AND IS NOT ADJUSTED.	-7	
COMMENT: THE BLADE SHOULD BE IN THE MIDLINE		



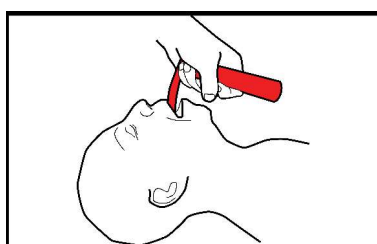
12. LIFT ON LARYNGOSCOPE FOR PROPER VIEW	POINTS	SCORE
THE BLADE LIFTED UP ON TONGUE/VALLECULA ENOUGH FOR SUFFICIENT VIEW	1	
THE BLADE DID NOT LIFT UP ON THE TONGUE/VALLECULA ENOUGH FOR A SUFFICIENT VIEW	-1	
COMMENT: INCREASE THE LIFT AT A 45 DEGREE ANGLE		

13. QUALITY OF THE VOCAL CORDS VIEW	POINTS	SCORE
THE VOCAL CORDS WERE IN VIEW BEFORE INTUBATING	1	
THE VOCAL CORDS WERE NOT IN VIEW BEFORE INTUBATING	-1	
COMMENT: THE VOCAL CORDS SHOULD BE IN VIEW BEFORE ENDOTRACHEAL INTUBATION. CHECK THAT THE APPROPRIATE LIFT ANGLE WAS USED.		

14. ANGLE OF LIFT ON FIRST ATTEMPT	POINTS	SCORE
THE LARYNGOSCOPE HAD A BACKWARD ANGLE ONTO THE TEETH	-2	
THE LARYNGOSCOPE WAS ANGLE APPROPRIATELY (APPROX. 45 DEGREES)	4	
THE LARYNGOSCOPE WAS ANGLE TOO SHALLOW (0-45 DEGREES)	0	
COMMENT: ADJUST THE ANGLE OF THE BLADE BY KEEPING THE ANGLE OF THE HANDLE AROUND 45 DEGREES.		

15. MULTIPLE BLADE ISNERTION ATTEMPTS TO ACHIEVE PROPER VIEW	POINTS	SCORE
THE PROPER VIEW WAS ACHIEVED THE FIRST TIME THE BLADE WAS INSERTED (NO REMOVAL AND REENTRY OF BLADE)	2	
THE BLADE WAS REMOVED FROM THE PATIENT AND REENTERED 2-3 TIMES BEFORE ACHIEVING PROPER VIEW	0	
THE BLADE WAS REMOVED FROM THE PATIENT AND REENTERED 4+ TIMES BEFORE ACHIEVING PROPER VIEW	-3	
A PROPER VIEW WAS NOT OBTAINED.	-5	
COMMENT: OPTIMIZE EARLY ATTEMPTS AND GUARANTEE THAT PREVIOUS STEPS ARE COMPLETED PROPERLY BEFORE CONINUING. IMPROVE OTHER METRIC ITEMS BASED ON THEIR FEEDBACK.		

INSERTING THE ENDOTRACHEAL TUBE		
16. NUMBER OF CONTACTS OF TUBE DURING INSERTION	POINTS	SCORE
THE TUBE WAS INSERTED WITH NO OR NEGLIGIBLE NUMBER OF CONTACTS TO SURROUNDING ANATOMY	3	
THE TUBE WAS INSERTED WITH AN EXCESSIVE NUMBER OF CONTACTS TO SURROUNDING ANATOMY	-2	
THE TUBE WAS NOT INSERTED	-8	
COMMENT: AVOID EXCESSIVE CONTACT WITH SURROUNDING ANATOMY. OBSERVE END OF TUBE DURING INSERTION TO AVOID EXCESSIVE CONTACT WITH SURROUNDING ANATOMY.		
17. MULTIPLE INTUBATION ATTEMPTS	POINTS	SCORE
THE CLINICIAN SUCCESSFULLY INTUBATED THE PATIENT ON THE FIRST ATTEMPT	3	
HAD TO PERFORM ONE ADDITIONAL INTUBATION ATTEMPT	0	
HAD TO PERFORM AT LEAST 2 ADDITIONAL INTUBATION ATTEMPTS	-4	
THE INTUBATION WAS NOT SUCCESSFUL	-7	
COMMENT: OPTIMIZE EARLY ATTEMPTS AND GUARANTEE THAT THERE IS A CLEAR VIEW OF THE VOCAL CORDS BEFORE INTUBATING		



AVOIDING INJURY TO THE PATIENT		
18. WAS EXCESSIVE FORCE USED TO INSERT THE LARYNGOSCOPE INTO THE OROPHARYNX?	POINTS	SCORE
NO, THE FORCE APPEARED APPROPRIATE	1	
YES, AT ONE OF MORE TIMES THE FORCE APPEARED EXCESSIVE	-2	
COMMENT: REDUCE THE RATE OF APPROACH AND OBSERVE SURROUNDING TISSUES DURING INSERTION.		



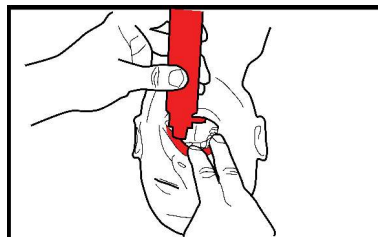
19. WAS EXCESSIVE FORCE USED TO INSERT THE ETT INTO THE OROPHARYNX?	POINTS	SCORE
NO, THE FORCE APPEARED APPROPRIATE	4	
YES, AT ONE OF MORE TIMES THE FORCE APPEARED EXCESSIVE	1	
THE TUBE WAS NOT INSERTED	-2	

COMMENT: REDUCE THE RATE OF APPROACH AND OBSERVE SURROUNDING TISSUES DURING INSERTION. DO NOT FORCE THE ETT INTO THE OROPHARYNX.



20. WAS EXCESSIVE FORCE USED WHILE INTERACTING WITH THE VOCAL CORDS?	POINTS	SCORE
NO, THE FORCE APPEARED APPROPRIATE	2	
YES, AT ONE OR MORE TIMES THE FORCE APPEARED EXCESSIVE	-8	

COMMENT: REDUCE THE FORCE APPLIED WHEN INTERACTING WITH THE VOCAL CORDS. DO NOT FORCE THE ETT THROUGH THE VOCAL CORDS; THE ETT SHOULD PASS SMOOTHLY THROUGH THE VOCAL CORDS. IF NOT, MAY NEED TO ALTER ANGLE OF APPROACH OR CONSIDER USING SMALLER ETT.



21. LARYNGOSCOPE MANIPULATION AROUND LIP(S)	POINTS	SCORE
THERE WAS NO PINCHING OF THE LIPS	0	
THERE WAS PINCHING OF THE LIPS	-1	

COMMENT: ENSURE TO CLEAR LIPS FROM AROUND THE LARYNGOSCOPE BLADE

22. LARYNGOSCOPE AND ETT CONTACT WITH TISSUE AND STRUCTURES	POINTS	SCORE
THE CONTACT WITH TISSUE AND STRUCTURES WAS APPROPRIATE	1	
THE CONTACT WITH TISSUES AND STRUCTURES WAS EXCESSIVE	0	

COMMENT: MINIMIZE CONTACT WITH SURROUNDING TISSUE AND STRUCTURES. OBSERVE LARYNGOSCOPE AND ETT DURING INSERTION TO AVOID EXCESSIVE CONTACT WITH SURROUNDING ANATOMY.