Cardiac Arrest Gap Analysis Tool

INSTRUCTIONS

1. State the best practice under “Key Point.” A best practice may be from a national guideline or consensus statement from a credible organization, from peer-reviewed medical literature where more than one source agrees on the practice, or from the considered opinion of the expert-planner in the case when no published guideline exists. This becomes the end-goal for the activity.

2. State the source used that provided you with the best practice (i.e. article from peer reviewed journal name of consensus statement or clinical guideline, etc.).

3. State the current practice of the cohort of learners to which your educational activity is targeted. You can determine this based on interviews (formal or informal) with members of the target audience, a questionnaire, or a published article that reports on findings from learners.
THE KEY IS TO GO BEYOND EXPERT PERCEPTION OF THE GAP AND TO INCLUDE THE PERCEPTION OF THE LEARNER.

4. State the source used that provided you with current practice (i.e. from questionnaire of Membership interviews with 6 emergency physicians, etc.).

5. State the gap based on the difference between best practice and current practice. This “resulting gap” will define the learning objectives you will develop, which in turn leads to the content of the activity. Indicate the “type of gap” [i.e., did the gap you isolated indicate learners lacked knowledge (K), competence (C), or that implementing it in practice or performance (P) was the issue]. Use those cod to indicate Type of Gap in the chart that follows.

6. The gap should inform you of the type of outcomes that are appropriate for this activity (i.e. does the gap indicate a need to improve learner competence and/or performance-in-practice). Note: Once designated, this will define your choice of evaluation (outcome) measurement tools.

7. Prepare a learning objective for each identified gap. Each objective should include a verb that is chosen to describe something a physician will do in practice (and not what the teacher will teach). For example, do not use verbs such as “discuss” or “describe, learn or understand.” Use words such as “apply, develop a strategy to…, etc.” Ensure that the objective clearly states a standard against which one can judge the success in achieving the objective. The ‘standard’ helps inform the outcomes questions you will prepare.

8. Prepare evaluation/outcomes questions depending on the “Intended Outcomes” you stated earlier. For example, if improvement in competence was indicated, then you must prepare outcomes questions related to demonstrating an improvement in competence. In addition, if improvement in performance-in-practice is indicated, you must also prepare questions relative to performance. To measure a change in competence, consider a case study with questions relating to the learner’s ability to apply knowledge with a strategy related to patient care. Present the case study and ask 3-5 relate questions prior to the start of the activity to establish a base line level of competence. Use the same case study and questions post-activity to measure the change in competence. You may decide to measure competence by using paired questions. These questions ask the learners how they are currently managing their patients and based on the educational intervention, how they intend to manage them in the future.

9. Performance questions are very specific and are related to what the learner has done in his practice since completing the activity. State your questions that relate to the objectives referenced above in terms of multiple choices or yes/no format. In a multiple choice format, indicate with an asterisk which option is correct.

Cardiac Arrest Gap Analysis

Best Practices (What should be?)	Current Practice (What is or isn't)	Resulting Gaps (What interventions are indicated?)
NOTE: Items highlighted in this color are considered best practices recommended to be reviewed and, if practical, implemented first in the process.		
Use of a Cardiac Registry		
Have the ability to determine patients that meet Utstein criteria?		
Have the ability to measure discharged alive/survival with neurological outcome?		
Telephone CPR (T-CPR)		
Has initial and continuing training?		
Has an assertive T-CPR protocols – Culture where false positives are acceptable?		
Has Quality improvement – Feedback to dispatcher?		
High performance CPR		
Rate 100 to 120		
Depth 2~2.4"		
Recoil 100%		
Prevent Fatigue - Change Q2"		
Pauses <5 sec		
Minimal pauses not more than 1 every 2min		
Perishock <5 sec (precharge, compressor hover over chest)		
No post-shock pause		
Compression Fraction >90%		
Continuous CPR		
Quality metric monitoring (monitor, accelerometer/CPR puck, mechanical)		
Have hemodynamic monitoring - End tidal CO2?		
Have hemodynamic monitoring - Blood pressure?		
Transport CPR		
If transporting, mechanical device available? (Not recommended without mechanical device)		
Mechanical CPR		
Recommended for transport, however more data and research needed for routine use.		
Ventilation/Airway		
Intubation - Avoid compression interruption		
Intubation - Improve first pass success rates		
Delayed utlizing passive ventilation for 4 to 6min		
Avoid overventilation - Volume low; use manometer <40mmHg		
Using a metronome to maintain rate of 10 breaths/min is recommended		
Impedance Threshold Device (ITD) use		
Oxygenation		
Preoxygenation utilizing passive N/C		
Apneic Oxygenation N/C @ 15 lpm during ET attempt		

Cardiac Arrest Gap Analysis

Defibrillation		
Recalcitrant VT/VF - Last successful joules amount or pad position continued		
Timing - 2 min between rhythm analysis		
Voltage - Max joules, no escalation		
Vector - Change to A/P after multiple attempts		
Dual sequential (Not recommended)		
Recalcitrant VT/VF - Consider which antiarrhythmics to use and think about reversible causes of recalcitrant VF/VT		
IV/IO Access		
Avoid delays with vascular access looking for peripheral IV		
Consider early/ immediate IO		
If time permits, secondary access recommended		
Medications		
Epinephrine		
Amiodarone		
Lidocaine		
Calcium and sodium bicarbonate - suspected hyperkalemia		
Duration of CPR		
30 min on-scene resuscitation prior to considering TOR		
Termination of CPR		
>30min effort		
Criteria for no shockable rhythm TOR, including asystole and PEA		
No ROSC		
Non-witnessed arrest criteria		
BLS crew criteria for TOR		
Guidelines and training on DNR orders and compelling reasons to withold resusctiation?		
Tools for survivor support available		
Post Resuscitative Care		
Careful, low volume ventilation		
Avoid super oxygenation, try to target saturation to 96%		
Avoid excessive fluids		
30^0 HOB elevation		
Acquistion of 12-lead		
Criteria for management of arrythmias		
Criteria for management of blood pressure		
Is TIH or targeted temperature management utilized?		

Cardiac Arrest Gap Analysis

Resuscitation Training		
Pit-crew training - Task specific including the following roles		
Compressor		
2nd Compressor for rotating		
Monitor / Defibrillation		
Ventilation / Airway		
IO or IV access / Medications		
Documentation		
Use of feedback devices utilized to determine effectiveness of compressions?		
Accelerometer (CPR puck)		
Realtime feedback strongly recommended for all manual situations. All high-fidelity training must occur with feedback device.		
EtCO2 utilized to determine effectiveness of compressions?		
< 10 mmHg = improve compression		
20 to 30 mmHg = adequate		
>40 mmHg = suspect ROSC		
Does your agency provide feedback from cardiac arrest cases to providers?		