Main Problem	**MED:** Cannot ventilate/ cannot intubate situation due to allergic reaction with upper airway swelling, immediate emergency cricothyroidotomy needed (eFONA = emergency Front of the Neck)	**Non-Technical Skills (NTS):** Leadership Communication with team and patient Handling of Stress (personal and team) Briefing and debriefing applied
Learning goal	**MED:** Recognition of the life-threatening situation Safe scalpel-bougie-tube cricothyroidotomy	**NTS:** Leadership role and decision making Role distribution within the team (who eFONA, who medication and patient care) - Briefing Situational awareness (urgency, time passing, call for help) Structured clinical debriefing after case
Description for the Simulation Team	**Setting:** Emergency Room, EMS arrives with the patient having a severe allergic reaction that had led to swelling of the upper airways and life-threatening respiratory distress. Anti-allergic therapy did not result in improvement (e.g. intramuscular adrenalin). Advanced airway manoeuvres were not possible at the scene due to swelling of the upper airway. Non-Rebreathing face mask with 15 L/min oxygen and non-invasive monitoring (HR, NIBP, SpO_2) applied. **Patient's situation:** The paramedic hands over a tachypnoeic patient (gender, age depending on SP) with suspected allergic reaction and severe respiratory distress, but with stable vital signs. During transport O_2 over face mask and standard allergic-reaction treatment (not part of the scenario).	
Needed Personnel	**Instructor Team:** 2 Sim instructors (1 plays paramedic in the beginning, might also act as supervisor "life saver"), 1 Sim technician, 1 simulated patient (trained in anaphylaxis case and familiar with e-FONA setting).	**Participants:** Emergency Department, Anaesthesia, Critical Care Smallest team possible: 1 specialist, 1 resident, 1 nurse (possibly 2 residents, 2 nurses)
Case Briefing	**For Participants:** You are in the ER. The EMS will bring in a patient with a life-threatening respiratory condition, airway manoeuvres were not possible at the scene due to swelling of the upper airway. Vital signs are stable. Patient and paramedic are in the ER (Sim room).	**For Simulated Patient only:** Allergic reaction after food intake. Fast swelling of upper airway was reason to call EMS. With face mask during transport limited oxygenation possible. Sudden change after hand over – because of swelling not able to talk and breath anymore, agitation, life-threatening respiratory distress.
Preparation Sim-Room	• Stretcher or table on waterproof sheet (possible spilling of artificial blood) • Non-invasive monitoring (ECG, NIBP, SpO_2) on SP + O_2-face mask with 15 L/min flow • SP with prepared «neck», intra-aural earphone to get instructions from steering room, sheet over body. • Artificial blood via extended line from steering room to patient's neck • 1 simulated I.V. access on the SP's arm + attached 1000mL crystalloid infusion bag • O_2-wall connection, BMV set with O_2-line • Standard emergency equipment and drug trolley: Difficult Airway cart: emergency cricothyroidotomy set (scalpel, bougie, tube) and all available intubation equipment incl. direct laryngoscopy, video-laryngoscopy and SGA. • Cleaning material for SP (artificial blood)	
Preparation Simulator & SP	• SP with IV-line, on stretcher, open shirt, monitoring installed – heavy breathing • Vital parameter to start: SaO_2 92%, HR 99, NIBP 135/85 • Paramedic in uniform (sim instructor), reads transfer notes – hands patient over and leaves the sim-room	
Steering of simulator	• After hand over, patient's vital signs change rapidly: oxygen saturation ⇓ 82%; respiration rate ⇑ 22 breaths/minute; heart rate ⇑ 130 beats/minute; blood pressure ⇑ 145/90 mmHg. • SP instructed to struggle with breathing, can't talk anymore, more and more agitated – combative behaviour • BMV not possible - SP wards oxygen mask off • Vital signs deteriorate (SaO_2 below 80%, HR 140-150, NIBP 155/100 then falling), SP with shallow breathing, near collapse, but NO cardiac arrest situation	
Scenario "Life Savers"	• If immediate eFONA intended: the awake SP refuses procedures and airway manoeuvres → vital signs worsen • If extended exploration, or no clear team structure – SP commences very shallow breathing, shows non-verbal signs of breathlessness, vital signs worsen rapidly, stops moving around • If no eFONA attempt is made despite collapse of SP: One sim-instructor enters room as supervising physician, ordering team to perform an immediate cricothyroidotomy to save the patient's life.	
Equipment	• eFONA set in the difficult airway cart, tube exchange catheters, Frova-catheter. • BMV + oxygen wall connection, suction unit, variety of tubes, SGAs and direct/video laryngoscopes • Gloves, apron, surgical masks, swabs and surgical clamps, cleaning material for "blood". • SP instructed to struggle with breathing, can't talk, increasingly agitated - getting combative • Special "animal tissue" waist bin for disposal of the pig skin.	
Additional Instruction	• If tube is placed correctly (thorax excursions) - breathing detected and communicated – vital signs normalize, SP regains consciousness and thanks the team = end of scenario • Limit scenario to 10-15 min • Allow time for short briefing; and debriefing at the end with the team in the sim room. • Include SP in sim-debriefing	
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