

Student

Case Overview

An Interprofessional Education Approach (IPE) to Resuscitation in the COVID-19 Era: **Non-Shockable Rhythm (Part II)**

Part of the JHUSON Interprofessional Education and Online Simulation Program

Learning Objectives

By the end of this simulation, the learner will be able to:

1. Identify steps and actions needed to administer CPR to a patient in a code situation.
2. State why rate, depth and recoil are the key components of high-quality CPR.
3. Verbalize epinephrine dose (1 mg) and periodically (every 3-5 minutes) in which this medication should be administered in non-shockable rhythms.
4. Verbalize reversible causes of Pulseless Electrical Activity (PEA): (hypovolemia, hypoxia, hydrogen ion, hypokalemia/hyperkalemia, hypothermia, tension pneumothorax, cardiac tamponade, toxins, pulmonary thrombosis, coronary thrombosis, and hypoglycemia) and their treatments.
5. List the proper Personal Protective Equipment (PPE) needed for patient care in a Covid-19 era. (May vary from institution and supply chain availability).
6. Describe the role of a CPR Coach in the resuscitation.
7. Discuss the following **Core Competencies for Interprofessional Collaborative Practice (2016)**

Core Competencies for Interprofessional Collaborative Practice (2016)

A. Values/Ethics sub-competencies

VE2. Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.

VE5. Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services and programs

VE6. Develop a trusting relationship with patients, families, and other team members (CIHC, 2010).

VE7. Demonstrate high standards of ethical conduct and quality of care in contributions to team-based care.

VE10. Maintain competence in one's own profession appropriate to scope of practice.

B. Roles and Responsibilities sub-competencies

RR1. Communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals.

RR2. Recognize one's limitations in skills, knowledge, and abilities.

RR3. Engage diverse professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific health and healthcare needs of patients and populations.

RR4. Explain the roles and responsibilities of other providers and how the team works together to provide care, promote health, and prevent disease.

RR5. Use the full scope of knowledge, skills, and abilities of professionals from health and other fields to provide care that is safe, timely, efficient, effective, and equitable.

RR6. Communicate with team members to clarify each member's responsibility in executing components of a treatment plan or public health intervention.

RR9. Use unique and complementary abilities of all members of the team to optimize health and patient care.

C. Inter-Professional Communication sub-competencies

CC1. Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.

CC2. Communicate information with patients, families, community members, and health team members in a form that is understandable, avoiding discipline-specific terminology when possible.

CC3. Express one's knowledge and opinions to team members involved in patient care and population health improvement with confidence, clarity, and respect, working to ensure common understanding of information, treatment, care decisions, and population health programs and policies.

CC4. Listen actively and encourage ideas and opinions of other team members.

CC5. Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.

CC6. Use respectful language appropriate for a given difficult situation, crucial conversation, or conflict.

CC8. Communicate the importance of teamwork in patient-centered care and population health programs and policies.

D. Teams and Teamwork sub-competencies

TT3. Engage health and other professionals in shared patient-centered and population-focused problem-solving.

TT4. Integrate the knowledge and experience of health and other professions to inform health and care decisions, while respecting patient and community values and priorities/preferences for care.

TT5. Apply leadership practices that support collaborative practice and team effectiveness.

TT7. Share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care.

TT8. Reflect on individual and team performance for individual, as well as team, performance improvement.

TT9. Use process improvement to increase effectiveness of interprofessional teamwork and team-based services, programs, and policies.

TT10. Use available evidence to inform effective teamwork and team-based practices.

TT11. Perform effectively on teams and in different team roles in a variety of settings.

Brief overview of patient

A 52-year-old male admitted to hospital today, with complaints of slight headache, decreased appetite and malaise for several days. A CT SCAN of the chest was scheduled to rule out pneumonia. Professionals participating in this virtual simulation include registered nurses, clinical technician, respiratory therapist, pharmacist, team leader (MD), gatekeeper (RN), documenter (RN), anesthesiologist (MD), and certified registered nurse anesthetist (CRNA).

Background/Past 24 hours: Prior to hospitalization, patient developed fever (101 F/38.3 C); Shortness of breath; intermittent dry cough; chills

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Physical Exam:

- Neuro: AAOx3
- Respiratory: lung sounds with crackles bilaterally and intermittent wheezing
- Skin: warm and dry, positive capillary refill
- Pulses: all present
- Cardio: normal heart sounds
- GI: positive bowel sounds
- GU: clear amber urine

Vital Signs: BP 105/58

- HR 100
- RR 26
- SpO2 91 on room air
- Temp 36.4

Past Medical History:

- Kidneys stones 1 year ago
- No other chronic diseases
- Denies smoking, use of tobacco, alcohol or other drugs.
- Married
- Father of 3
- Full-time mechanic
- Runs 3-5 miles a day

Lab Results:

- Heme panel sent
- Chem 7 sent
- COVID-19 Pending
- BUN 140
- Cr 1.3

Pre-work

1. Review learning objectives and the brief overview of the patient
2. Please read the REQUIRED information prior to participating in this simulation
3. Describe the roles of each member of the team
4. Review the IPE competencies to be addressed in this module

Required Reading:

Student Pre-Work:

- Review link for ACLS Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients
<https://cpr.heart.org/en/resources/coronavirus-covid19-resources-for-cpr-training>
- Prince, C. R., Hines, E. J., Chyou, P. H., & Heegeman, D. J. (2014). Finding the key to a better code: code team restructure to improve performance and outcomes. *Clinical medicine & research*, 12(1-2), 47–57. <https://doi.org/10.3121/cm.2014.1201>

Optional:

- <https://cpr.heart.org/en/cpr-courses-and-kits/healthcare-professional/acls>
- <https://www.aclsmedicaltraining.com/h-and-t/>

- Cheng, A., Nadkarni, V. M., Mancini, M. B., Hunt, E. A., Sinz, E. H., Merchant, R. M., ... & Bigham, B. L. (2018). Resuscitation education science: educational strategies to improve outcomes from cardiac arrest: a scientific statement from the American Heart Association. *Circulation*, 138(6), e82-e122.
- Edelson, D. P., Sasson, C., Chan, P. S., Atkins, D. L., Aziz, K., Becker, L. B., ... & Escobedo, M. (2020). Interim guidance for basic and advanced life support in adults, children, and neonates with suspected or confirmed COVID-19: From the emergency cardiovascular care committee and get with the guidelines®-Resuscitation adult and pediatric task forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of *Circulation*.

Curricular information

Educational Rationale and Need

Resuscitation efforts in the in-patient adult hospital setting have been an ongoing challenge. In 2016, it was reported that only 24.8% of adult patients survive an in-hospital cardiac arrest. Experiential training and preparation of staff to respond to these emergency situations can have a positive impact on patient survival. Fundamental aspects of adult Basic Life Support (BLS) include immediate recognition of sudden cardiac arrest, activation of an emergency response system, early cardiopulmonary resuscitation (CPR), and rapid defibrillation, if indicated. Training of health professionals in high quality CPR (correct rate, correct depth, and full recoil of the patient's chest), offers patients the best chance of surviving the event. Frequent training helps promote precise, correct technique along with skill retention; it leads to improved patient outcome (1, 2, 3). Additionally, teamwork, role identification and communication are essential aspects of quality resuscitation delivery (4).

In the era of the pandemic of COVID-19, key elements of resuscitation in suspected or confirmed COVID-19 patients were developed to decrease risk of transmission of the virus and ensure the safety of the healthcare team (5). In addition to the basics of resuscitation teamwork and essential elements of quality CPR, this simulation incorporates 2020 guidelines for resuscitation in the COVID-19 pandemic.

Reference Materials:

<https://www.aclsmedicaltraining.com/h-and-t/>

1. Salas, E., Wilson, K. A., Burke, C. S., & Priest, H. A. (2005). Using simulation-based training to improve patient safety: What does it take? *The Joint Commission Journal on Quality and Patient Safety*, 31(7), 363-371.
2. Semark, B., Arestedt, K., Israelsson, J., von Wangenheim, B., Carlsson, J., & Schildmeijer, K. (2017). Quality of chest compressions by healthcare professionals using real-time audiovisual feedback during in-hospital cardiopulmonary resuscitation. *European Journal of Cardiovascular Nursing*, 16(5), 453-457.
3. Cheng, A., Nadkarni, V. M., Mancini, M. B., Hunt, E. A., Sinz, E. H., Merchant, R. M., ... & Bigham, B. L. (2018). Resuscitation education science: educational strategies to improve outcomes from cardiac arrest: a scientific statement from the American Heart Association. *Circulation*, 138(6), e82-e122.
4. Prince, C. R., Hines, E. J., Chyou, P. H., & Heegeman, D. J. (2014). Finding the key to a better code: code team restructure to improve performance and outcomes. *Clinical medicine & research*, 12(1-2), 47-57. <https://doi.org/10.3121/cmr.2014.1201>
5. Edelson, D. P., Sasson, C., Chan, P. S., Atkins, D. L., Aziz, K., Becker, L. B., ... & Escobedo, M. (2020). Interim guidance for basic and advanced life support in adults,

children, and neonates with suspected or confirmed COVID-19: From the emergency cardiovascular care committee and get with the guidelines®-Resuscitation adult and pediatric task forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of *Circulation*.