

Berlin Heart **Emergency Algorithms** & Care Guide





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- 1. Transition inflow cannula. inflow connector
- 2. Inflow stub in front of inflow valve
- 3. Inflow valve
- 4. Inflow stub behind inflow valve
- 5. Area between inflow and outflow stubs
- 6. Remaining area of blood chamber
- 7. Transition blood chamber, membrane (directly above reinforcement ring)
- 8. Outflow stub in front of outflow valve
- 9. Outflow valve
- 10. Outflow stub behind outflow valve
- 11. Transition outflow connector, outflow cannula

Optimizing Pump Function

POOR FILL POOR EJECT

CVP (Central Venous Pressure)

- ♣ Hypovolemia * Hypertension Outflow Cannula Obstruction
- 1 Inflow Cannula Obstruction **↑** Tamponade * Right Heart Failure
 - C.O. (Cardiac Output)

↑ Agitation

♣ Agitation

- ♣ Hypovolemia ♣ Inflow Cannula Obstruction
- ♣ Tamponade ♣ Right Heart Failure

Hypovolemia: Give Fluid Inflow Cannula Obstruction: Evaluate Further Tamponade: Surgical Drainage

Right Heart Failure: +/- Nitric Oxide & Inotropes

Agitation: Pain Control/

Afterload

PUMP FIXES

Decrease Rate Increase Diastolic Pressure Decrease % Systole

Increase Systolic Pressure Increase % Systole

♣ Outflow Cannula Obstruction

Outflow Cannula Obstruction:

Berlin Heart CPR

Unresponsive Patient Assess for a palpable pulse!

Pulse Absent Pulse Present

Assess pump Immediately begin chest compressions! membrane · Follow PALS protocol movement including defibrillation . DO NOT CLAMP CANNULAE

Assess for other causes of unresponsiveness:

- Stroke
- Hypoglycemia Sedative use Hypoxemia

Assess the following: · Is the membrane moving, filling/ ejecting adequately?

- · Are cannulae or driveline kinked?
- · Is the IKUS powered & functioning? If IKUS not functioning, use manual hand
- pump until back-up IKUS powered and ready for use. • Hand pump at a rate of 60–80 bpm
- · Recheck pulses Pulse Absent? Pulse Present?
- · Resume chest compressions immediately! · Follow PALS protocol

Notify Cardiovascular Surgery Consider ECMO



Hand pump

at a rate of

60-80 bpm





