



LVAD, the solution to a stagnant transplant practice

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**Advances in Cardiac Arrhythmias and Great
Innovations in Cardiology**

Turin

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Presenter Disclosure Information

Relevant Financial Relationship(s)

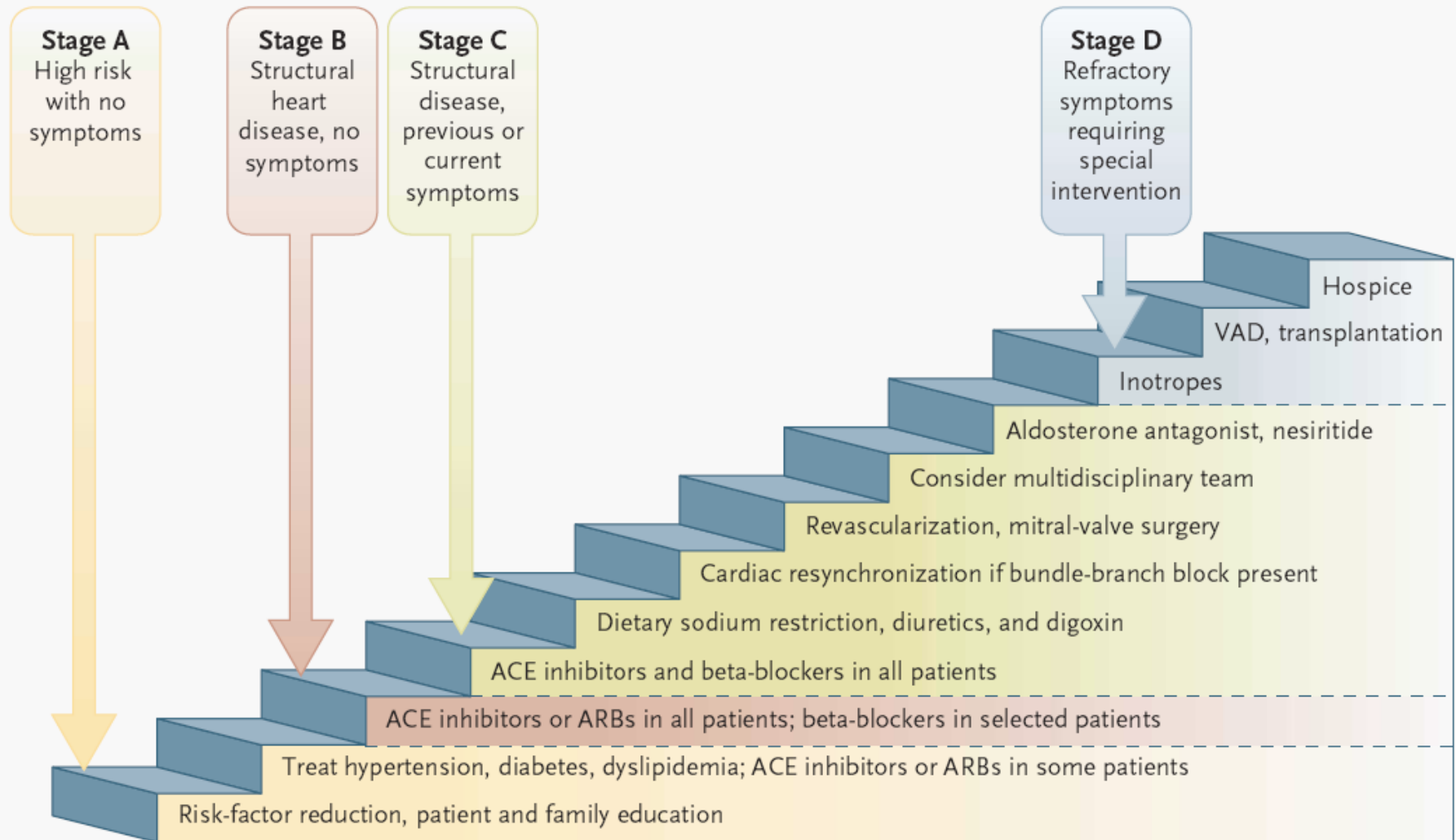
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Off Label Usage

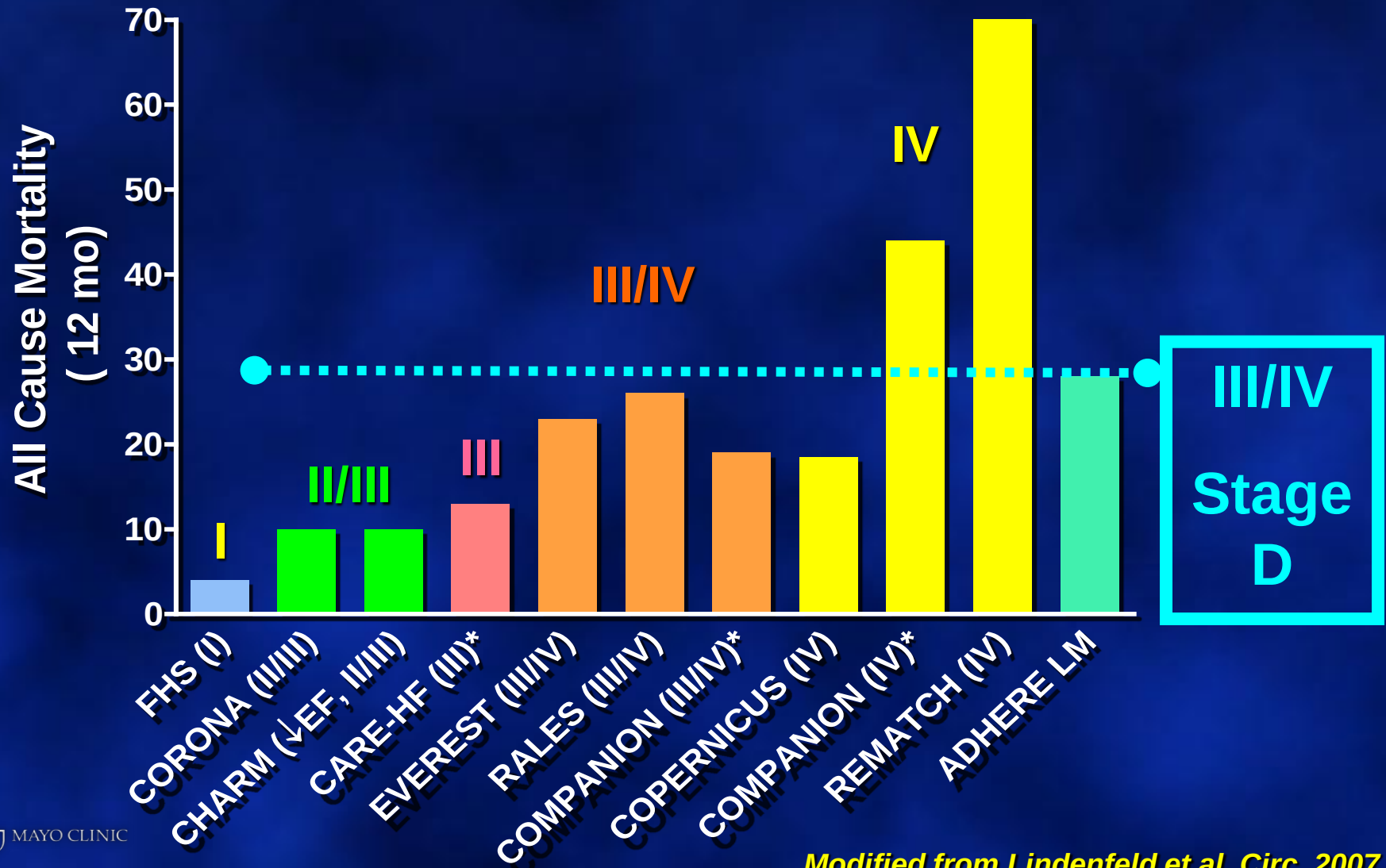
No

What is and why LVAD?!?

The Traditional HF Treatment Model



Mortality in Trials by NYHA Class Despite Contemporary Optimal Management

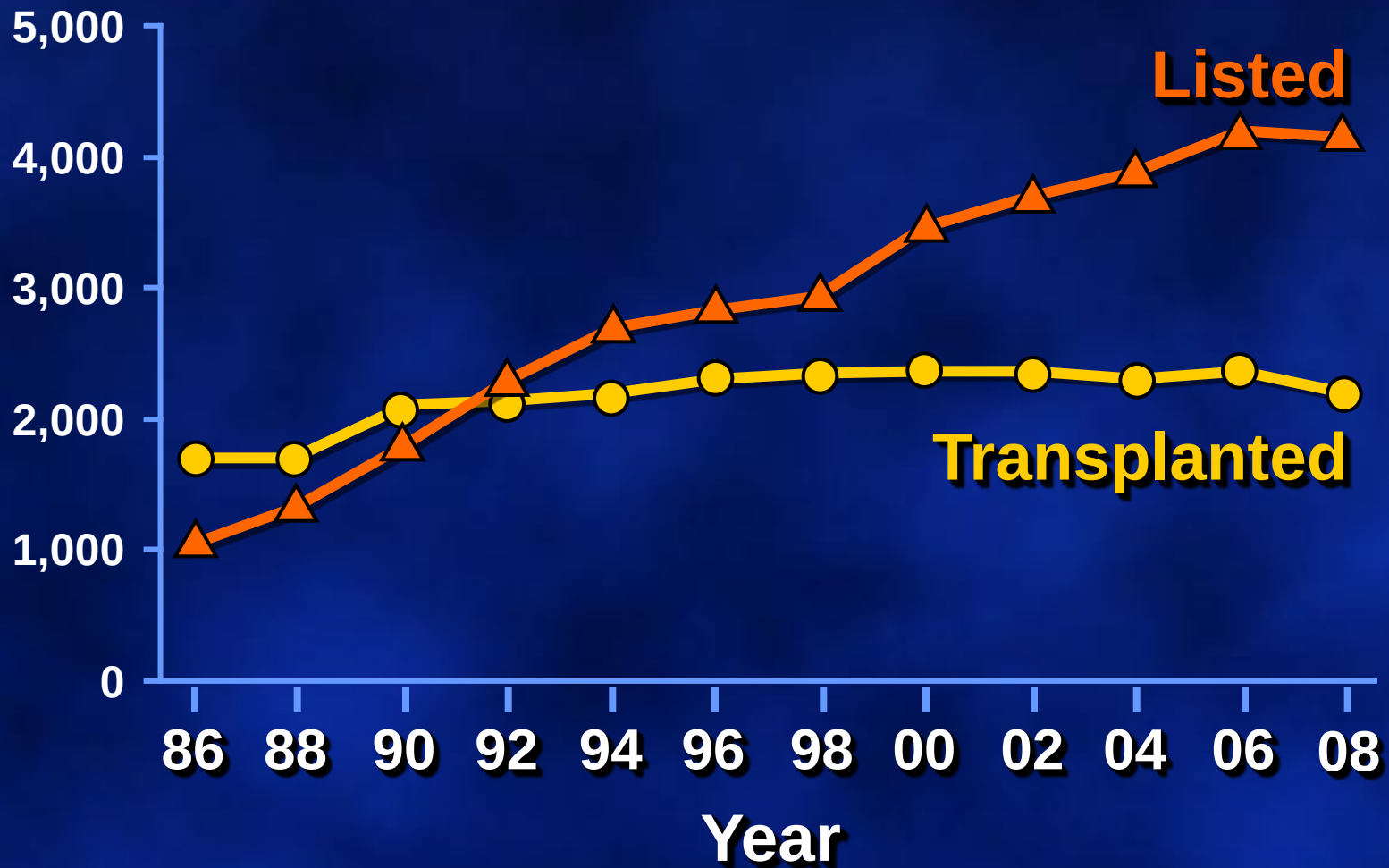


Cardiac Transplantation

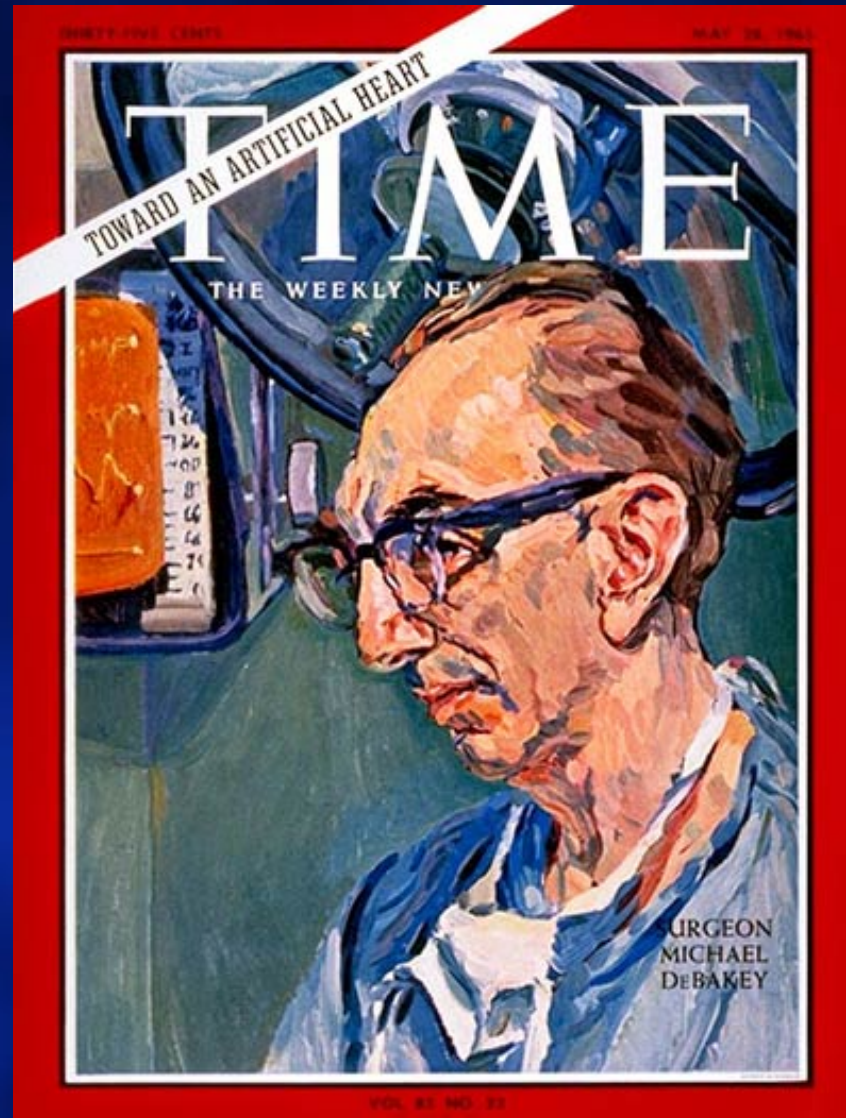


..gold standard in cardiac replacement therapy

Transplanted vs Waiting List



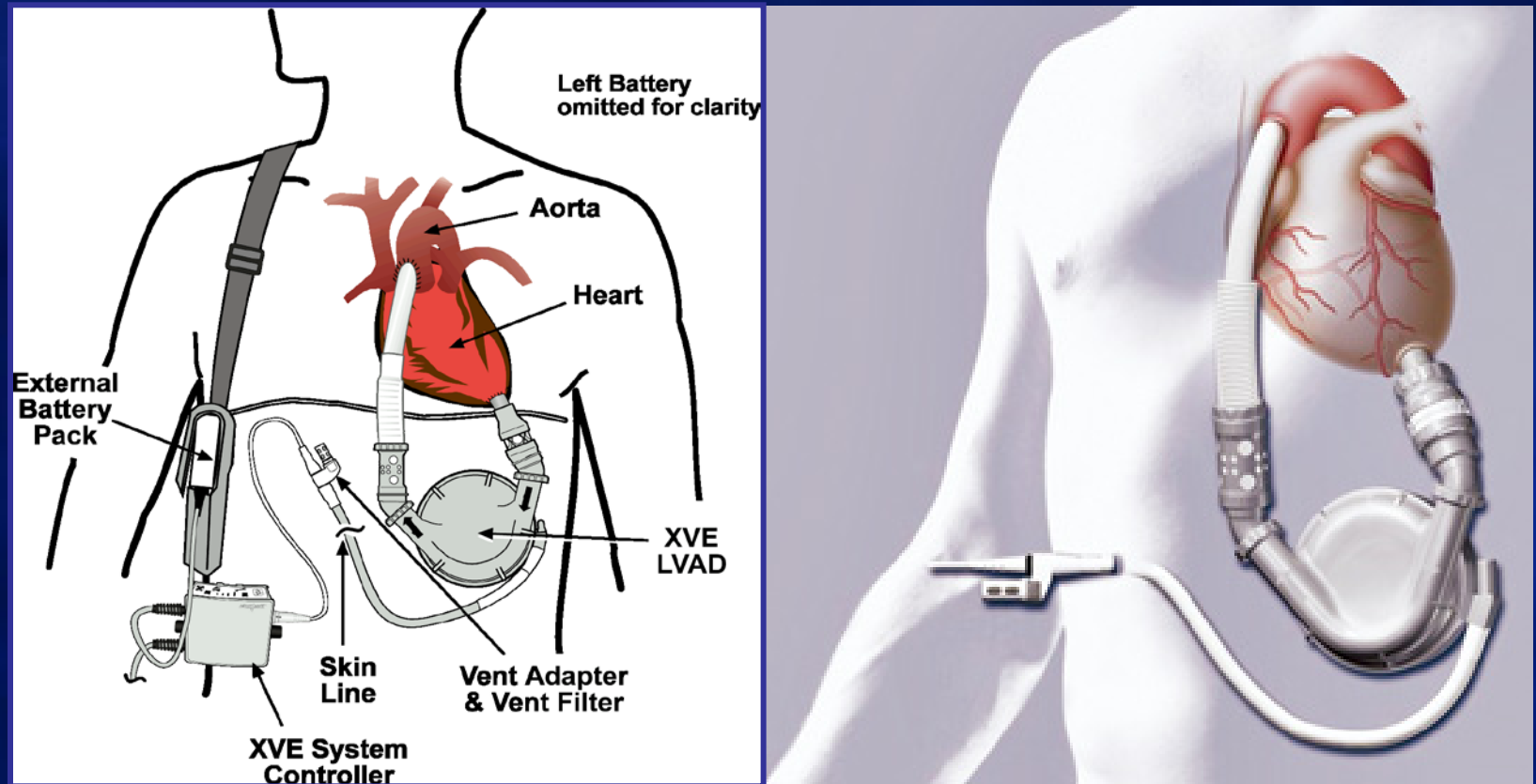
Mechanical Support



Heartmate XVE



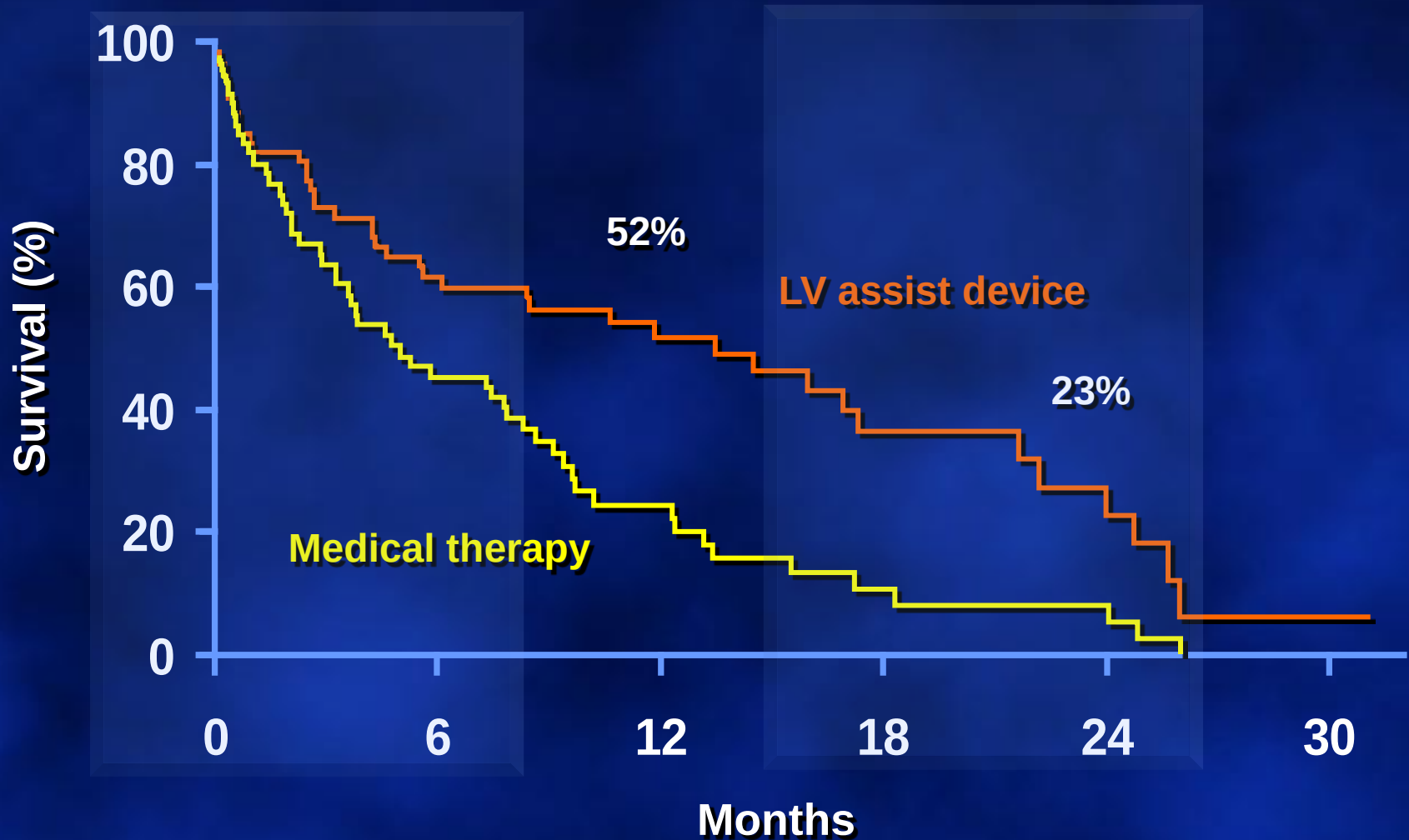
Heartmate XVE



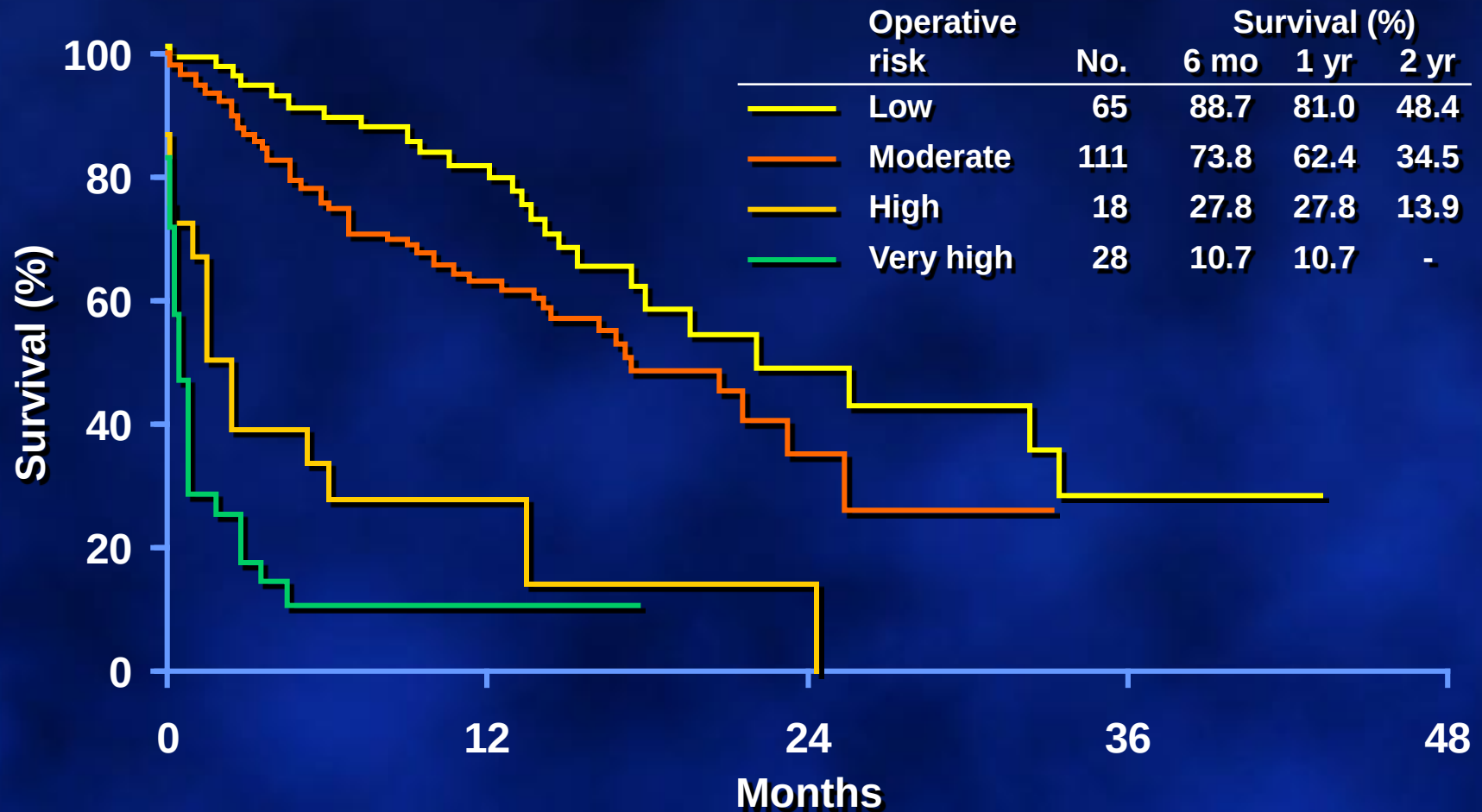
1994 FDA approval as Bridge To Transplant

REMATCH Trial of HM I as Destination Therapy

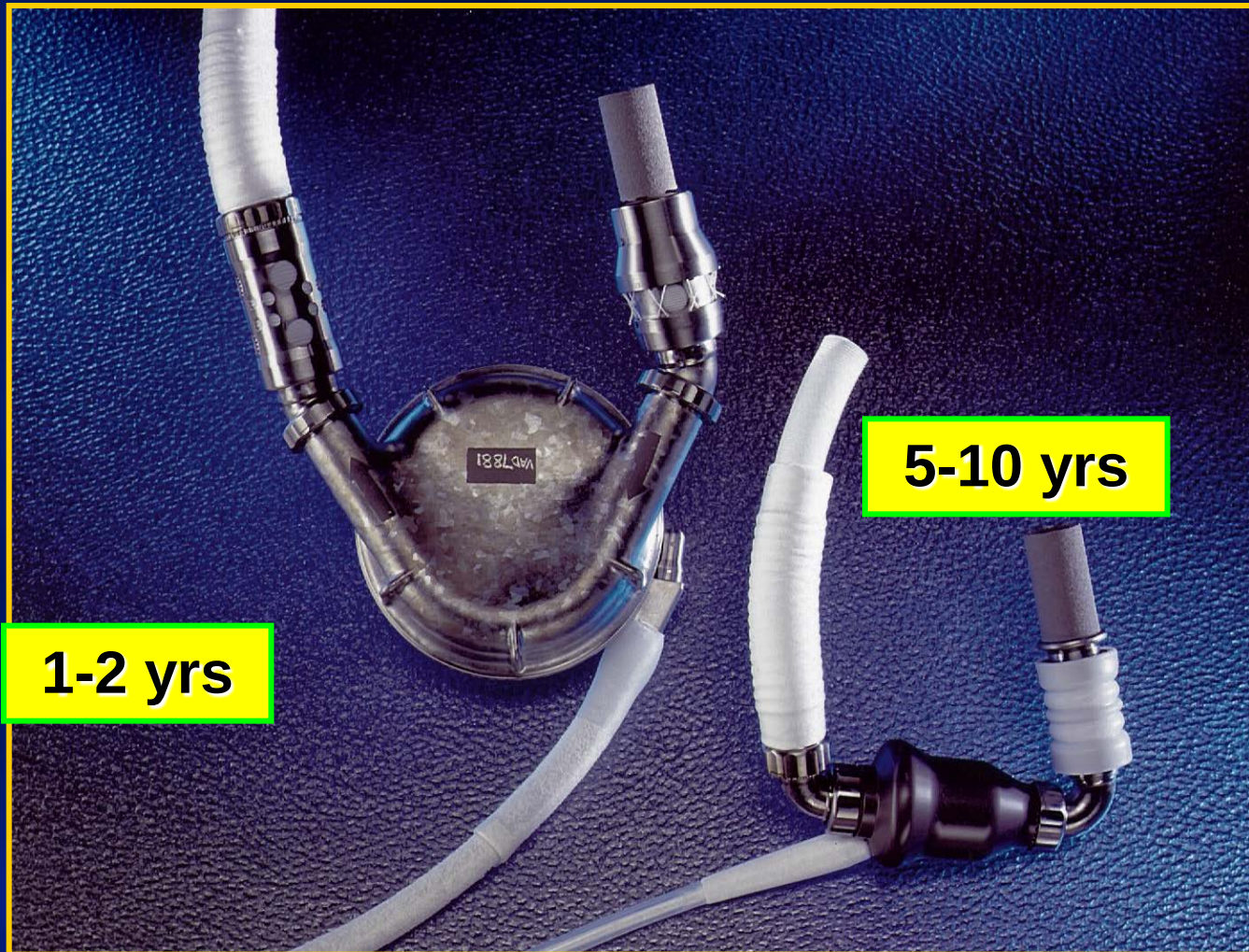
Mean Age = 69 years



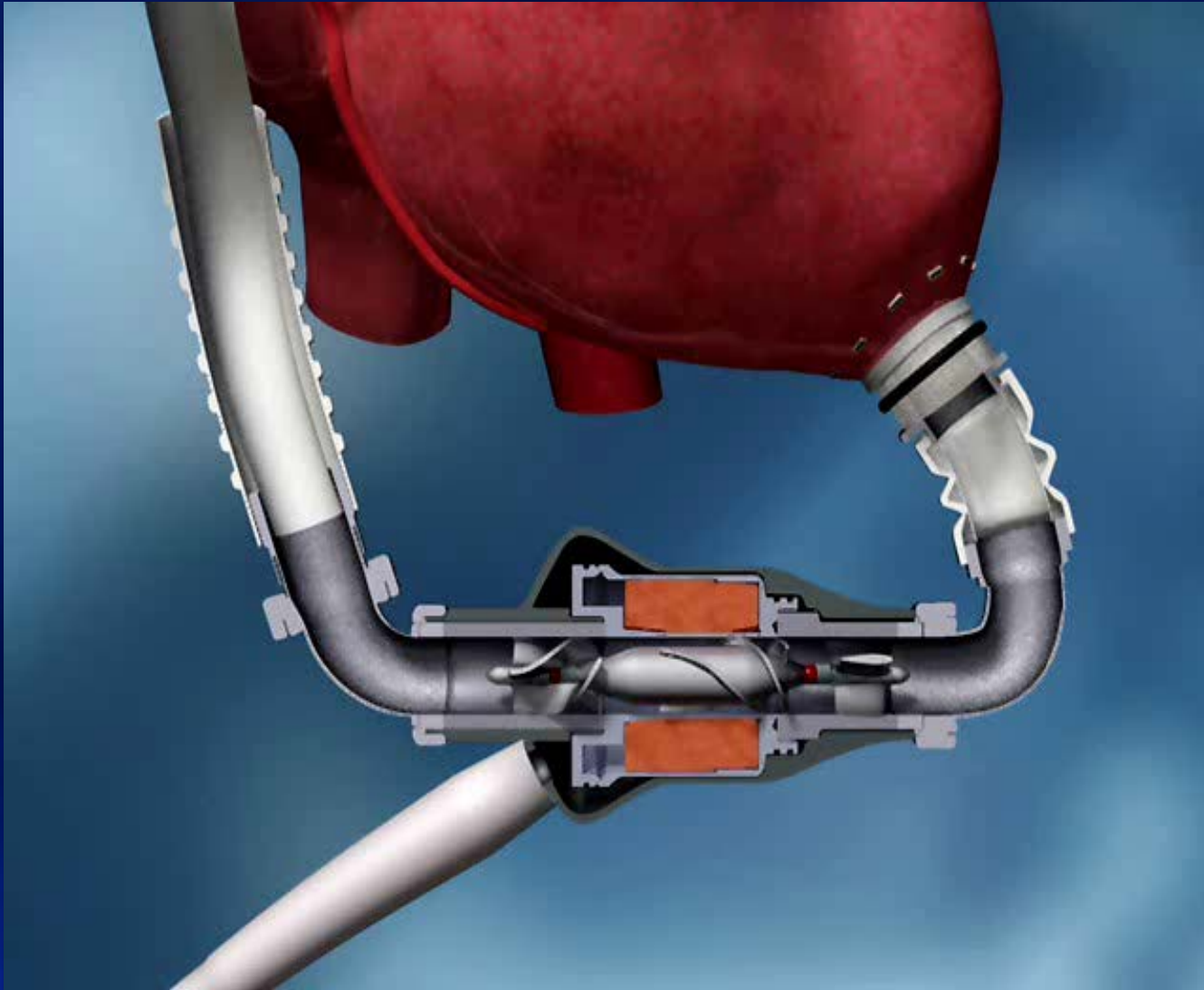
Survival After LVAD (HM-I) Implantation as DT by Candidate's Operative Risk



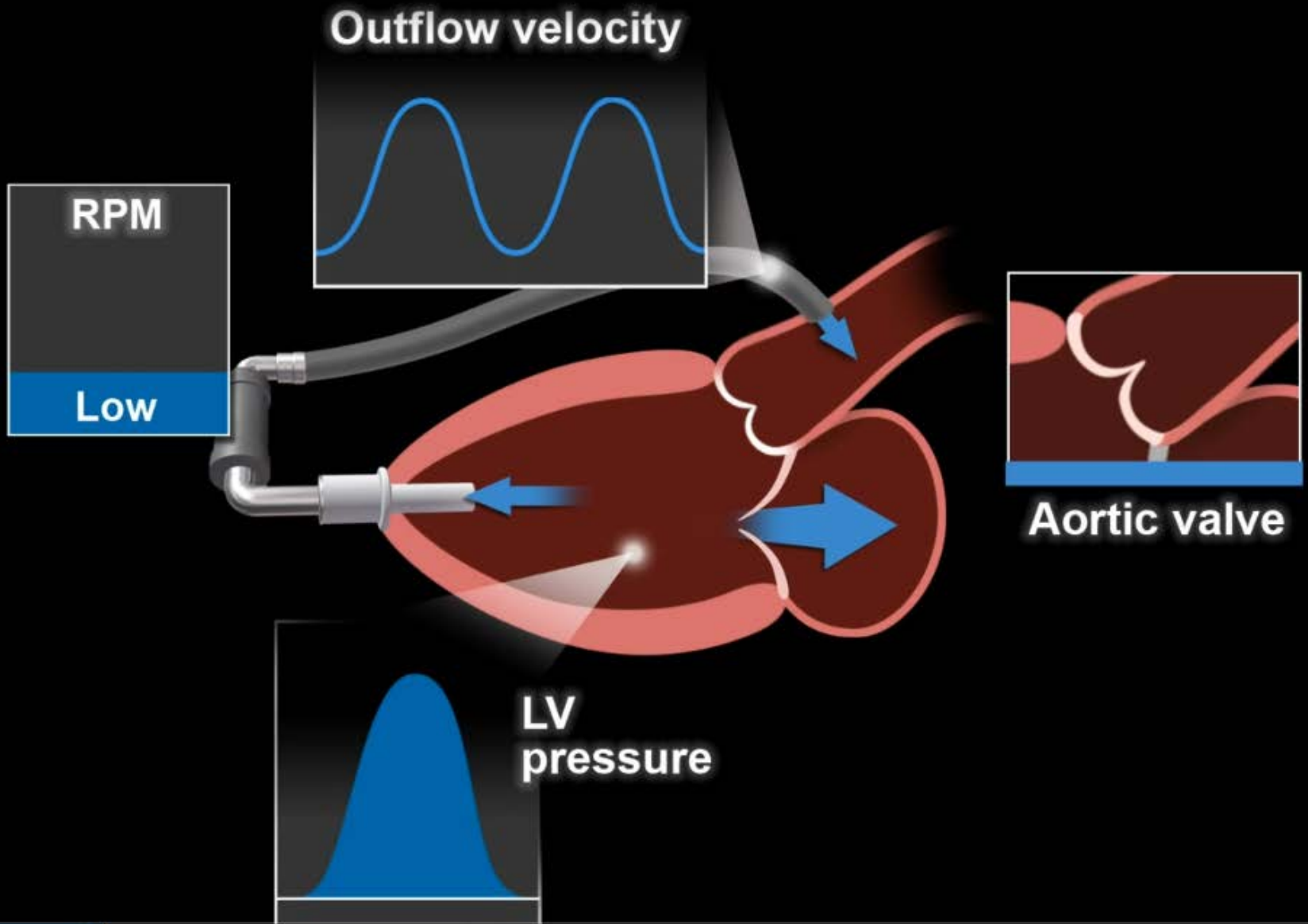
Comparison HeartMate XVE & HeartMate II



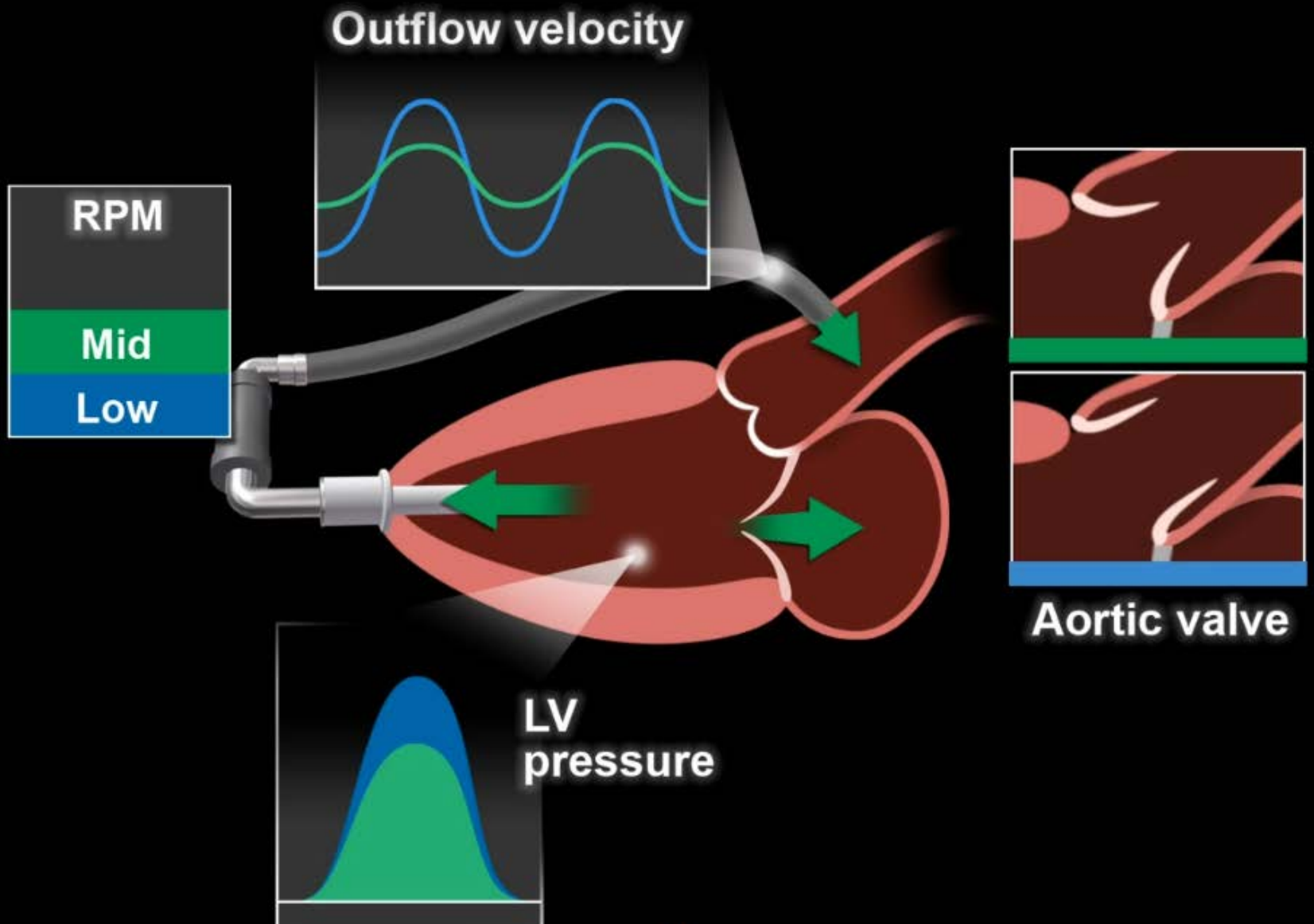
HeartMate II LVAD



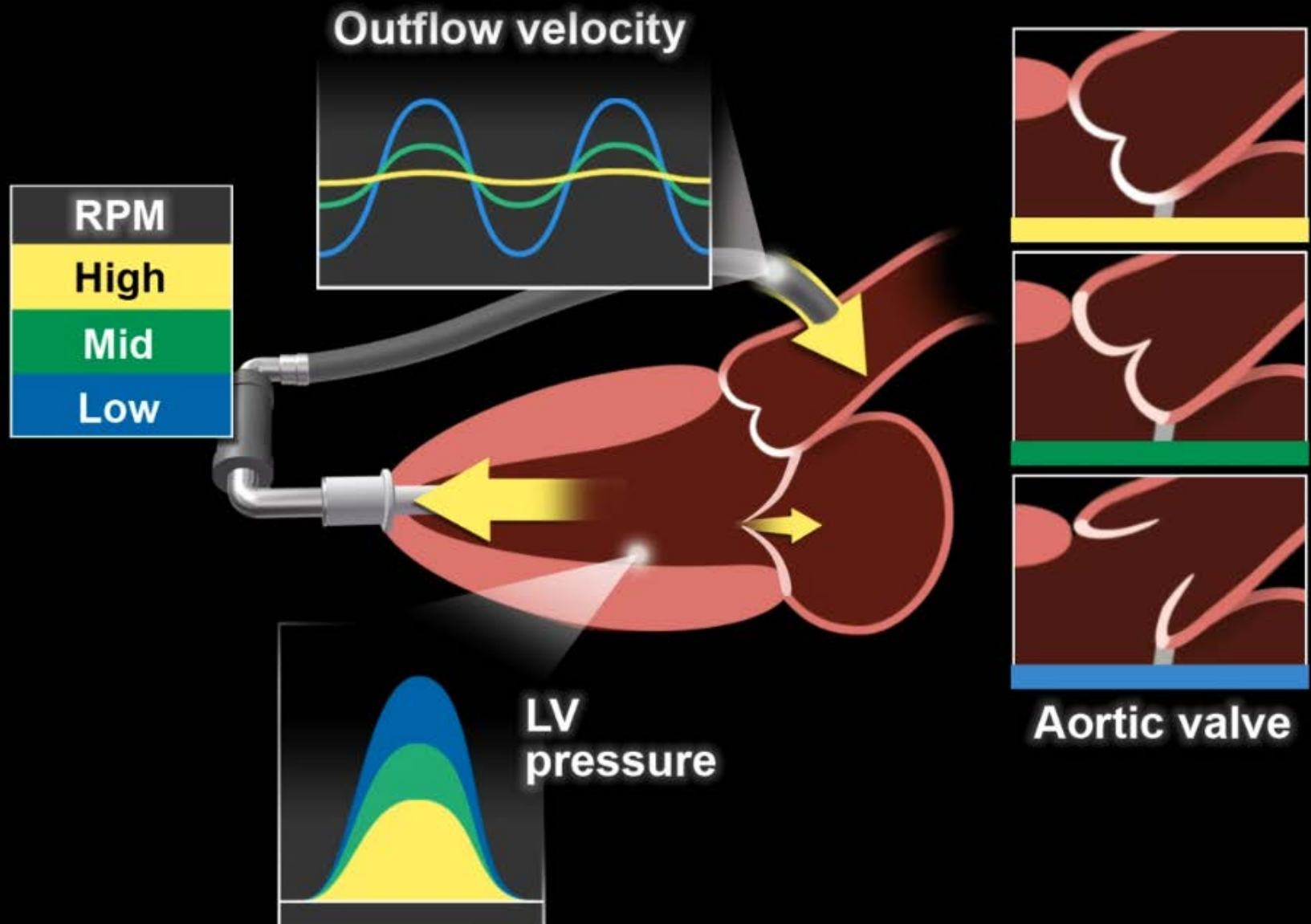
How an LVAD works



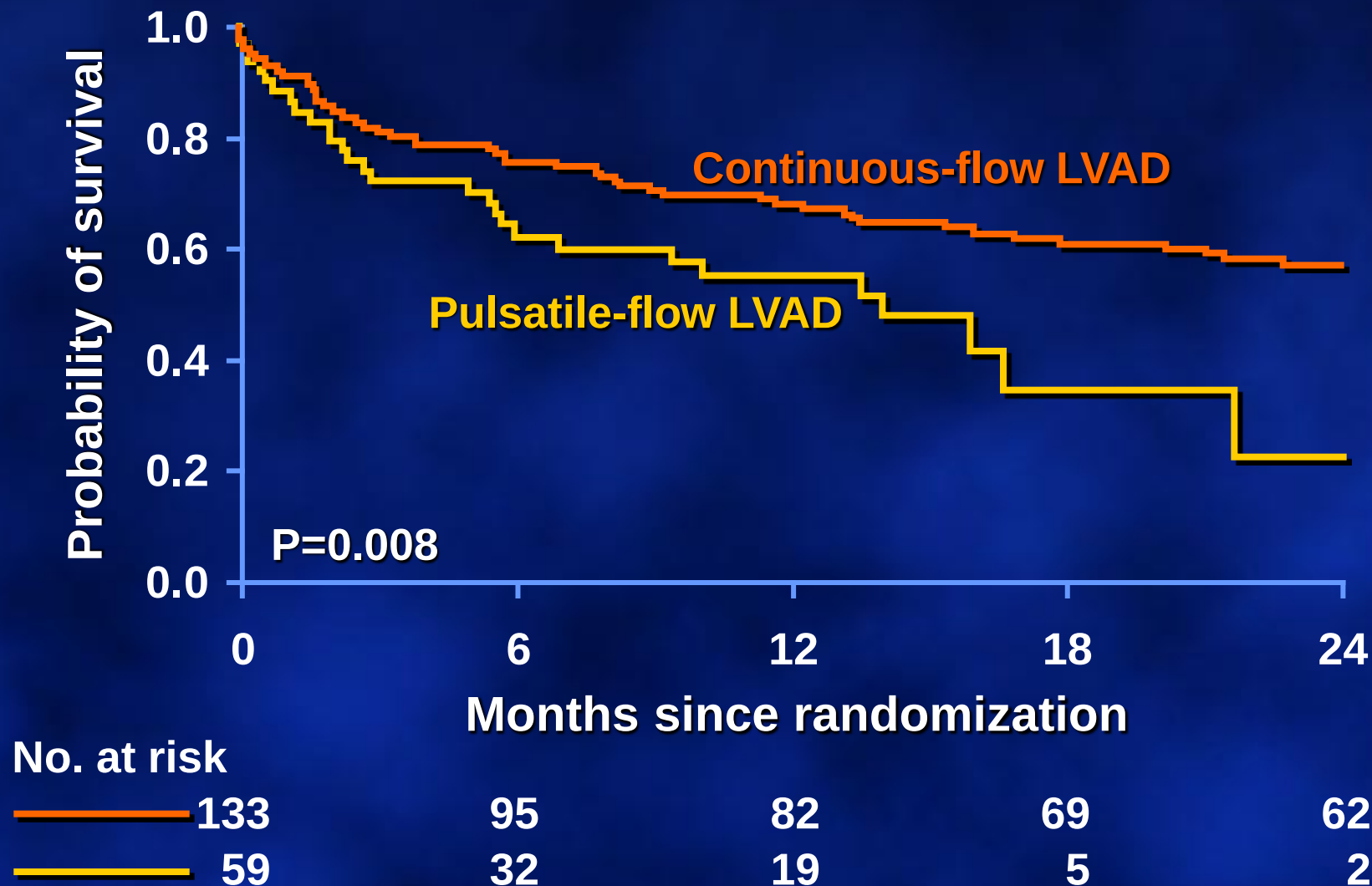
How an LVAD works



How an LVAD works

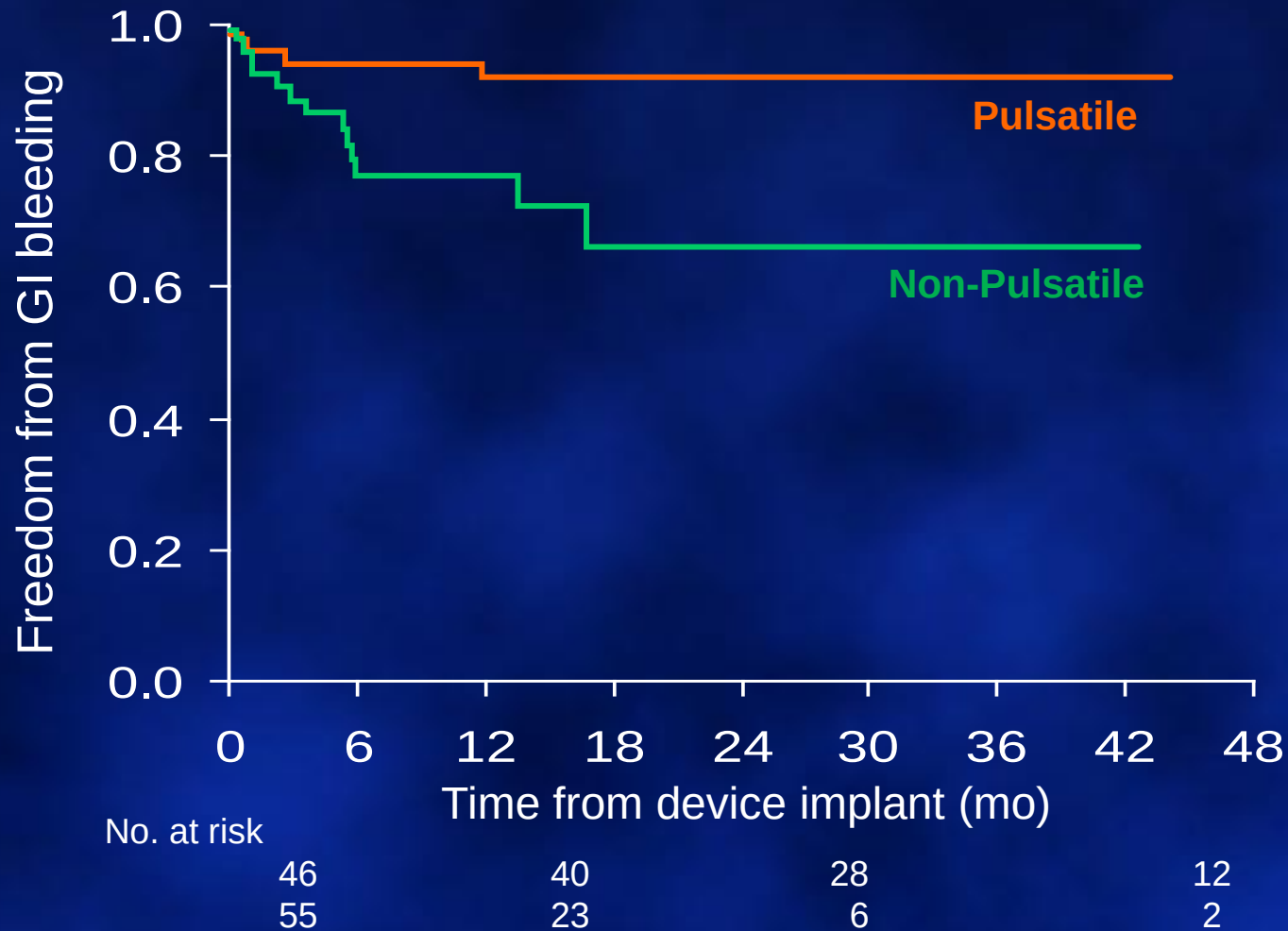


Heartmate II



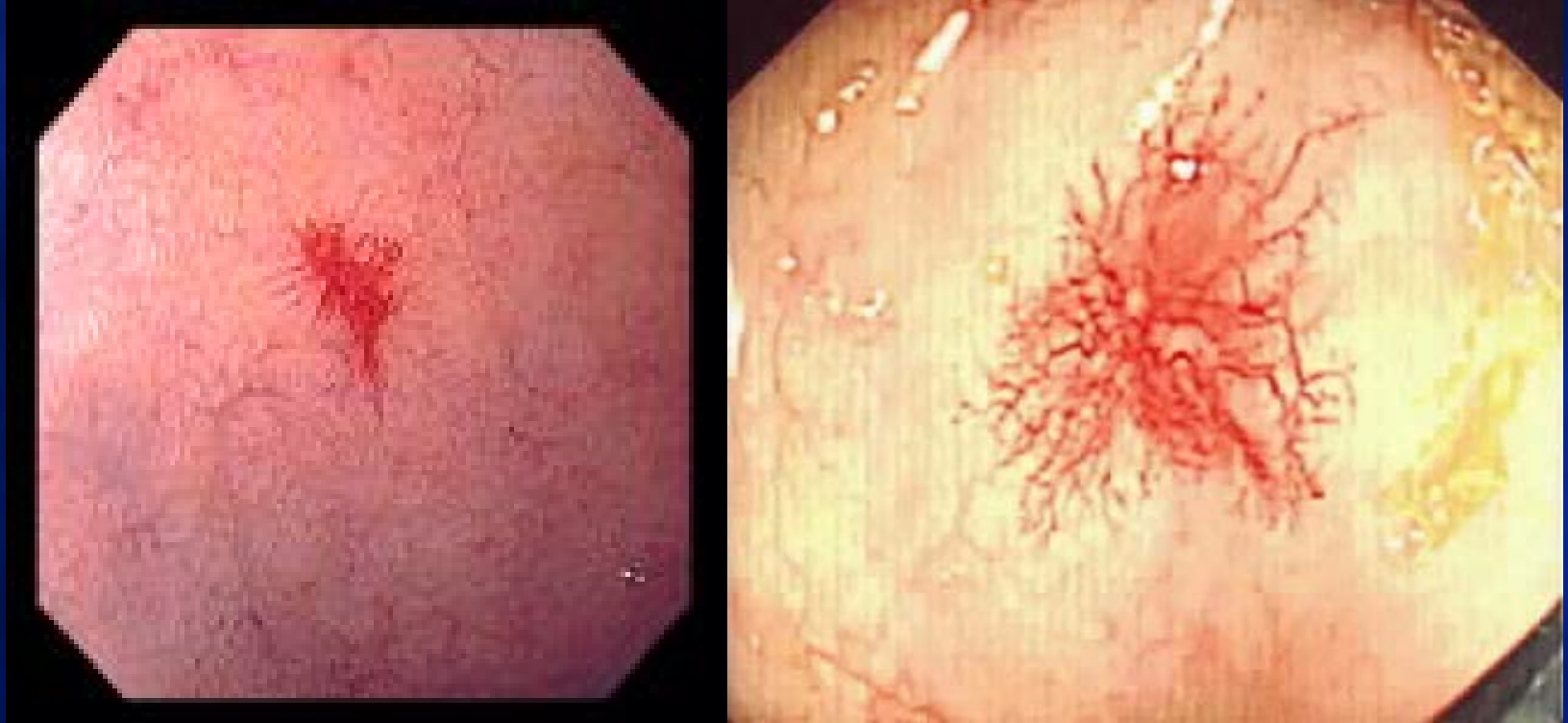
Practical issues and complications

GI bleeding



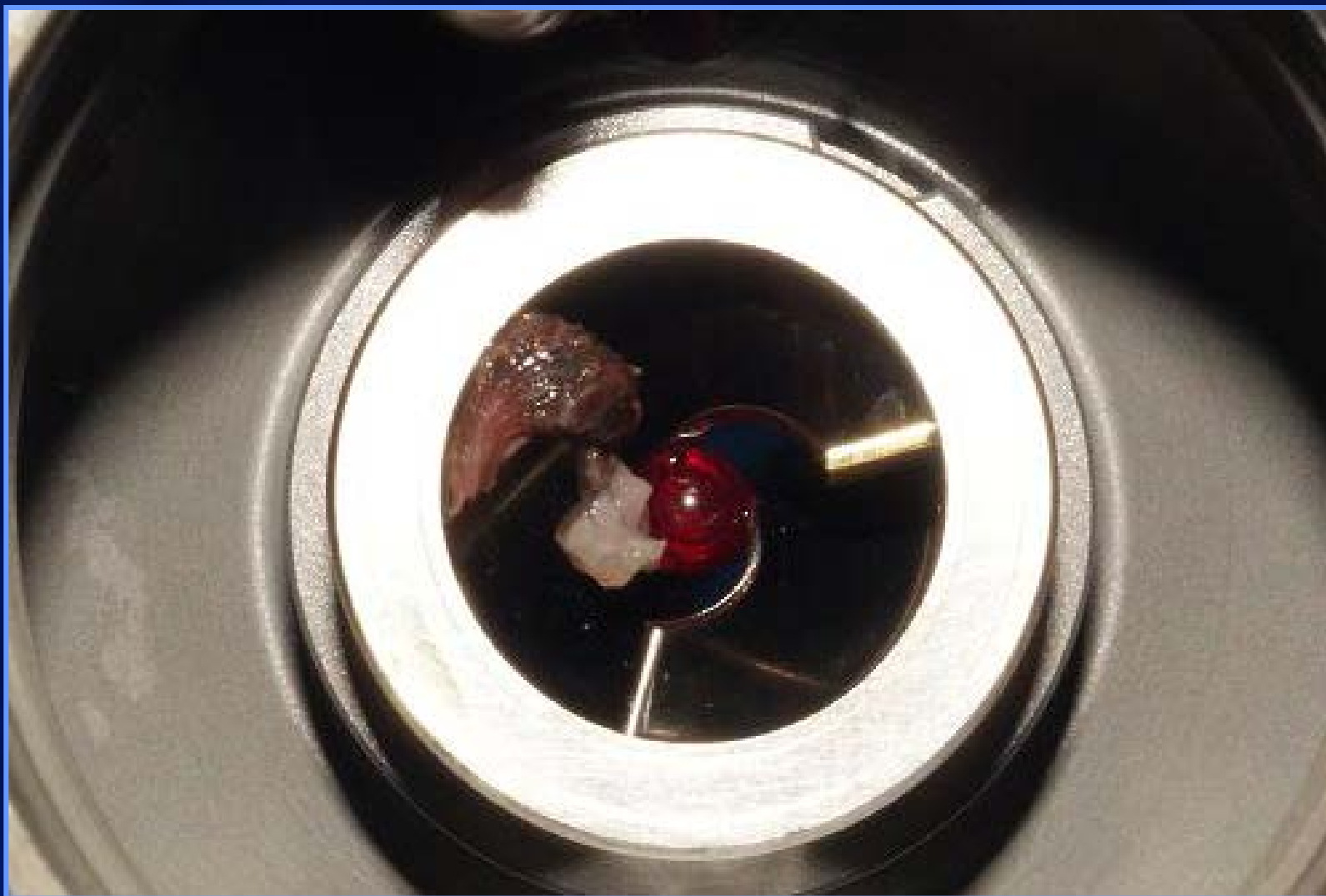
The Journal of Thoracic and Cardiovascular Surgery , April 2009

Dieulafoy lesions

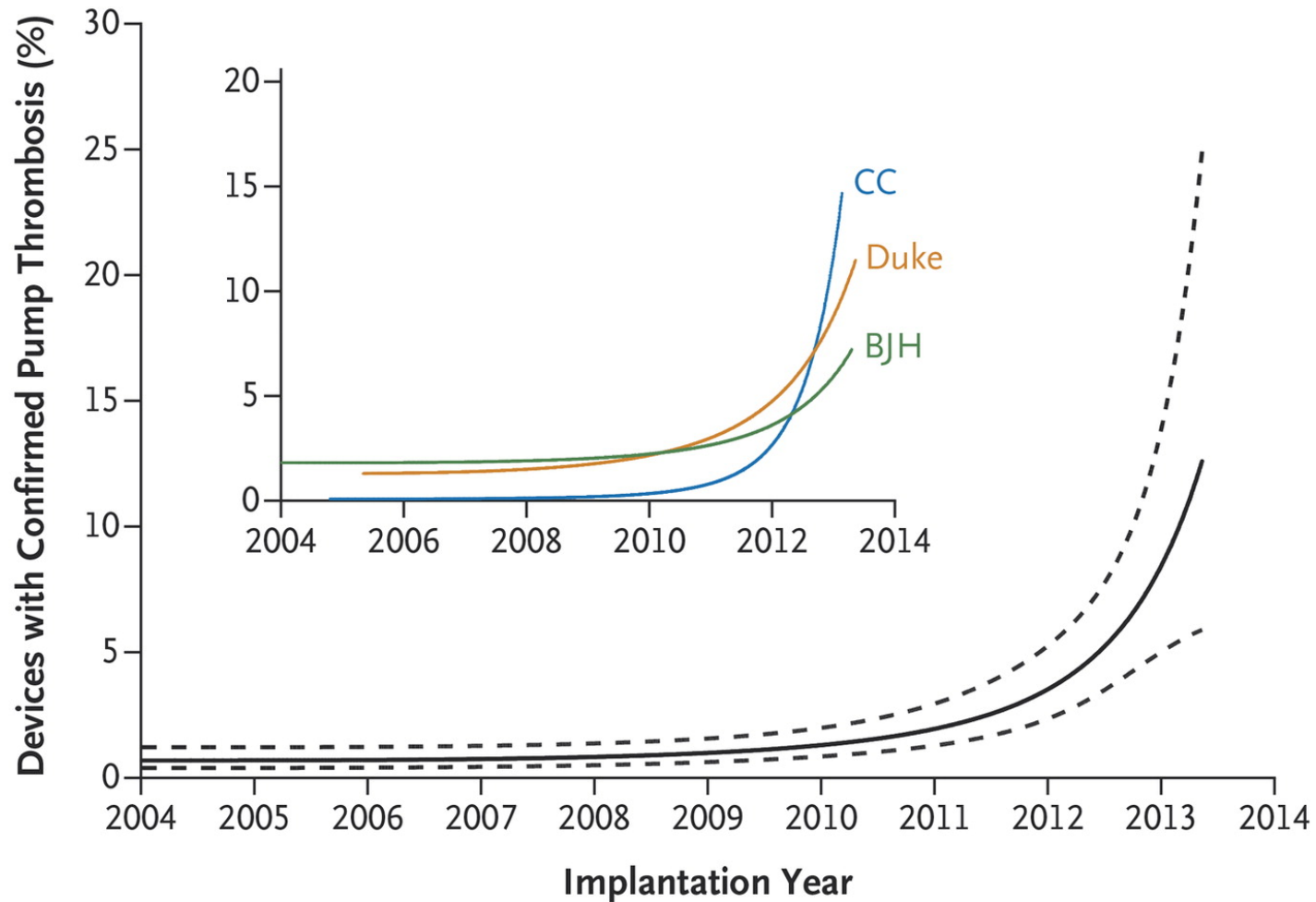


Driveline infection

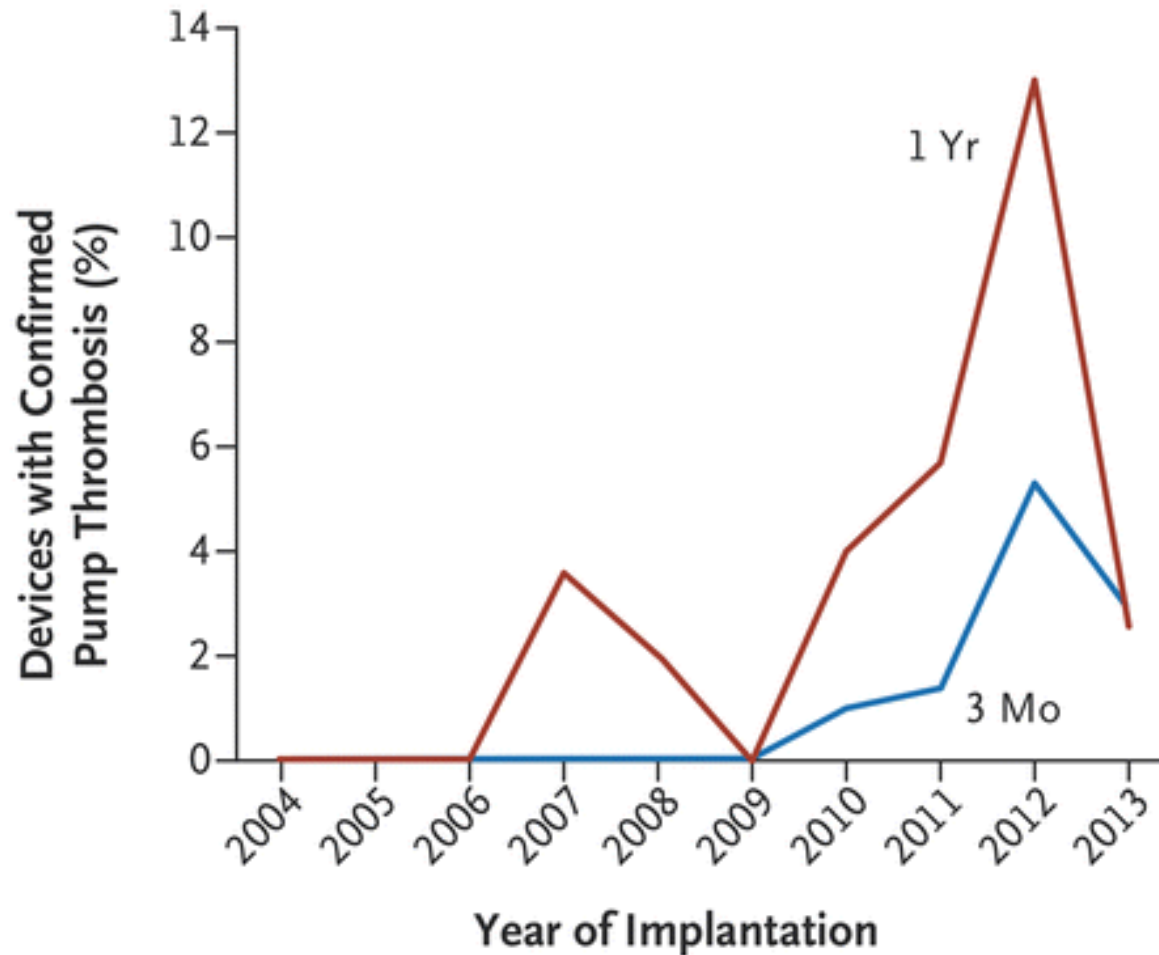




Heartmate II thrombosis



Heartmate II thrombosis



Stulak et al. N Engl J Med 2014; 370:1467-1468

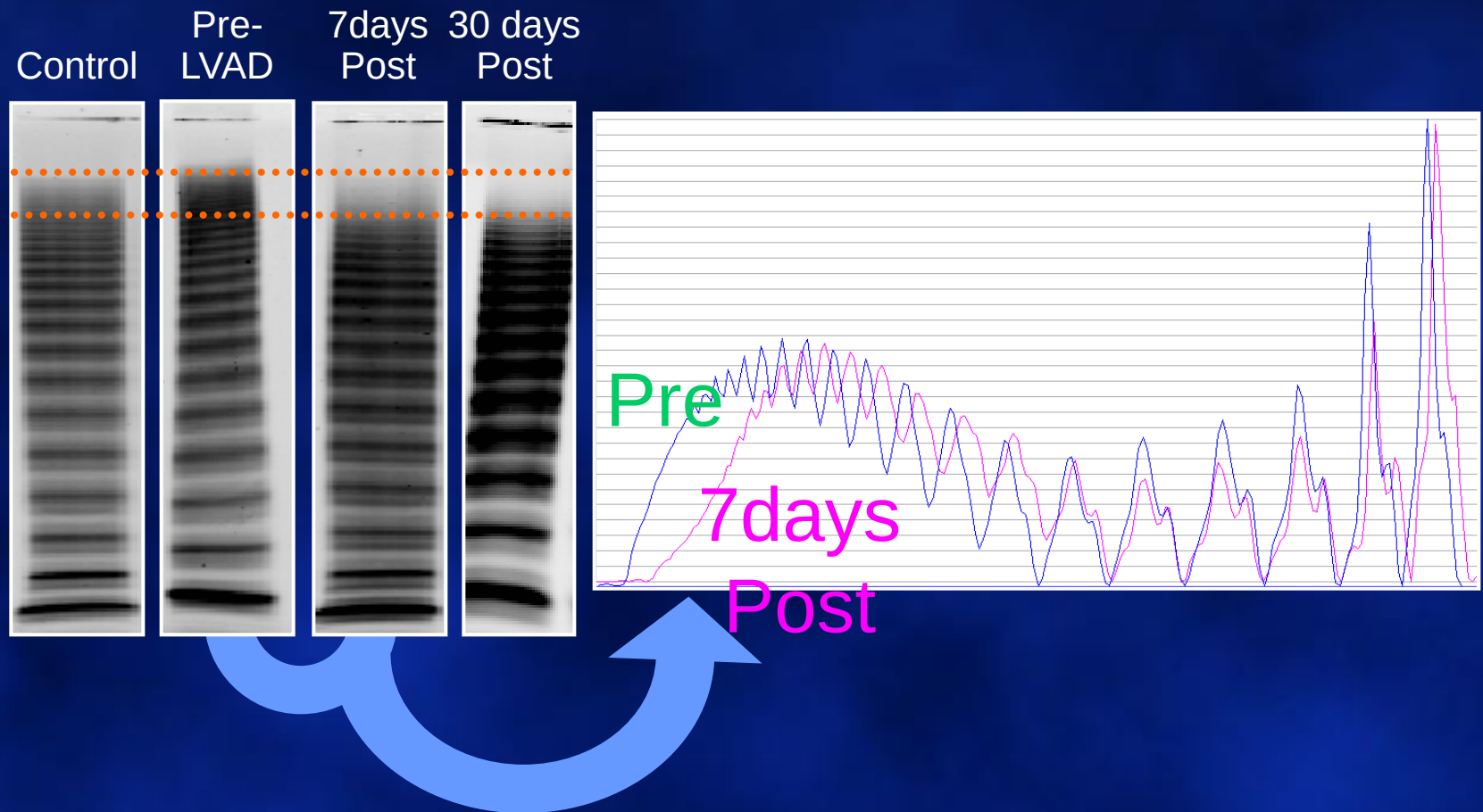
Embolic Stroke



Hemorrhagic Stroke

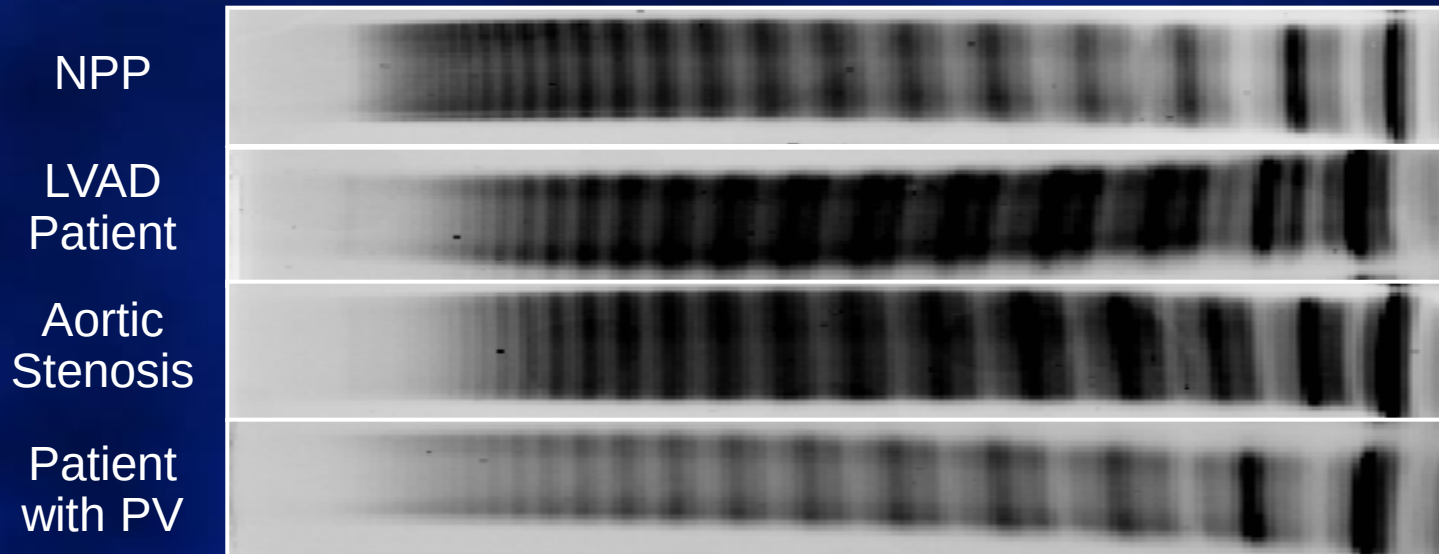


Bleeding – vWF factor deficiency



VWF: Hydes Syndrome (Loss of High Molecular Weight Multimers)

VWF Multimer Electrophoresis

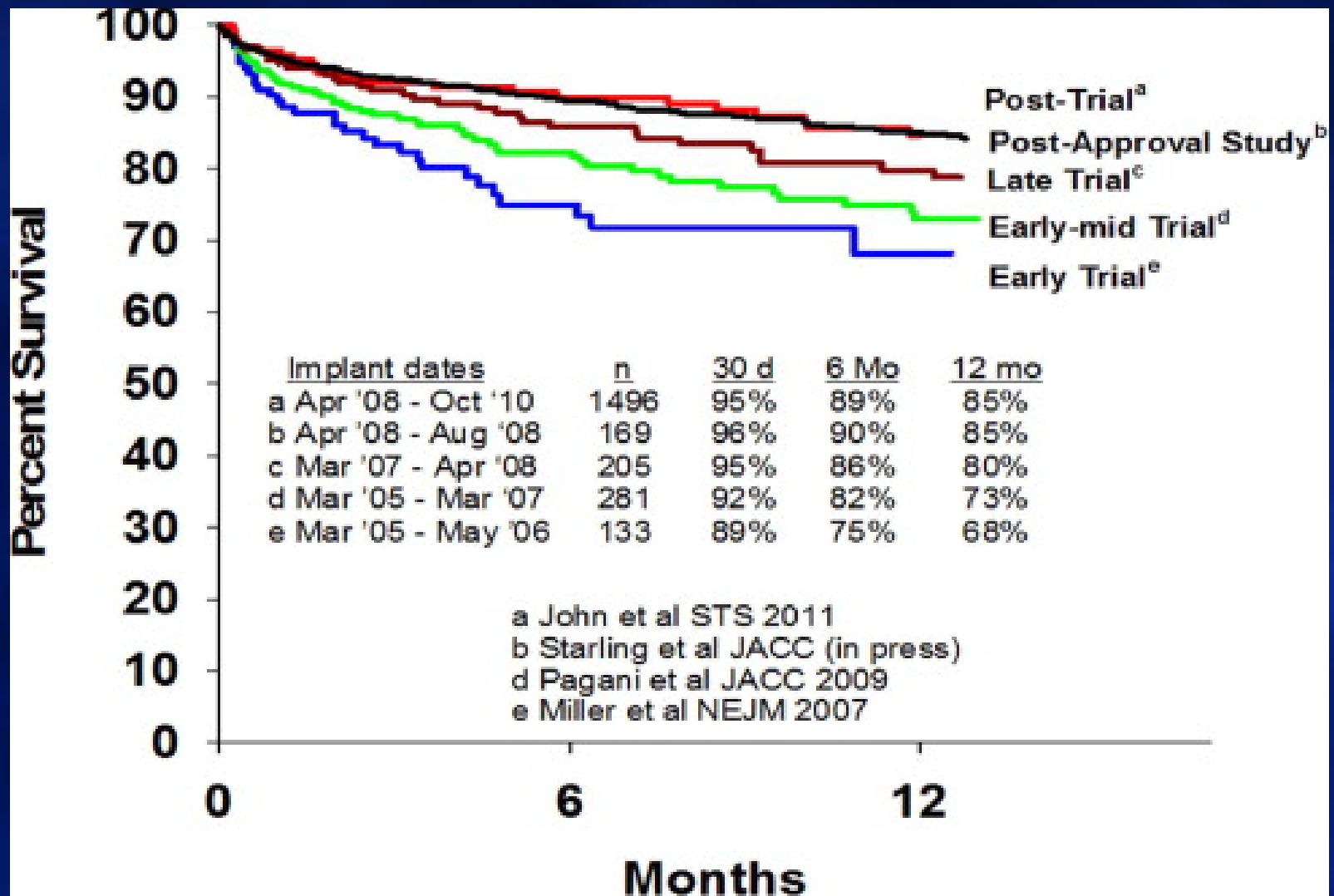


Chen et al: Thrombos & Hemostasis, 2011

RV Failure

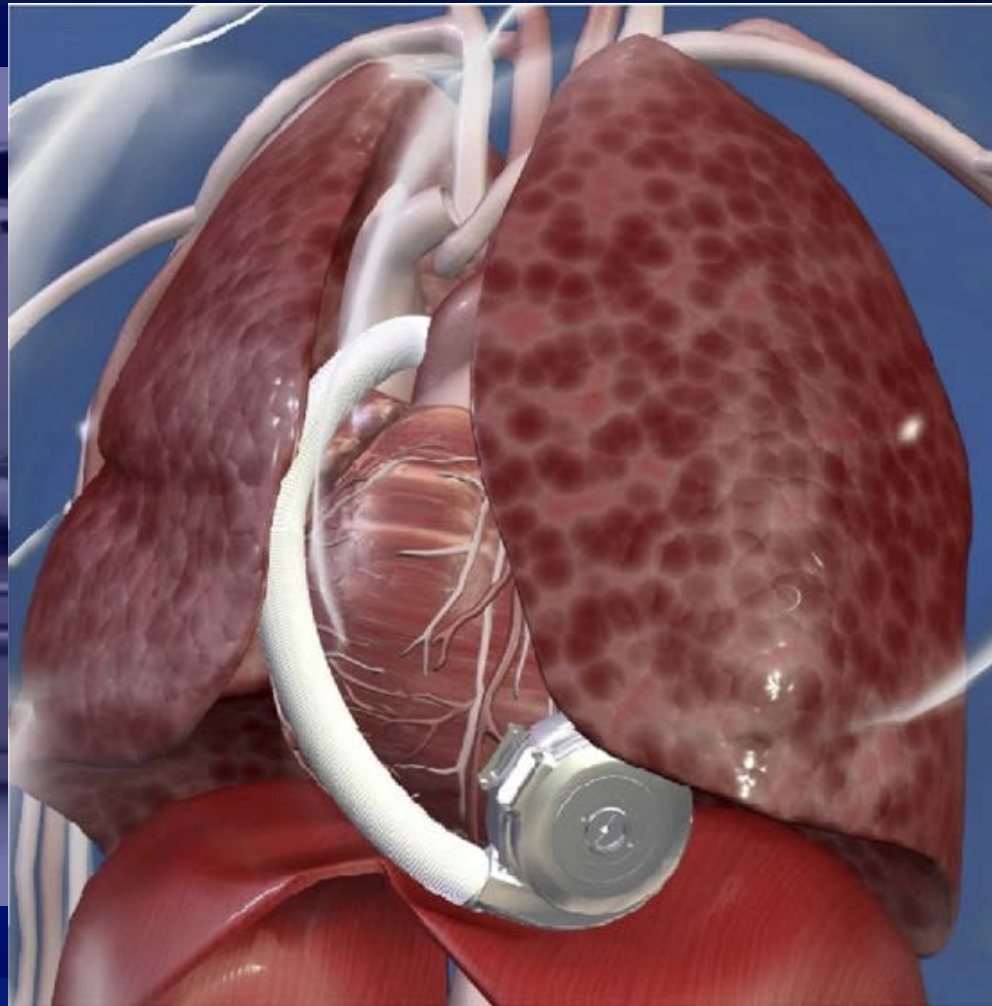
- Up to 20%
- Risk factors
 - Renal and hepatic insufficiency
 - Elevated pressure in the right atrium
 - Low PA pressure
 - RV stroke work index
 - Decreased RV contractility

Post-Trial Versus Trial Survival With Continuous Flow LVAD



Other LVADs under evaluation..

Heartware LVAD

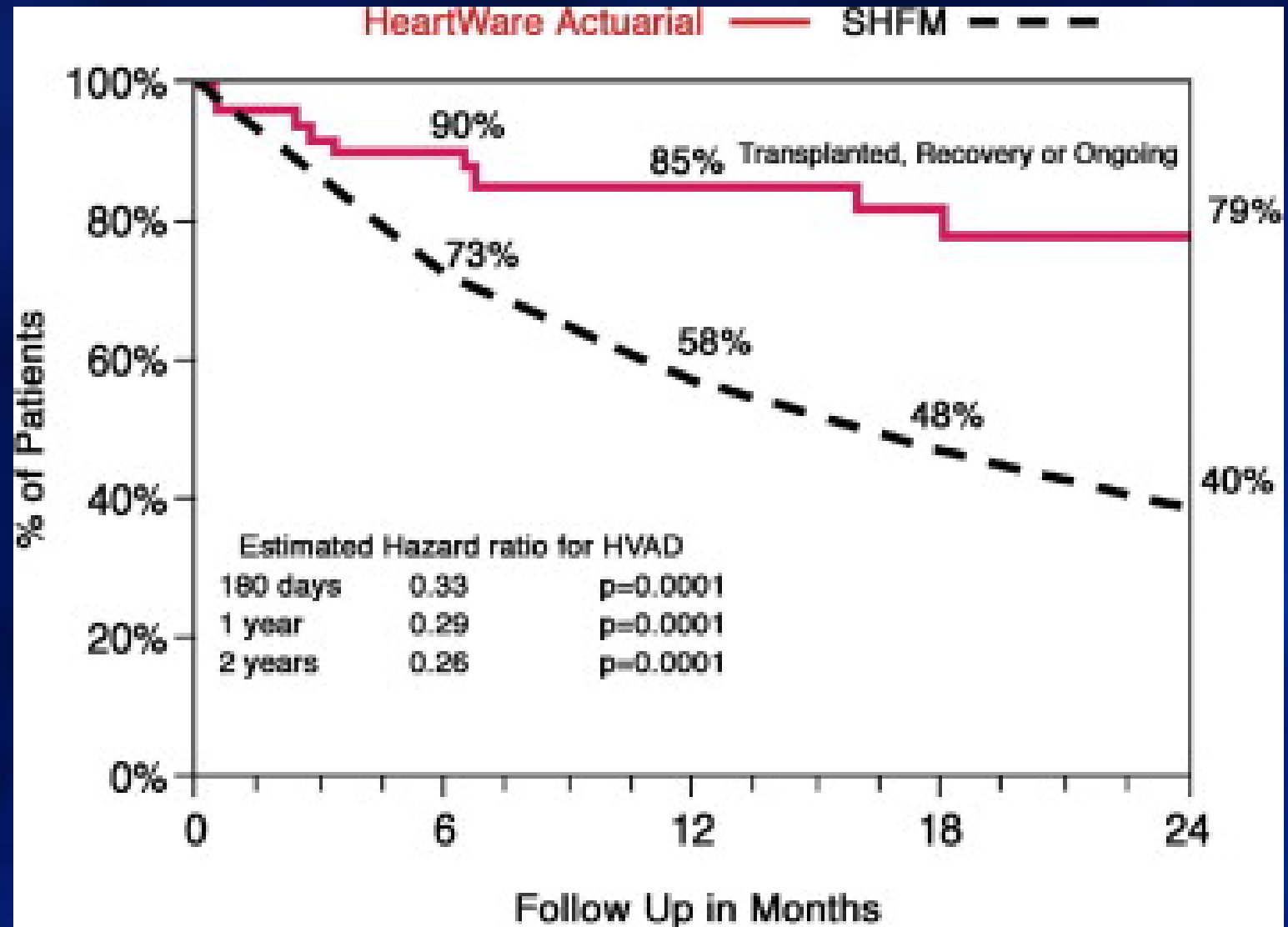


Heartware

Heartware LVAD

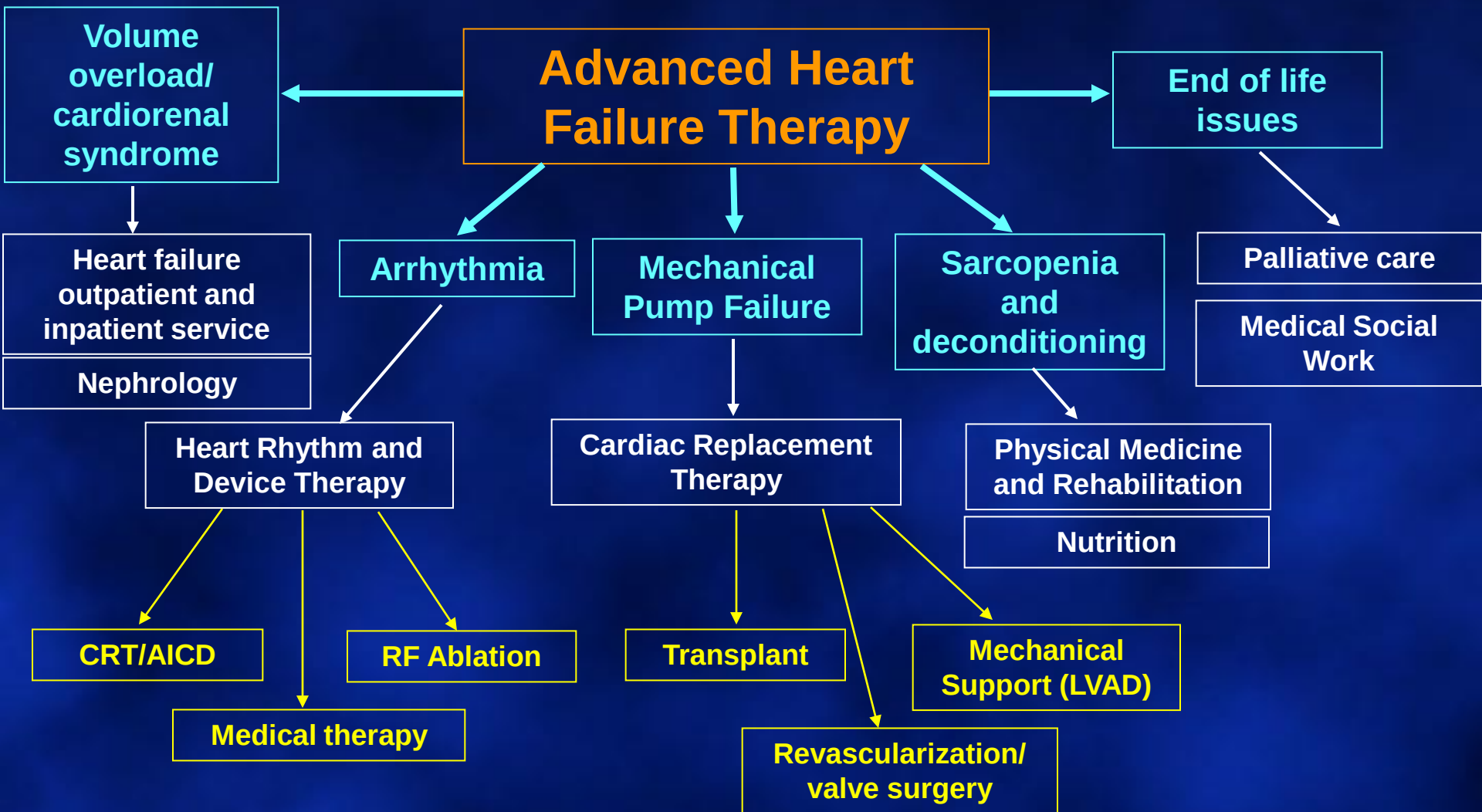


Heartware Outcomes



Post LVAD: The Road to Recovery

Multidisciplinary approach



Rehabilitation

- Adjustment

Lifestyle

Peripherals

Site care

New lease of life



Recovery



 **Newsletter**

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community forum daily
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January Newsletter



Conclusions

- **New era, new physiology.**
- **Viable long-term option for non-transplant candidates.**
- **Complex patients - multidisciplinary approach to care is key!**



MAYO CLINIC

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INTERMACS and outcome

