Postcardiotomy Cardiogenic Shock: A Time-Dependent Trajectory

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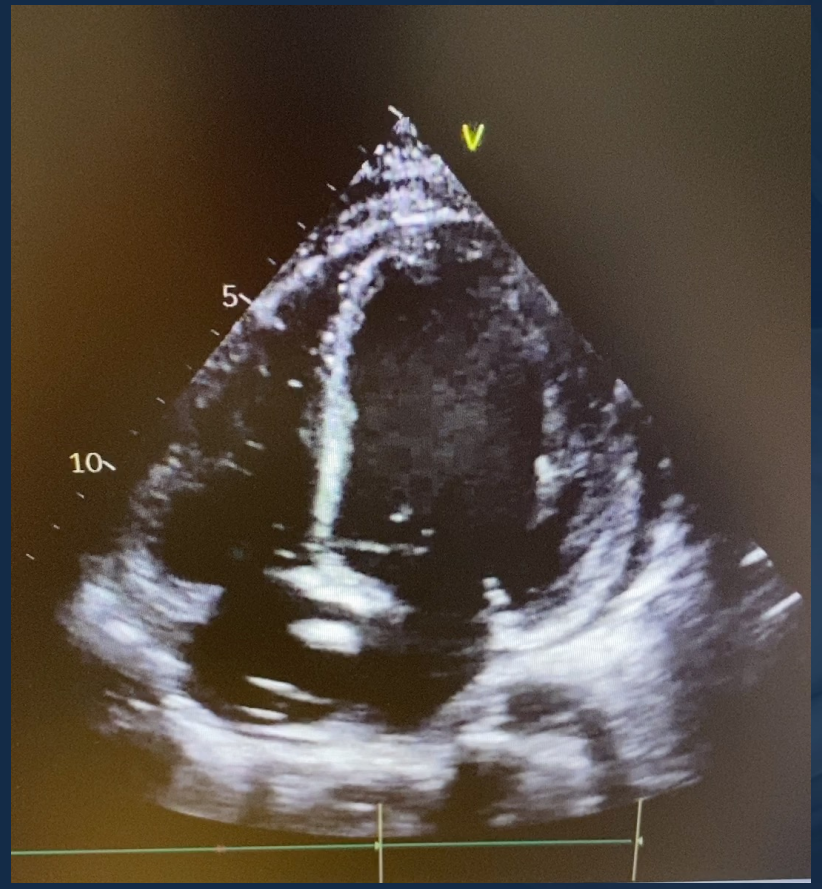
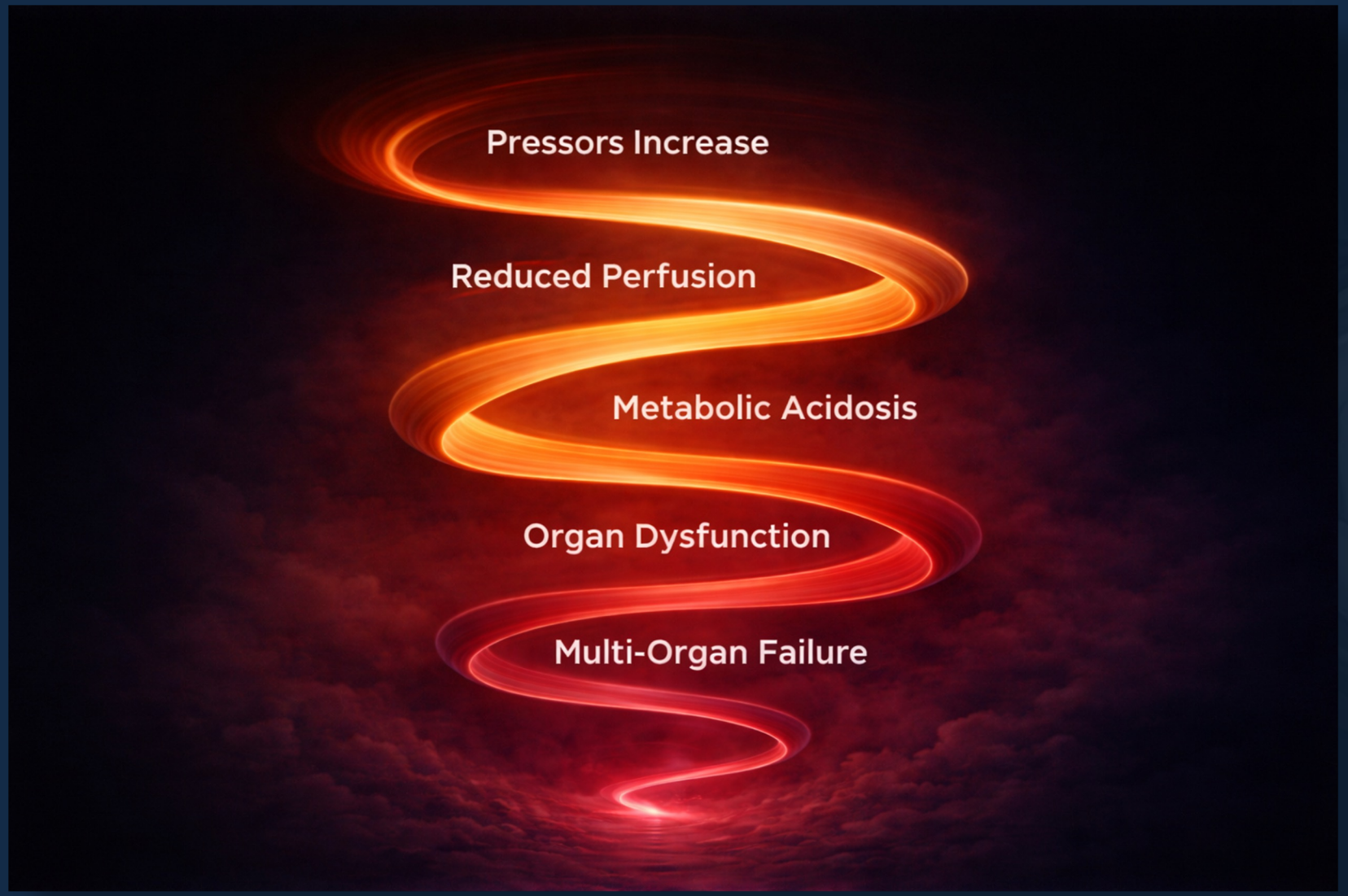
No disclosures

Why This Matters

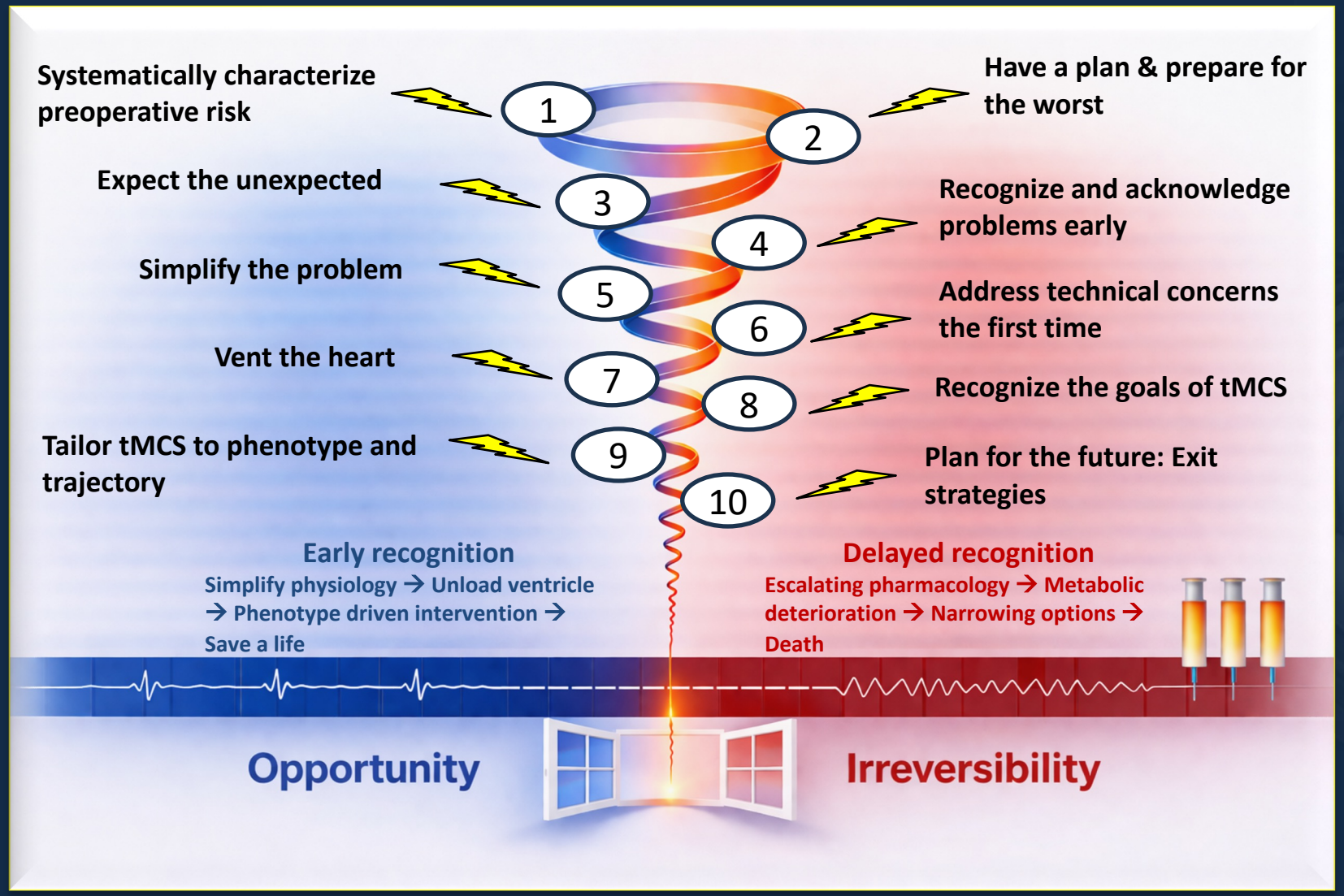
- PCCS = high mortality complication
- Occurs intraop or early postop
- Outcomes highly variable



What is PCCS (Clinically)



Philosophical Approach to PCCS



10 Principles of PCCS Management

PRINCIPLE	INFLECTION POINT	OBJECTIVE
1. Systematically characterize preoperative risk	Preoperative evaluation and surgical candidacy assessment	Identify patients at elevated risk and inform candidacy and planning
2. Have a Game Plan and Prepare for the Worst	Anticipate high-risk operation or limited reserve	Enable preparedness and avoid reactive escalation
3. Expect the Unexpected	Intraoperative course deviates from the anticipated risk	Preserve opportunity for early intervention
4. Recognize and Acknowledge Problems Early	Inability to liberate from bypass or marginal stability	Prevent progression to refractory shock
5. Simplify the Problem by Addressing 'Noise'	Hemodynamic instability with competing physiology	Clarify dominant driver of shock
6. Address Technical Concerns the First Time	Suspected procedural or structural contributor	Eliminate correctable mechanical causes
7. Vent the Heart	Ventricular distention or elevated filling pressures	Reduce wall stress and ischemic injury
8. Recognize the Goals of tMCS	Failure of pharmacological support	Stabilize physiology with direction
9. Tailor Device Support to the Ventricular Phenotype and Clinical Trajectory	Need for definitive mechanical support	Provide adequate support while minimizing harm
10. Plan for the Future: Exit Strategies, Recovery, and Futility	Stabilization achieved or prolonged support anticipated	Preserve optionality and align care with prognosis

Before the Case:
Identify Risk & Prepare

PATIENT

Who is the patient?

- Frailty
- Comorbidities

HEART

What is the cardiac status?

- Function
- Hemodynamics

OPERATION

What will the operation involve?

- Complexity

PREPARATION

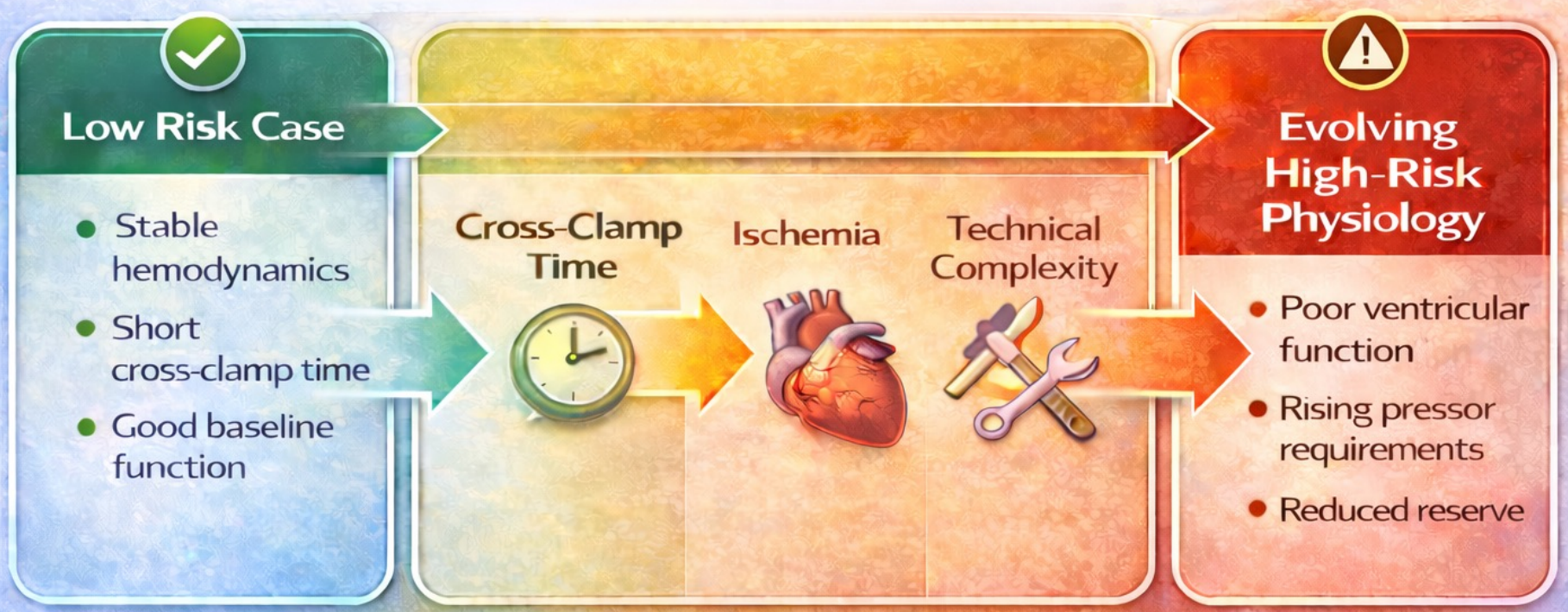
Access Strategy

Device Availability

Team Alignment

PREPAREDNESS PREVENTS CRISIS

Intraoperative Risk Evolves



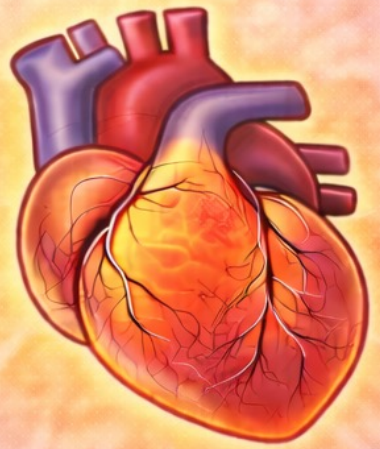
Risk is dynamic — it evolves intraoperatively

Recognize Deterioration Early

☛ Trend > threshold

Simplify Physiology – Eliminate 'Noise'

- ✓ Hypoxia
- ✓ Acidosis
- ✓ Electrolytes
- ✓ Arrhythmias
- ✓ Bleeding
- ✓ Vasoplegia



👉 **Eliminate** reversible **noise**

Correction ≠ recovery

Do not delay escalation

Streamlined

Address Technical Problems the First Time

Vent the Heart

Decompress. Unload. Protect.

Why Vent?

Reduces LV Distension
Relieves pressure and improves filling.

Lowers Wall Stress and Oxygen Demand
Protects the recovering heart.

Improves Pulmonary Hemodynamics
Reduces congestion and venous pressures.

Unload early

tMCS is a Strategy, not a Rescue

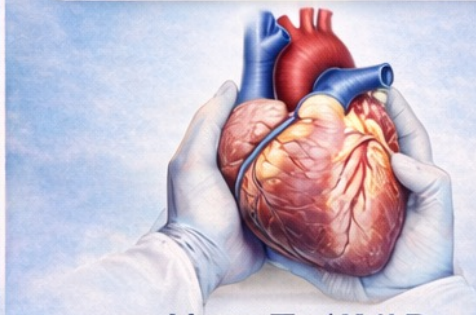
- Define the intent
  - Recovery vs Bridge to Advanced Therapies vs Palliation
- Match the device to the pathophysiological phenotype
  - LV vs RV vs BiV
  - Pulmonary dysfunction
  - Ventricular unloading
- Right support, right patient, right time!!!!!

Plan the Exit Early

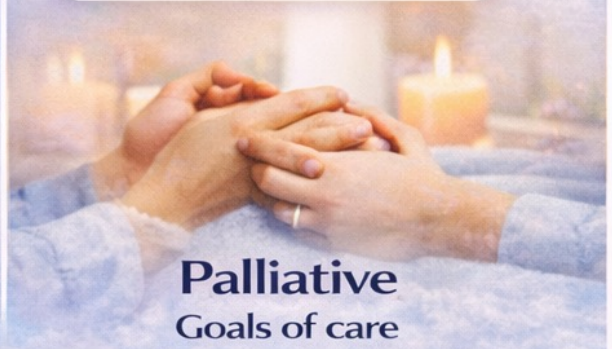
Define Intent Early

Recovery	Durable	Palliative
Wean support	Heart Tx / LVAD	Goals of care

Recovery
Wean support



Heart Tx / LVAD



Palliative
Goals of care

Early HF involvement • Transfer if needed

Recovery may be delayed (weeks, not days)

Take Home

PCCS is a trajectory – not an event!!!

- Early recognition determines outcomes
- Simplify the physiology
- Fix it the first time
- Unload early
- Support must have intent and an exit strategy

Thank You

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