MEMO

London Health Sciences Centre
Southwest Ontario Regional Base Hospital Program

Date: Tuesday, July 22, 2025	**Program Phone:** 519-667-6718
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Subject: Update for ALS PCS v5.4: Patients Who Arrest En-Route to Hospital	

SWORBHP released a memo on June 22, 2023 that provided direction to paramedics about the management of patients that arrest en-route to hospital. This included information about how to manage refractory ventricular fibrillation (VF) or pulseless ventricular tachycardia (pVT). With the update to ALS PCS v5.4, treatment of refractory VF/pVT has been updated to include vector change defibrillation (VCD) and double sequential defibrillation (DSED) when available and authorized. This memo provides an update to paramedics about the management of patients who arrest en-route to hospital and present with either the refractory VF/pVT and how VCD and DSED should be incorporated in these circumstances.

The Ontario Base Hospital Group (OBHG) Companion Document (https://ontariobasehospitalgroup.ca/wp-content/uploads/2025/06/ALS-PCS-v5.4-Companion-Document.pdf) gives direction for both PCPs and ACPs regarding patients who have a witnessed arrest en-route to hospital:

> "For a witnessed arrest in the back of the ambulance paramedics can decide whether to stay and perform three full analysis and then proceed/patch or to provide one analysis and go. The paramedic should provide at minimum one analysis. Factors that are part of the decision process include distance to closest hospital, probable cause of arrest, ability to provide adequate CPR/ventilation, shockable vs non-shockable etc."

In summary, the advised practice for a patient who suffers a witnessed arrest en-route to the hospital is to find a safe place to stop the ambulance and:

- Perform a minimum of one analysis
- Utilize clinical judgement (considering multiple factors) to decide whether to stay and perform resuscitation:
    - Perform one analysis and then initiate transport (likely the majority of situations where the rhythm is non- shockable)
    - For a persistent shockable rhythm, perform three full analyses in initial pad placement. Switch pad orientation (VCD) or place second set of pads (DSED). Perform one further defibrillation in the second orientation or DSED and then initiate transport. **Four shocks in total will be provided prior to resuming transport.**
    - Perform three full analyses and patch for direction if it is believed the patient would benefit from ongoing resuscitation in a stationary ambulance (this would be a rare occurrence).

- If at any time during resuscitation, a previous refractory VF/pVT rhythm becomes non-shockable, transport should be initiated (ex. PEA after three shocks).

Note that this direction differs from on scene management via the Medical Cardiac Arrest Medical Directive. Management on scene in refractory VF/pVT includes VCD or DSED if available and authorized. For VCD/DSED, this includes 3 shocks using initial pad placement, followed by change in pad orientation or application of second set of pads for a further 3 shocks (6 total) if the patient remains in refractory shockable rhythm.

The rationale for delivering a single (1) shock in the second orientation or DSED for en-route arrests is to allow for an attempt at defibrillation using a different vector or double sequential defibrillation, while weighing the risk of treatment en-route (safety for the patient and paramedics, as well as delay to definitive care).

If you have any questions, please contact the SWORBHP office at 519-667-6718 or email sworbhp@lhsc.on.ca.

Thank you for your continued diligence and commitment to quality patient care,
SWORBHP Education Team