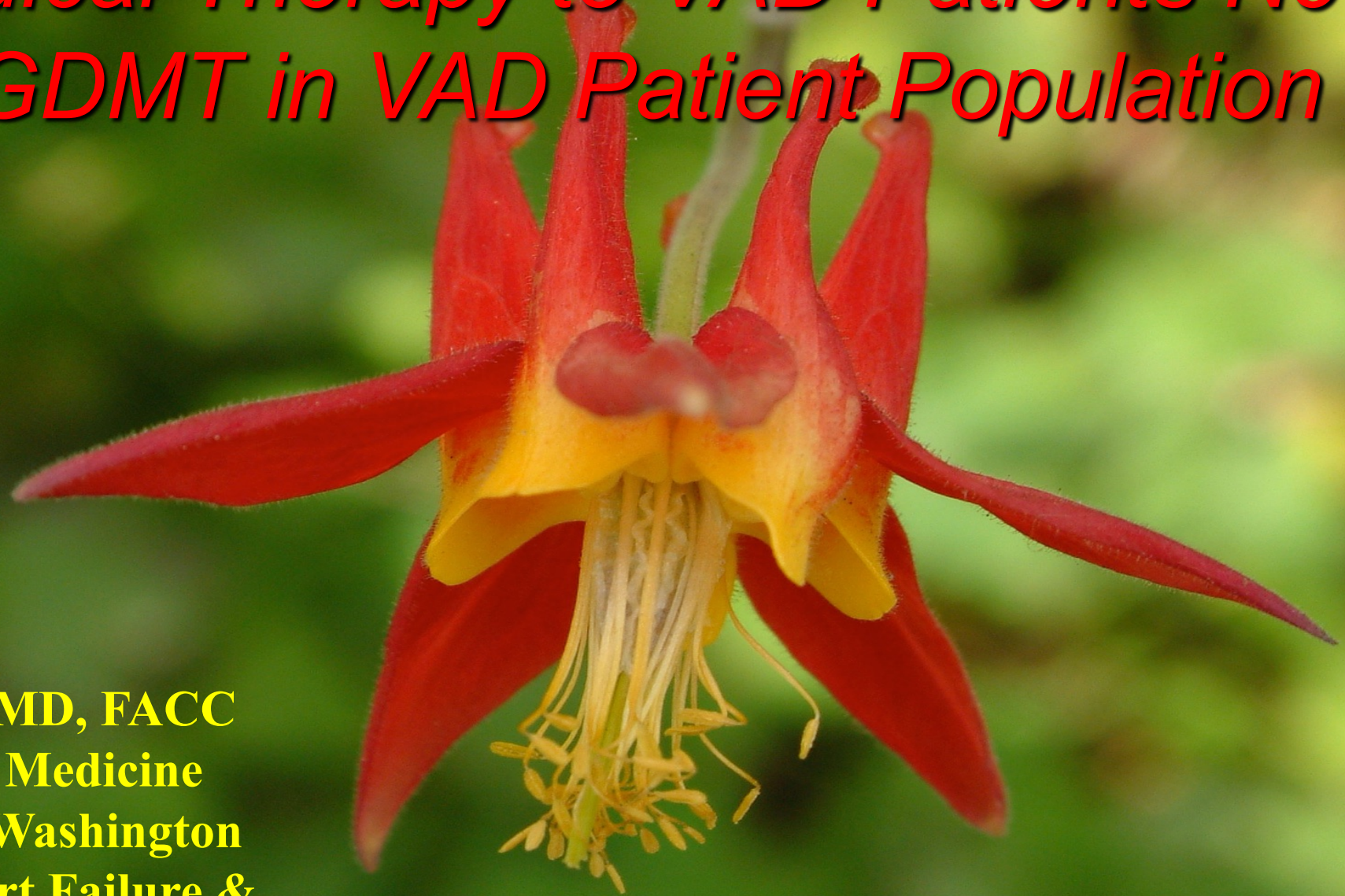


*What Medical Therapy to VAD Patients Need?
Pro: GDMT in VAD Patient Population*



Wayne Levy, MD, FACC
Professor of Medicine
University of Washington
Advanced Heart Failure &
Cardiac Transplantation

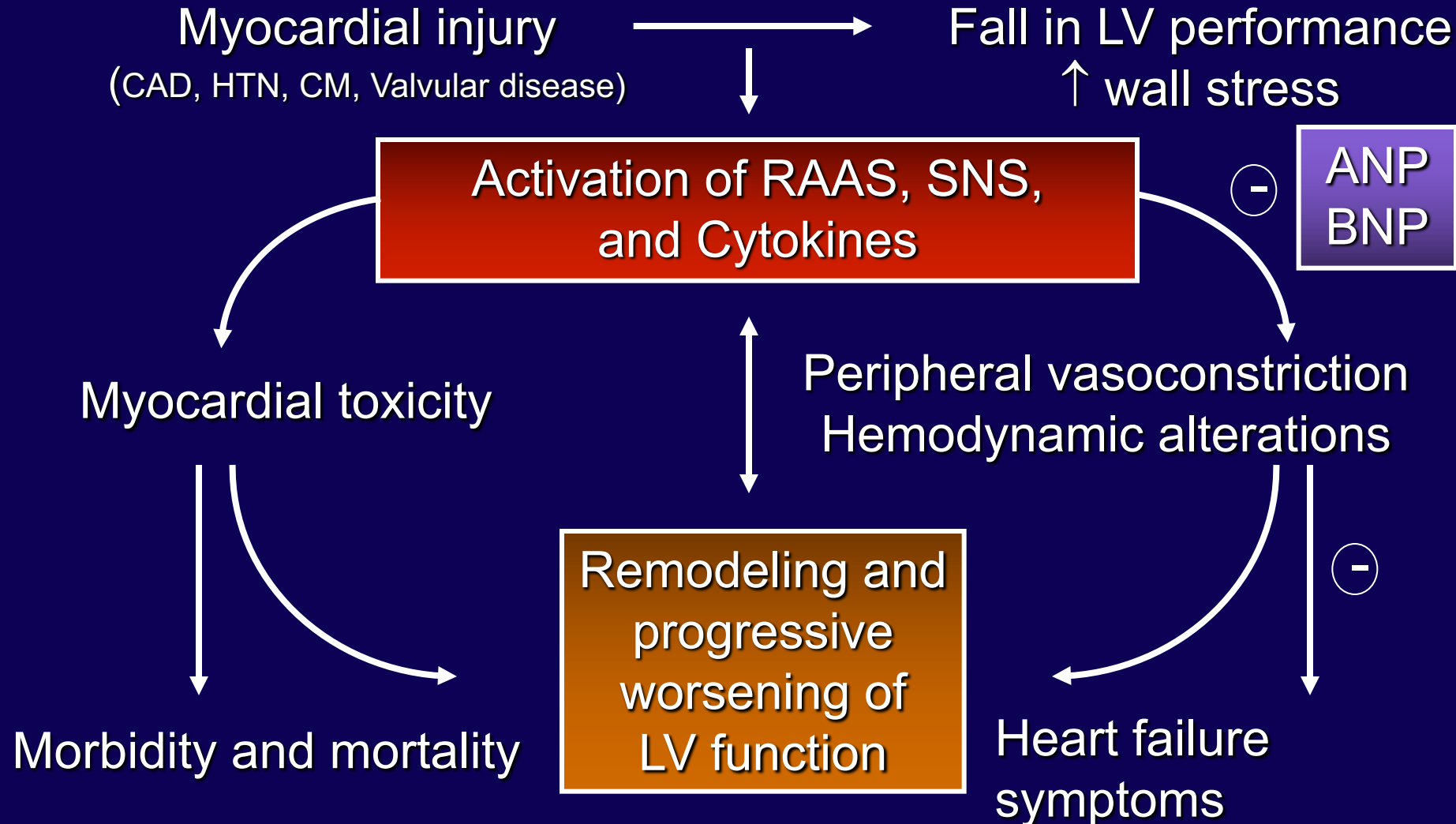
Financial Disclosures

- Steering Committee/Endpoint Committee
 - Respicardia – Remedē System FDA Post Approval Registry
 - CardioMEMS - Abbott (GUIDE-HF & TEAM-HF)
 - Cardiac Dimensions Inc (EMPOWER)
 - EBR Systems (SOLVE-CRT)
 - BristolMeyersSquibb/Janssen (Librexia)
 - OBIO Backbeat (Orchestra Biomed)
- Consultant
 - Medtronic (ICDs)
 - Impulse Dynamics (CCM±ICD)
- Licensing
 - UW CoMotion holds the copyright for
 - Seattle Heart Failure Model
 - Seattle Proportional Risk Model

GDMT in LVADs

- Do we need to use GDMT with a LVAD or just control the BP with any medication?

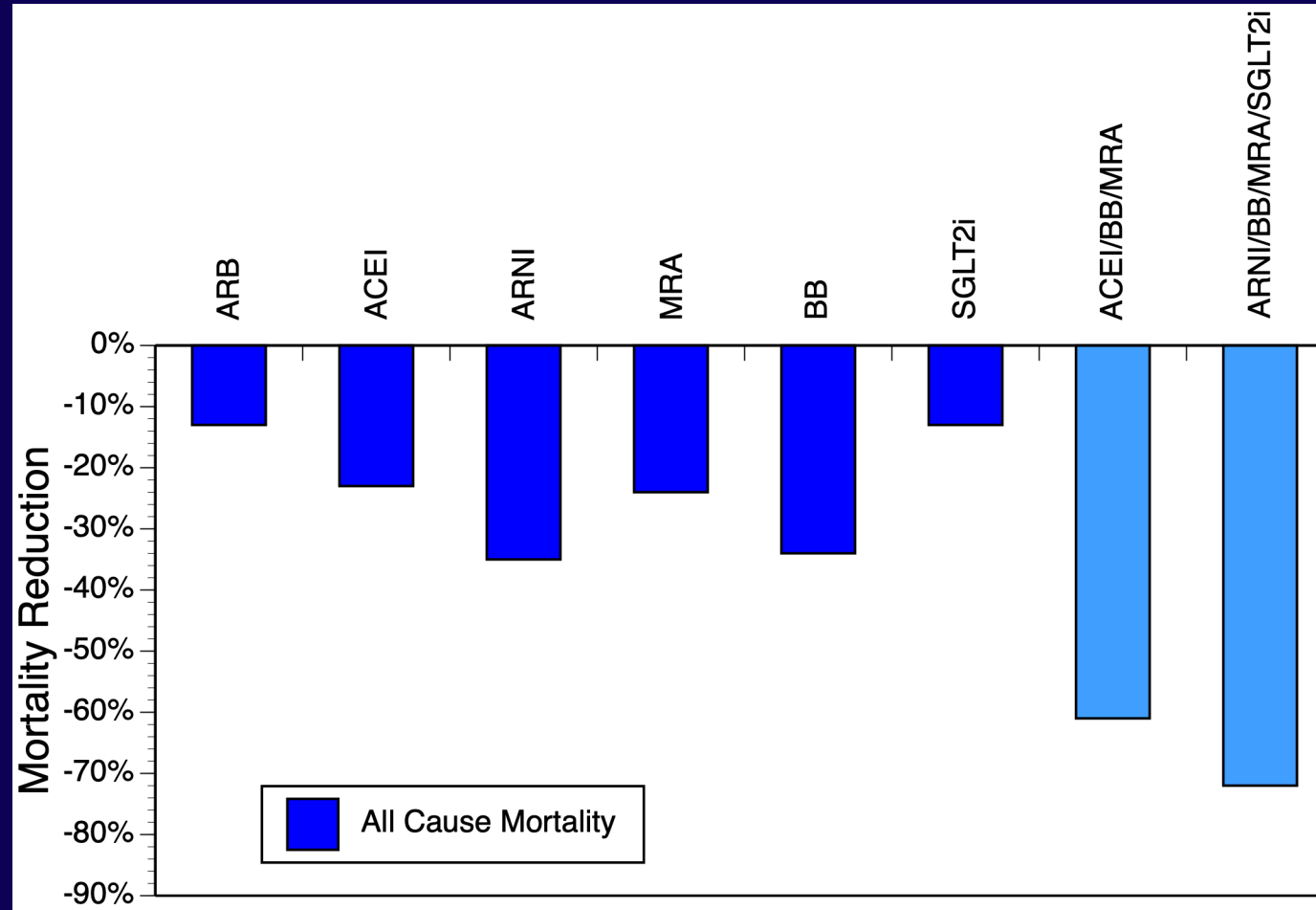
Heart Failure Pathophysiology



Systolic Heart Failure 2025

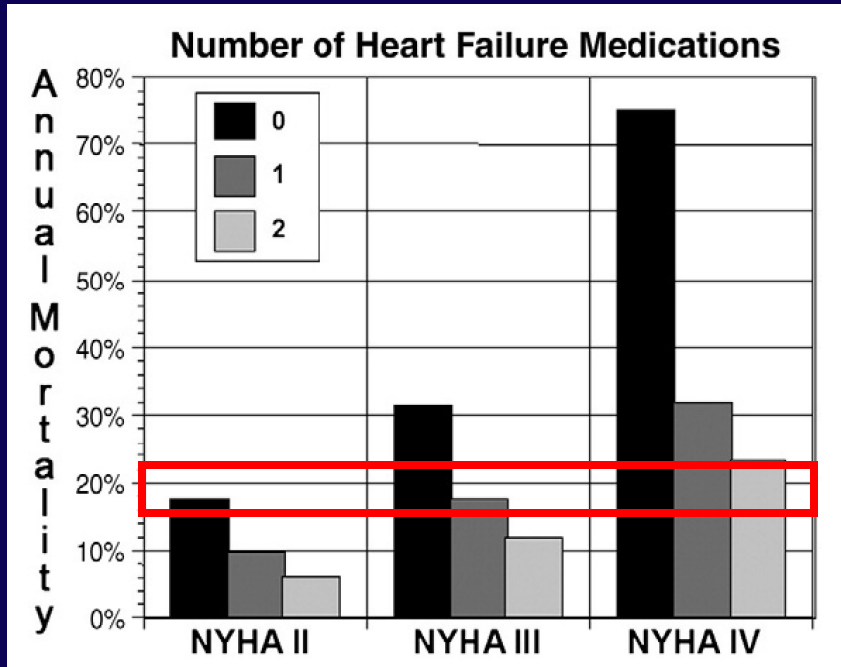
- GDMT can reduce mortality by 60-70% in HFrEF
 - ACEI/ARB/ARNI
 - Beta Blockers
 - Aldosterone Blockers
 - SGLT2 Inhibitors
 - Hydralazine/Nitrates
 - Ivabradine
 - Vericiguat
- Does GDMT improve survival with an LVAD?
 - There are no randomized controlled clinical trials in LVAD patients with GDMT

GDMT in HFrEF

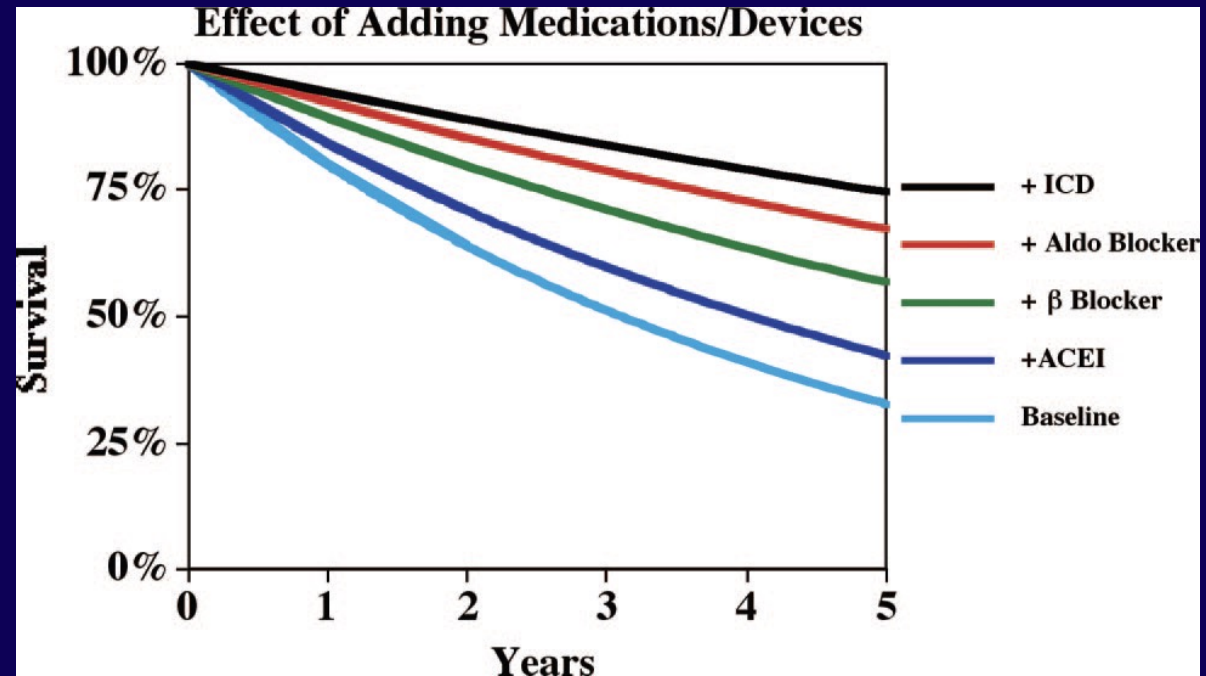


GDMT has major impact in reducing Mortality in HFrEF

GDMT in HFrEF



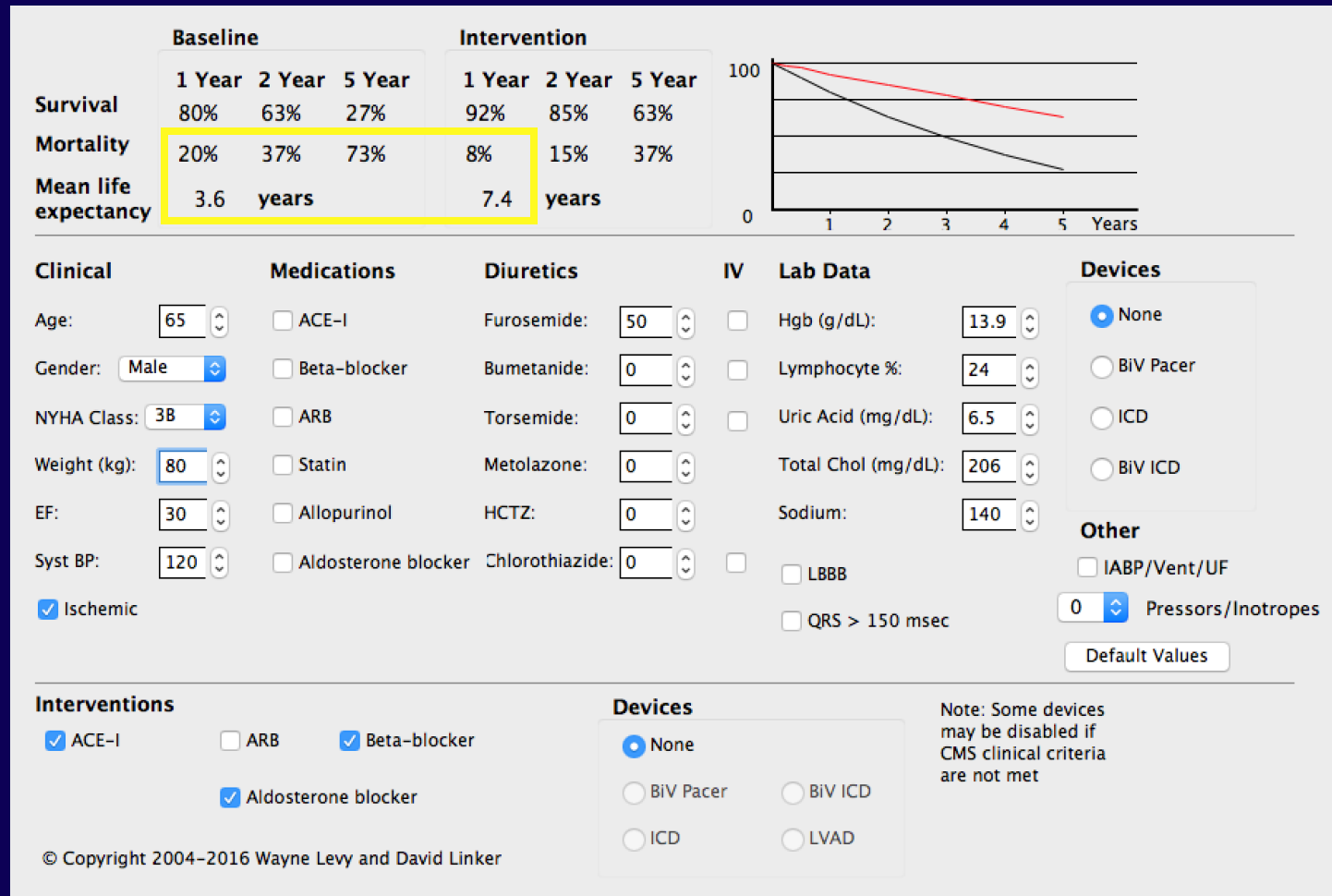
Each HF med associated with
~1 NYHA Class lower Mortality



Seattle Heart Failure Model

Seattle Heart Failure Model

GDMT in HFrEF



Adding an ACEI/BB/MRA – adds 3.8 years of life
 Doubling the lifespan of the HFrEF patient

GDMT - Mortality & HF Hospitalization

↓ HF Hospitalizations > ↓ Mortality

↓ Mortality ≥ ↓ HF Hospitalizations

<u>HF Therapy</u>	<u>Mortality</u>	<u>HF Hosp</u>
CRT (CARE-HF)	36%	52%
ACEI (JAMA 1995)	23%	35%
ARB (CHARM)	9%	23%
Eplerenone (EMPH-HF)	24%	39%
Digoxin (DIG)	1%	28%
ARNI vs. ACEI	16%	21%
ARNI (PARADIGM-HF)	35%	49%
Ivabradine (SHIFT)	10%	26%
SGLT2i (DAPA-HF)	13%	30%
SGLT2i (EMP-Red)	8%	31%
Vericiguat (VICTORIA)	5%	10%
IV Iron (AFFIRM-AHF)	<4%	26%
High Dose ACEI (ATLAS)	8%	24%
High Dose ARB (HEAAL)	6%	13%

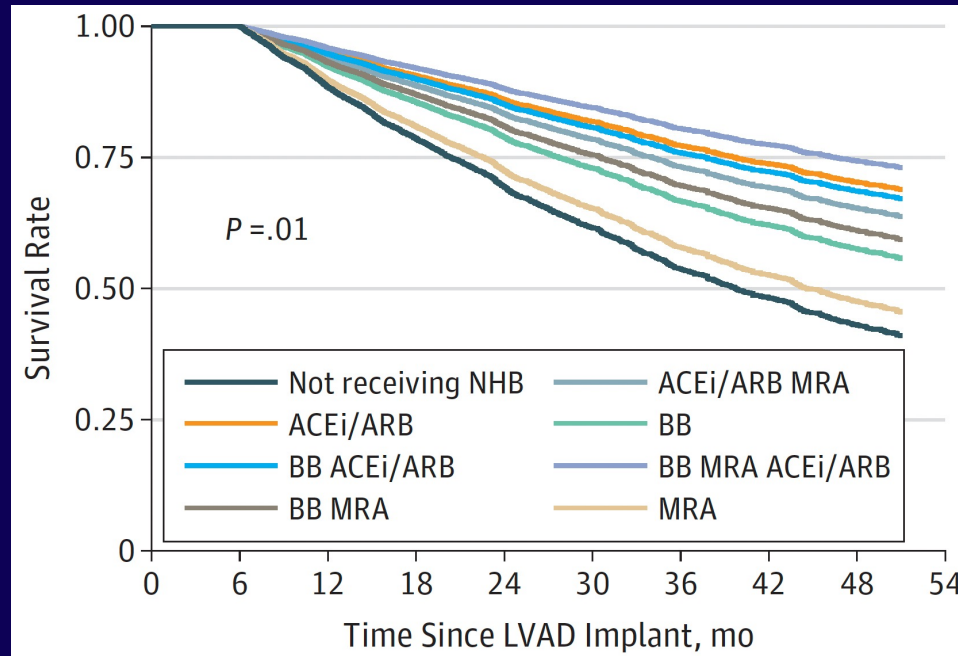
<u>HF Therapy</u>	<u>Mortality</u>	<u>HF Hosp</u>
Hyd/Nitrates (A-HeFT)	43%	33%
Beta Blocker (MERIT)	34%	30%
Beta Blocker (CIBIS2)	34%	36%
BB Type (COMET)	17%	2%
Omega 3 (GISSI-HF)	10%	6%

Levy unpublished

GDMT in LVAD Patient

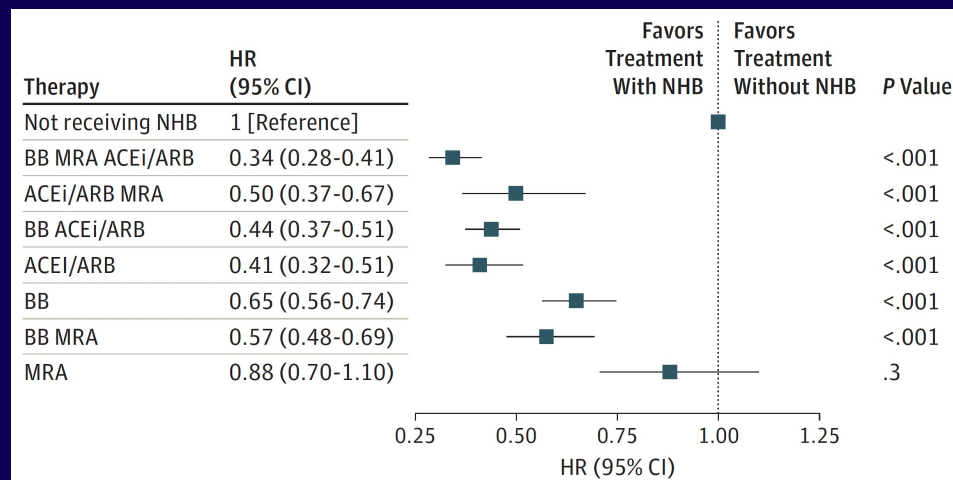
- INTERMACS 12,144 LVAD patients
- Survival from 6 months to 4 years
- Time varying Cox Model adjusted for mortality predictors

GDMT in LVAD Patient



BB, MRA, ACEi/ARB
27% Mortality
~8%/yr Mortality

No NHB
59% Mortality
~21%/yr Mortality



Pro: GDMT in VADs

- Triple GDMT is associated with
 - 61% reduction in mortality in HFrEF
 - 64% reduction in mortality in LVAD patients
- ACEI associated with decreased GI bleeding in LVAD patients
- Why would you not want to use GDMT in your LVAD patient?