**User Guide**

Referring TO DO

Perfusion TO DO

Paramedic TO DO

Accepting TO DO

**ó**Joint decision(s)

**SITUATION**

MD/RN q

* **Patient:** age, weight, relevant comorbidities.

RN q

* **Isolation:** none, contact, droplet, airborne.

**MISSION**

* **Origin:**
* **Destination:**

Paramedic q

Perfusion q

* **Transport Mode: ó**
  + *General Considerations:* minimizing patient transfers between ambulances/aircraft should be considered when selecting mode(s) of transport.
  + Ground Ambulance: confirm appropriate size and stretcher mount.
  + Air Ambulance: for distances > 150 km consider rotory-wring (helicopter) air ambulance.
  + Air Ambulance: for distances > 300 km (150 nautical miles) consider fixed-wing air ambulance.
  + Other:

**EQUIPMENT** (See Appendix 1 at the end of this document)

* **ECLS:** specify type e.g. ECMO, VAD, IABP, other.
* **ECMO:** specify mode, configuration, machine type. Primary vs Secondary transport.
* **Adjuncts:** specify additional equipment, e.g. heater, ECLS adjunct, blood products, other.

Paramedic q

Perfusion q

**ó**

* **Transport:** specify transport equipment needs:
  + Stretcher

Perfusion q

Paramedic q

* + Tray(s) **ó**
  + Pumps
  + Ventilator
  + Monitor/defibrillator
  + Power source(s)
  + Heat source(s)
  + Blood products
  + Medication – maintenance
  + Medication – emergency/rescue
  + ECMO – transport equipment

**ADMINISTRATION**

Perfusion q

MD/RN q

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* **Referral Team:**
  + Charge RN: human resources/staffing for transport.
  + MD: sedation goals, hemodynamic goals, ECMO parameters, anticoagulation, blood products.
  + Perfusionist: ECMO/ECLS tube length for transport, power sourcing, need for heater, oxygen source.
  + RN: maintanence medication infusions, PRN medications, rescue/emergency medications.
  + RT: ventilator settings.
  + Unit Clerk: full chart, relevant diagnostic imaging/tests, consent(s).
* **Transport Team:**

Perfusion q

Paramedic q

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* + *General Considerations*: Crew Resource Management (CRM) and explicit roles and responsibilities prior to, and during all patient transfers and transport.
  + MD: MD typically *not* needed for transport. ***Who is primary contact for on-line medical support if needed during transport*** (referring, EPOS, accepting?)
  + Perfusionist: roles and responsibilities during transport.
  + RN: roles and responsibilities during transport.
  + RT: roles and responsibilities during transport.
  + Paramedic: roles and responsibilities during transport. Explicitly note if PCP vs CCP crew.
* **Accepting Team:**

Perfusion q

RN/RT/MD q

Perfusion q

**ó ó**

Paramedic q

* + Charge RN: confirm critical care and human resources available and ready.
  + MD: confirm accepting MRP and consulting MDs aware, anticipate medical and resuscitative needs.
  + Perfusionist: confirm have compatible circuit/machinery and/or plan for transfer.
  + RN: anticipate medical and resuscitative needs.
  + RT: anticipate medical and resuscitative needs.
  + Unit Clerk: confirm relevant documentation, diagnostic results, contacts and consents received.

**COMMUNICATION**

* **Referral Team:**
  + Charge RN: confirm operational readiness for movement and release of human resources (RN, RT, perfusion, MD, etc.)
  + MD: MRP-to-MRP communication prior to departure and for handover once arrived at destination site. Family updated.
  + Perfusionist: confirm have compatible circuit/machinery and/or plan for transfer.
  + RN: communicate current and anticipated medical and resuscitative needs.
  + RT: communicate current and anticipated medical and resuscitative needs.
  + Unit Clerk: fax/copy results to/for accepting site.
* **Transport Team:**
  + MD: MD typically *not* needed for transport. Who is primary contact for on-line medical support if needed during transport.
  + Perfusionist: CRM roles and responsibilities during transfer and transport.
  + RN: CRM roles and responsibilities during transfer and transport.
  + RT: CRM roles and responsibilities during transfer and transport.
  + Paramedic: CRM roles and responsibilities during transfer and transport. Explicitly note if PCP vs CCP crew.
* **Accepting Team:**
  + Charge RN: confirm operational readiness for accepting patient on ECLS.
  + MD: confirm operational readiness for accepting patient on ECLS, including any consulting MD services. Family updated.
  + Perfusionist: confirm have compatible circuit/machinery and/or plan for transfer.
  + RN: confirm ready to receive and support current and anticipated medical and resuscitative needs.
  + RT: confirm ready to receive and support current and anticipated medical and resuscitative needs.
  + Unit Clerk: confirm has received relevant documentation, diagnostic results, contacts and consents.

**Appendix 1: Minimal mobile ECMO equipment for consideration.**

* Suitable blood pump, centrifugal or roller.
* Membrane oxygenator, appropriate for the patient size.
* Device(s) for heating and regulating circuit blood temperature (less critical for adult transports).
* Medical gas tanks, regulators, hoses, connectors, flow meters, and blenders for provision and adjustment of blended sweep gas to the oxygenator.
* Venous and arterial pressure monitoring device(s), according to center-specific practices
* Point-of-care anticoagulation/lab monitoring equipment, as indicated.
* Emergency pump or manual control menchanism in the event of primary pump failure or power failure.
* Uninterruptable power source(s) capable of meeting the electrical power needs of all equipment during transfer between vehicles and in the event of vehicle power source failure *(Note: personnel must be familiar with the voltage, current, and power requirements of all equipment).*
* Portable ultrasound machine, if not provided by the referring facility.