R01: Commencing and Withholding Resuscitation

Clinical Medical Programs
Updated:
Reviewed:

Introduction

This guideline has been designed to provide information to paramedics on the holistic aspects of cardiac arrest management – specifically, when to commence and withhold resuscitation.

Beginning CPR

In cases of cardio-pulmonary arrest, start CPR in accordance with the following clinical practice guidelines:

- → N02: Adult cardiac arrest
- → M06: Pediatric cardiac arrest
- → M09: Neonatal resuscitation
- → N04: Traumatic cardiac arrest

Withholding CPR

In some circumstances, it is appropriate to withhold CPR. These circumstances include:

- When the patient exhibits obvious signs of death, such as
  - Putrefaction and decomposition
  - Hypostasis (lividity) or rigor mortis (whole body)
- When the patient has sustained injuries that are incompatible with life, such as
  - Decapitation
  - Cranial and cerebral destruction
  - Hemicorporectomy (transection)
  - Incineration
  - Fetal maceration
- Where performing CPR may endanger the life, health, or safety of paramedics
- Where a lawful direction to withhold CPR has been provided to paramedics. This may include documentation such as an advanced directive, medical order for scope of treatment (MOST), a No CPR form, or the presence of a No CPR MedicAlert bracelet or necklace.

If at any stage paramedics are unclear about the criteria for withholding CPR in a specific case, CPR should be started and consultation with CliniCall should be sought to discuss option.

References

1. Grunau B, et al. Comparing the prognosis of those with initial shockable and non-shockable rhythms with increasing durations of CPR: Informing minimum durations of resuscitation. 2016. [Link]
2. Grunau B, et al. External validation of the universal termination of resuscitation rule for out-of-hospital cardiac arrest in British Columbia. 2017. [Link]
3. Grunau B, et al. Gains of continuing resuscitation in refractory out-of-hospital cardiac arrest: a model-based analysis to identify deaths due to intra-arrest prognostication. 2017. [Link]
4. Morrison LJ, et al. Validation of a rule for termination of resuscitation in out-of-hospital cardiac arrest. 2006. [Link]
5. Reynolds JC, et al. Association between duration of resuscitation and favorable outcome after out-of-hospital cardiac arrest: implications for prolonging or terminating resuscitation. 2016. [Link]

R02: Discontinuing Resuscitation

Clinical and Medical Programs

Updated: December 01, 2020
Reviewed:

Introduction

This guideline has been designed to provide information to paramedics on the holistic aspects of cardiac arrest management: specifically, when to discontinue (or withdraw) resuscitation on medical cardiac arrests. There are two components: the rapid discontinuation, and the general discontinuation.

Essentials

For both rapid and general discontinuation criteria, resuscitations led by EMRs or PCPs require a mandatory call to CliniCall as soon as possible after the resuscitation begins. Paramedic Specialists will guide practitioners through the discontinuation pathway.

ACP/CCP practitioners can independently follow both rapid and general discontinuation criteria, but must consult with CliniCall for confirmation prior to discontinuing.

General Information

Rapid Discontinuation Criteria

In some instances, CPR may be started when circumstances surrounding the case history are unclear. Rapid discontinuation allows for the cessation of resuscitation in circumstances where resuscitation is ongoing, and additional information is obtained

1. *Prolonged no-flow duration*. All of the following elements must be satisfied prior to discontinuation:
    - The patient was observed to be unresponsive and presumed pulseless for at least 20 minutes prior to the arrival of emergency services, and
    - No CPR was provided during this period, and
    - The patient is exhibiting signs of life extinct (see below), and
    - The patient's cardiac rhythm is asystole, or pulseless electrical activity of less than 30 beats per minute, or an AED does detect a shockable rhythm.
2. *Terminal illness*. A patient in the final stages of a terminal illness where death is imminent and unavoidable, and where CPR would not be successful, but for whom no formal No CPR decision has been made.
3. *Lawful direction*. When resuscitation is ongoing, and a lawful direction to withhold CPR becomes available (including an advanced directive, a medical order for scope of treatment, a No CPR form, or the discovery of a no CPR MedicAlert braclet or necklace).
4. *Valid direction from a representative*. Paramedics who receive a valid direction from a representative who is explicitly named in a representation agreement or an advanced care plan. (Where possible, attach a clear photo of the documentation to the ePCR.)
    - A representation agreement is a document used for substitute decision-making, and is different from a power of attorney.

In circumstances where rapid discontinuation is applicable, EMR and PCP staff must consult CliniCall prior to terminating resuscitation efforts and confirmation of ROLE, except for when a lawful or valid direction from a health care representative is present and confirmed.

General Discontinuation Criteria

General criteria apply to most cardiac arrests where the patient is considered viable or does not meet the criteria for rapid discontinuation. They involve 20, 30, and 40 minute checks from the time of CPR initiation by either paramedics or first responders, and follow an evidence-based approach to cardiac arrest survival following high-quality resuscitation.

1. 20 minute check: CPR is to be administered by emergency health care providers for no less than 20 continuous

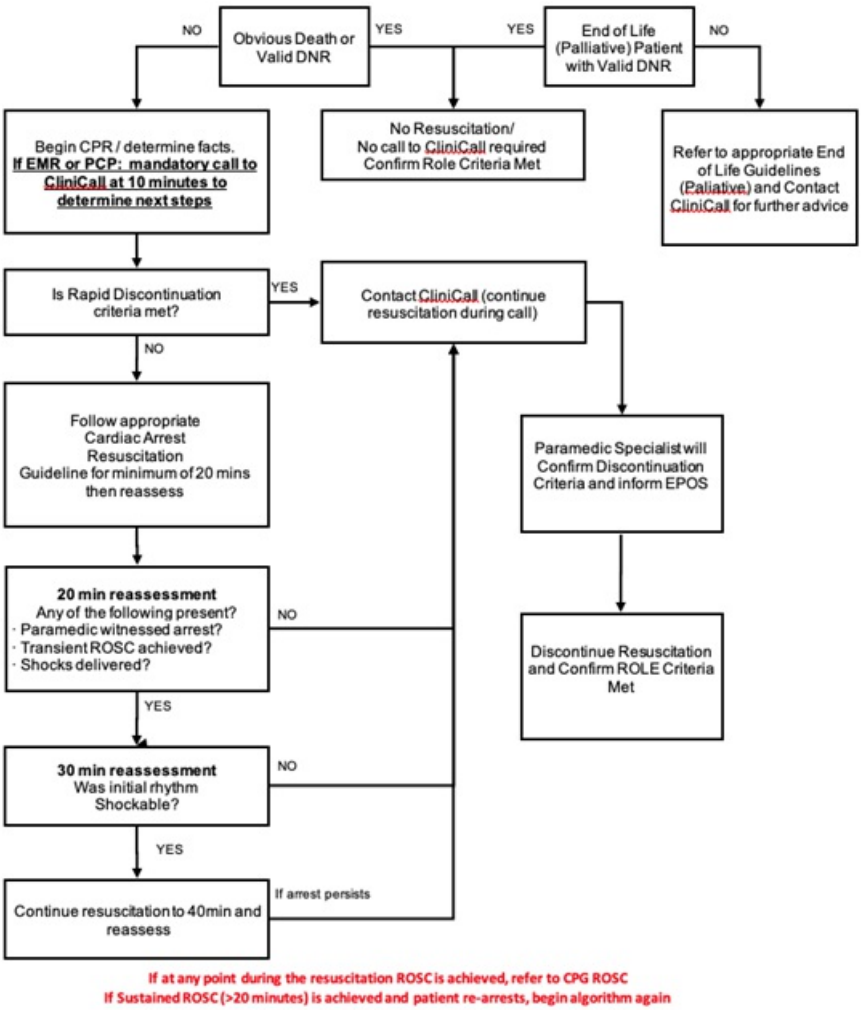
minutes, after which CliniCall must be contacted for discontinuation orders where all of the following are present:

1. The arrest was unwitnessed by paramedics, and
2. No shocks were delivered, and
3. There was no return of spontaneous circulation, regardless of duration.

Patients for whom these criteria are true have a 0.12% survival rate.[1,2] If any of these elements are not satisfied, the resuscitation must continue to 30 minutes.

2. 30 and 40 minute checks: The likelihood of meaningful survival for patients still in cardiac arrest at the 30 minute mark is:
   1. Initial non-shockable rhnythm: < 1%.
   2. Initial shockable rhythm: 11%.[3-5]

Termination of resuscitation is appropriate at the 30 minute mark for those patients whose initial rhythm was not shockable. Resuscitation should be extended to 40 minutes for patients whose initial rhythm was shockable, at which point it can be terminated if return of spontaneous circulation has not been achieved.



Interventions

Emergency Medical Responder – All FR interventions, plus:

Able to apply all elements related to the discontinuation of resuscitation. Must make contact with CliniCall for decision-supported discontinuation. Call must be made within minutes from time of arrival to determine the next steps.

Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

Able to independently apply discontinuation criteria. Consultation with CliniCall required prior to discontinuation.

R03: Recognition of Life Extinct

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Introduction

This guideline has been designed to provide information to paramedics on the holistic aspects of cardiac arrest management: specifically, how to recognize life extinct, or confirm death. It is to be used in conjunction with CPG R02: Discontinuing Resuscitation.

Essentials:

Consultation with CliniCall must be made to confirm the discontinuation of resuscitation in all cases where CPR was begun. The ROLE assessment occurs after the CliniCall consult and termination of resuscitation.

General

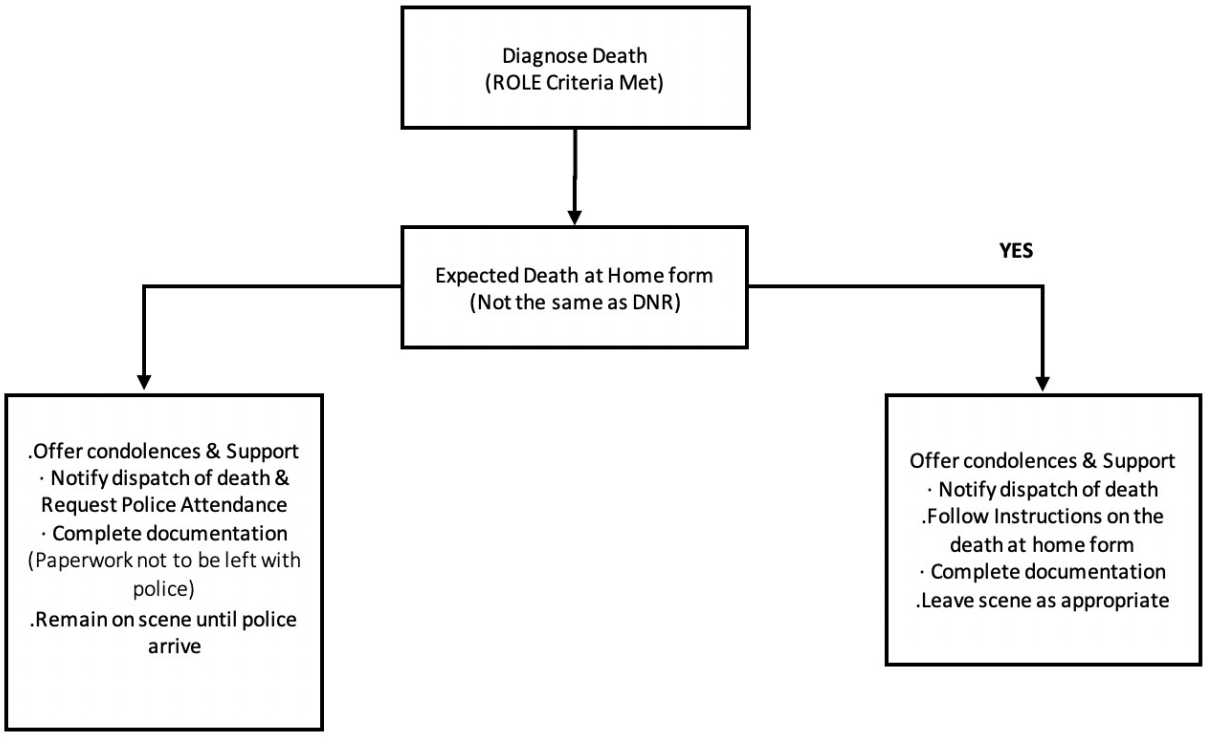
Unless the criteria for obvious death are met, all of the following elements must be satisfied and confirmed independently by at least two paramedics following the discontinuation of resuscitation, and before a determination is made that life is extinct:

- No palpable carotid pulse for 90 seconds.
- No heart sounds heard for 90 seconds.
- No breath sounds heard or respiratory effort observed for 90 seconds.
- Fixed (non-responsive to light) and dilated pupils. These may vary due to an underlying eye illness.
- No response to central stimulus. (Previous chest compressions is enough to demonstrate a lack of response.)
- ACP and CCP only: when able, observe asystole or pulseless electrical activity with a rate of 30 beats per minute or less for over 60 seconds.

In cases of environmentally caused hypothermia, the lack of signs of life is unreliable, and cannot be used for recording life extinct. These patients should be transported as soon as possible to a facility where aggressive rewarming during resuscitation is possible, preferably using extra-corporeal membrane oxygenation where possible. Contact CliniCall to discuss options.

In the event paramedics are unsure, or are concerned that the ROLE criteria have not been met, CliniCall must be consulted for further guidance.

Actions To Be Taken After Death Has Been Established



References

1. Grunau B, et al. Comparing the prognosis of those with initial shockable and non-shockable rhythms with increasing durations of CPR: Informing minimum durations of resuscitation. 2016. [Link]
2. Grunau B, et al. Gains of continuing resuscitation in refractory out-of-hospital cardiac arrest: A model-based analysis to identify deaths due to intra-arrest prognostication. 2017. [Link]
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R04: Resuscitation Decision-Making

Clinical Medical Programs
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Introduction

This guideline has been designed to provide information to paramedics on the holistic aspects of cardiac arrest management: specifically, to provide more information regarding resuscitation decision-making and end-of-life care.

Advance Directives, Medical Orders for Scope of Treatment, and No CPR Orders

- What is an advanced directive?
  - An advanced directive is a written instruction made by a capable adult that (a) gives or refuses consent to treatment at the time treatment is required and (b) complies with the requirements of the *Health Care (Consent) and Care Facility (Admission) Act*.
- What makes an advance directive legal?
  - The legal requirements for an advance directive are that it be in writing, be made and signed by the adult at a time when the adult is capable, and be witness by two people who may each act as a witness (or one person, if the witness is a lawyer or notary public). Additionally, in the advance directive document, the adult must indicate, in writing, that the adult knows
    - A health care provider may not provide to the adult any health care for which the adult refuses consent in the advance directive, and
    - A person may not be chosen to make decisions on the adult's behalf for any health care for which the adult has given or refused consent in the advance directive.

Overriding an Advance Directive or Medical Order for Scope of Treatment

A competent patient can *always* make decisions regarding their own care.

- Advance directive allow patients to state their decisions in writing regarding future health care treatments, in the event they are either unable, or not considered competent to communicate them. There are limited situations in which advance directives may be overridden. (For example, there may have been significant changes in medical knowledge, practice, or technology since the directive was written.)
- Medical orders for scope of treatment (MOST) are developed as part of a conversation between a physician (or, in some cases, a nurse practitioner) and the patient, or the patient's substitute decision-maker. MOST are required to be reviewed regularly by the physician and, unless there has been a substantive change, cannot typically be overridden by a substitute decision-maker.
- An advance directive or MOST should not be overridden without appropriate consultation and direction. In this, or any situation where paramedics are uncertain about the appropriateness of a particular clinical intervention, or whether or not to start CPR, CliniCall should be contacted for support.
- MOST forms are not standardized across health authorities. Paramedics should familiarize themselves with local forms here.

Temporary Substitute Decision-Makers

A temporary substitute decision-maker is a capable adult over 19 who has been chosen *by a health care provider* to give or withhold consent on behalf of another adult, when that adult is incapable of making decisions about their health care.

In the *Health Care (Consent) and Care Facility (Admissions) Act*, a health care provider is defined as a professional licensed, certified, or registered to provide health care in British Columbia under either the *Health Professions Act* or the *Social Workers Act*. Paramedics are not currently listed in either act, and therefore are unable to appoint a temporary substitute decision-maker to assist in clinical decision-making. Paramedics may, however, use the services of a

substitute decision-maker should one be appointed by an eligible health care provider (including a family physician or EPOS physician).

Conflicting Information

In the unlikely event that an advance directive and a MOST or No CPR form offer conflicting information, paramedics should recall that Section 11 of the *Emergency Health Services Act* prohibits medical care if an advance directive refuses permission to provide such care.

Additional Resources

For more information please access *BCEHS Policy* and *BCEHS Procedure.*

Documentation Requirements

The following information must be recorded in the electronic patient care record:

1. If the decision to discontinue or withhold resuscitation was made by the *paramedic* in accordance with the discontinuation criteria (as established in CPG R02), the record must include:
    1. The identity of the paramedic making the decision, and
    2. The clinical circumstances and findings that enabled the decision to withhold or withdraw interventions in accordance with the requirements listed in CPG R02.
2. If the decision to discontinue or withhold resuscitation was made by a *health professional*, the record must include:
    1. The identity, unique identifier, and contact details of the practitioner making the decision, and
    2. The clinical circumstances supporting the decision to withhold or withdraw interventions on the basis of good medical practice.
3. If the decision is made on the basis of *the patient's decisions* (either in writing, or in the form of documentation), the record must include:
    1. The type of legal documentation providing consent to withhold or withdraw resuscitation.
    2. The direction, as outlined in the documentation.
    3. A good quality photograph of all pages of the document, taken in such a way that it materially similar to the original document.
    4. Details of the clinical assessment that would demonstrate that the direction applied in the current circumstances.

No Clinical Procedures are to be Performed Following the Recognition of Life Extinct

Once it is determined that life is extinct, all resuscitation activities must immediately stop. It is unacceptable to continue resuscitation, perform invasive procedures, or implement any form of treatment if the intent is to allow paramedics the opportunity to acquire or maintain clinical competencies.

References

1. Grunau B, et al. Comparing the prognosis of those with initial shockable and non-shockable rhythms with increasing durations of CPR: Informing minimum durations of resuscitation. 2016. [Link]
2. Grunau B, et al. Gains of continuing resuscitation in refractory out-of-hospital cardiac arrest: A model-based analysis to identify deaths due to intra-arrest prognostication. 2017. [Link]
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