

SIMULATION SCENARIO DEVELOPMENT TEMPLATE

Scenario name: Asthma, emergent
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Target audience: Undergrad Grad Other: Nurse Educators
Goal/Purpose: ED Management of acute exacerbation Asthma in an adolescent

Lab Set-up

Patient simulator/Task trainer: Vital-Sim with programmable resp, cardiac & VS parameters
Patient characteristics: Adolescent male in street clothes
Vital parameters, beginning: HR 122; BP 154/62; RR28; T37C; O2 sat%92 on RA; Wt 135 lb, Ht 70"
Environment/setting/location: Emergency department
Lab staff needed day of simulation: Tech for pt voice & to program resp, cardiac & VS parameters
Equipment, supplies & prop list: IV set-up LR; nebulizer, amps of albuterol, ipatropium, oral prednisone; CBC & CMP nl results, ABG supplies & results; ECG sinus tach; Gurney; pulse oximeter; O2 set-up, nasal cannula; peak flow meter; BiPAP; Intubation tray; chart; SBAR form; telephone.

Learning Objectives

Learner will be able to:

1. identify signs and symptoms of deteriorating respiratory status.
2. apply 3 concepts of interdisciplinary team communication in caring for a patient,
 - 1) use of SBAR and handoff techniques,
 - 2) team planning and problem-solving,
 - and 3) provided brief, clear, specific and timely information.

Student Preparation

Pre-requisite knowledge/activities:

Understands national guidelines for treatment of acute exacerbation of asthma in children & adolescents.
Able to interpret abnormal vital signs and respiratory and cardiac assessment findings.
Skilled in use of: peak flow meter, IV infusion, nebulizer with medications, oxygen administration, pulse oximeter.
Understands team communication concepts such as TeamSTEPPS.

Clinical Case Information

Case description/Patient history (HPI, PMH, Social Hx, FH):

HPI: Micha Stevens is a 16 y/o with asthma who is brought into the ED by his friends with worsening difficulty breathing. He has had a dry cough and runny nose for 3 days and then today began wheezing. He has used his Advair diskus 3-4 times since lunch because his breathing worsened and he can't find his albuterol inhaler. No fever, chills, nausea or vomiting. Occasionally smokes cigarettes.
PMH: asthma since age 9; hospitalized 3 times, once in past year, no intubations. Steroids required to control symptoms in the past. Primary care concern with compliance in use of steroid inhaler.
SH: Grandmother has custody of Micha and his younger sister (12 y/o) and they live with her. Father out of picture. Mother has had difficulty with substance abuse. ROS: non-contributory except for above.
PE: positive for acute resp distress; injected conjunctivae, red nares with clear drainage; tachycardia; diffuse expiratory wheezes bilat, using accessory muscles to breathe. Peak flow personal best 450L/min.

Medications and Allergies (MAR):

Medications:

Advair diskus 250/50mcg one puff bid (not using every day)
Albuterol HFA MDI 2 puffs q 4-6 hrs prn wheezing or chest tightness

Allergies: NKDA

Actor Roles and Behavior Overview

Actor/Role – Brief overview of behavior during scenario

1. Patient (voice) - difficulty breathing, becoming frantic, repeatedly asking for grandmother.
2. ED Attending physician (faculty or learner) - Arrives after first neb tx to assess patient status and consult with healthcare team.
3. Nurse practitioner (ARNP)- Sees pt initially, writes orders. Consults with ED attending.
4. ED Charge Nurse - implements orders, give SBAR & handoff report.
5. ED CNA - takes VSs initially and as ordered; find supplies or equipment; implements orders.
6. Respiratory therapist - Called in to do peak flows and give nebulizer treatments. Stethoscope for ausc.
7. Grandmother - arrives very worried. Immediately wants to know what is happening and what is being done to her grandson.

Scenario Events and Expected Actions

Events in chronological order – Expected actions

1. Micha triaged to ED bed stat due to resp. distress - nurse at bedside places oxygen @2L via NC.
2. Nurse performs initial assessment - VS HR 122; BP 154/62; RR28; T 37 C; O2 sat%92 on RA. Notes tachycardia, resp. distress and low O2 sat%. Alerts NP to deteriorating condition, gives SBAR.
3. Nurse Practitioner assess Micha. Writes orders: O2 via NC@2L/min, IV LR, peak flow, nebulized albuterol 2.5mg in 2mL NS plus ipatropium 0.5mg q 20(3)minx3; Prednisone 60mg PO now; CMP, CBC. Nurse arrives to start IV and draw blood.
4. Respiratory therapy arrives - does peak flow 250 (55%) L/min, and nebulized meds first dose.
5. ED attending notified & arrives to assess pt. Healthcare team provides ongoing monitoring of breathing effort, O2 sat, vital signs, pulmonary and cardiac function, mental status after each neb tx.
6. After first neb tx, Micah's condition begins to deteriorate as evidenced by: HR 130, BP 135/85, O2 sat %90, RR 16 & shallow, diminished breath sounds, fewer wheezes, and drowsiness.
7. Healthcare team responds - applies CPAP or BiPAP and prepares to intubate prn. ABGs drawn.
8. Pt refuses BiPAP; becomes more anxious, VSs worsen; ABG acidosis; intubation decision, R main stem.
9. Grandmother arrives and is very worried - team address grandmother's concerns and ICU admit.
10. Prepare to admit to ICU and give handoff.

Debriefing Points

Debriefing points

1. Was deteriorating patient respiratory status recognized? What happened next?
2. Was communication clear?
3. Were roles and responsibilities understood?
4. Did we ask for or offer assistance?

References

Evidenced-based practice guidelines, protocols or algorithms used in creating scenario:

Managing exacerbations of asthma. In: National Asthma Education and Prevention Program (NAEPP). Expert panel report 3: guidelines for the diagnosis and management of asthma. Bethesda (MD): National Heart, Lung, and Blood Institute; 2007 Aug. p. 373-417.

TeamSTEPPS™ (AHRQ)

Key Words:

Asthma emergent, interprofessional, team communication, dyspnea, adolescent, intubation, ER