

## Supplementary Online Content

Goldstein DJ, Naka Y, Horstmanshof D, et al. Association of clinical outcomes with left ventricular assist device use by bridge to transplant or destination therapy intent: the Multicenter Study of MagLev Technology in Patients Undergoing Mechanical Circulatory Support Therapy With HeartMate 3 (MOMENTUM 3) randomized clinical trial. *JAMA Cardiol*. Published online January 15, 2020. doi:10.1001/jamacardio.2019.5323

**eFigure 1.** CONSORT diagram

**eFigure 2.** Overall survival for patients receiving the HeartMate 3 and HeartMate II, stratified by intended use

**eFigure 3.** Freedom from pump thrombosis in BTT/BTC and DT patients

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**eTable 1.** Components of the primary endpoint

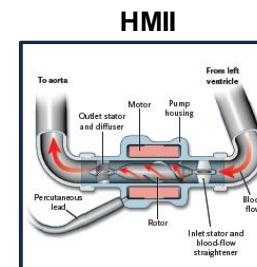
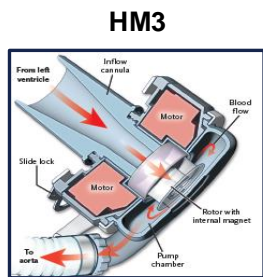
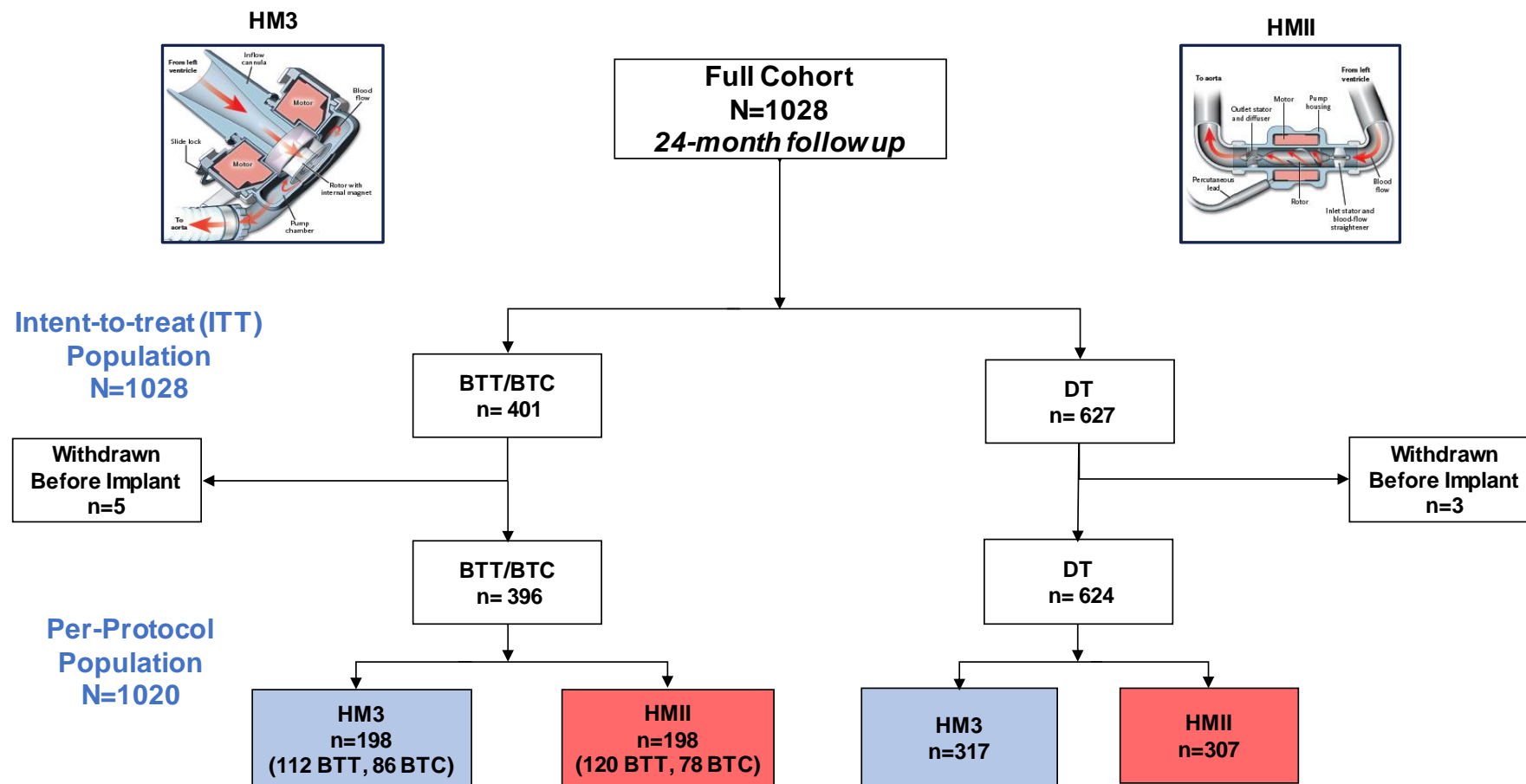
**eTable 2.** Cox proportional hazards model for the primary endpoint

**eTable 3.** Days out of the hospital and rehospitalizations

This supplementary material has been provided by the authors to give readers additional information about their work.

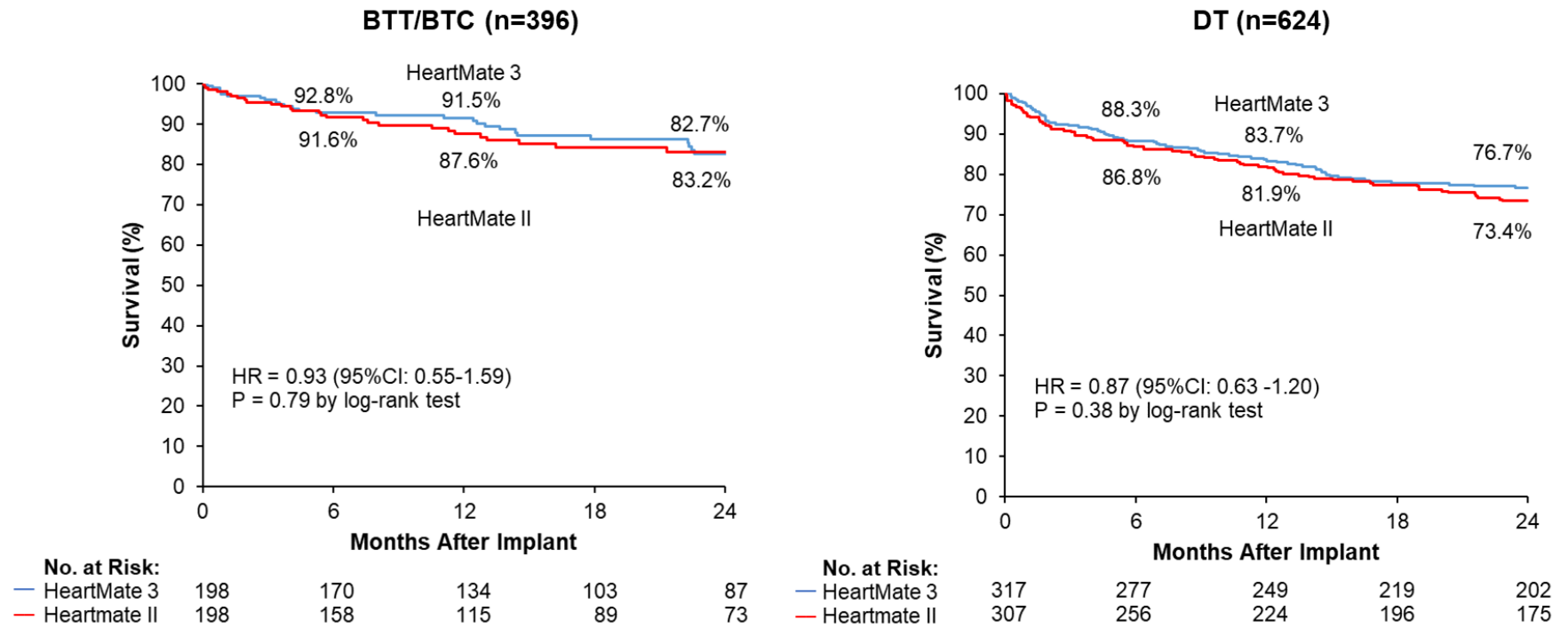
## SUPPLEMENTARY FIGURES

eFigure 1. CONSORT diagram



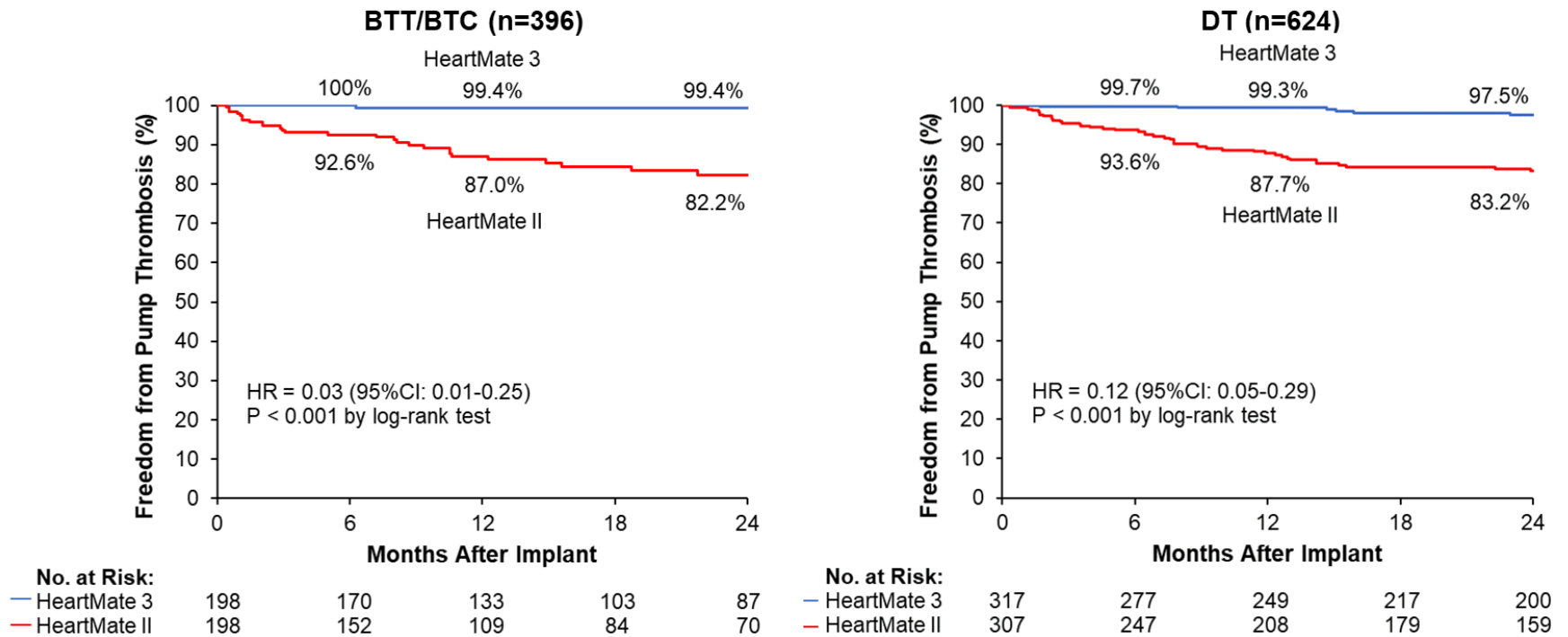
The CONSORT diagram shows the number of randomized patients (intent-to-treat population) and patients that underwent implant with HeartMate 3 or HeartMate II (per-protocol population) stratified by their intended goal of therapy. Eight patients were excluded from the per-protocol analysis due to death prior to implant (n=3), withdrawal of consent (n=1), transplantation (n=1), no LVAD implant (n=2) or implantation with a non-study LVAD (n=1). BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII.

**eFigure 2. Overall survival for patients receiving the HeartMate 3 and HeartMate II, stratified by intended use**



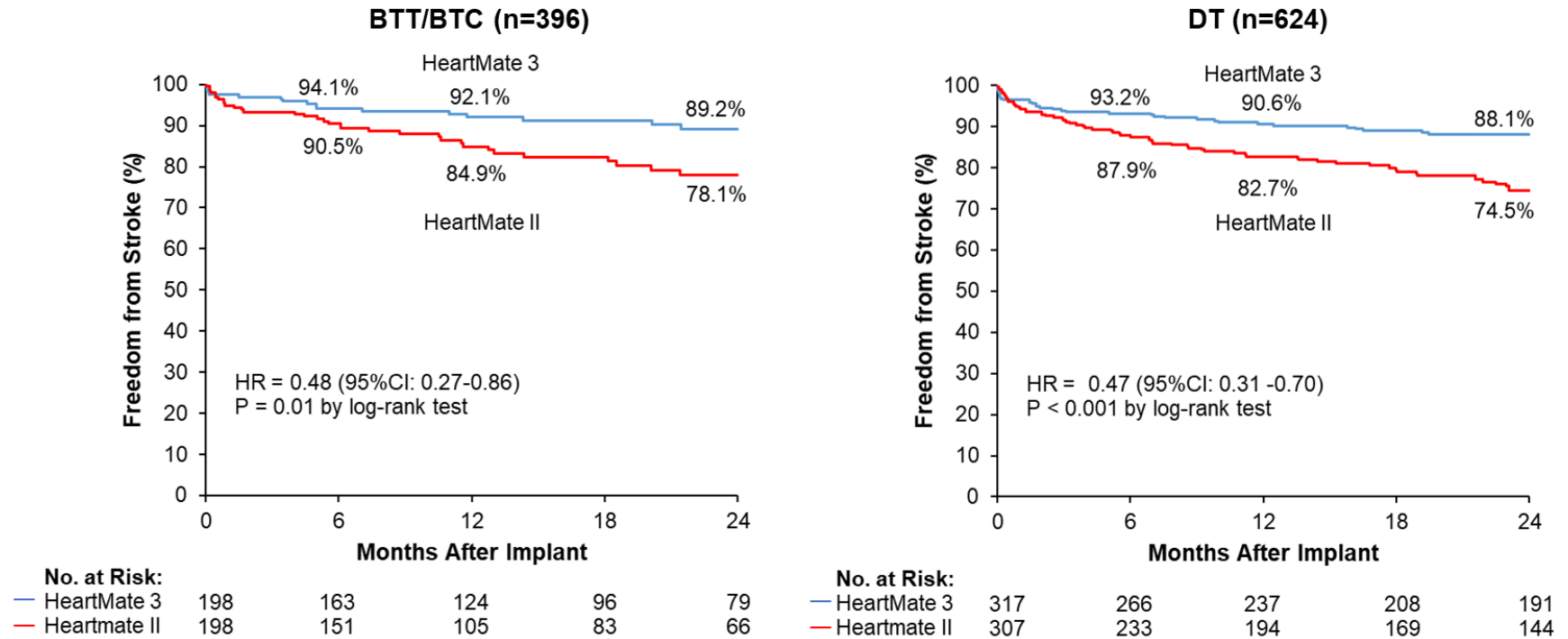
BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII.

**eFigure 3. Freedom from pump thrombosis in BTT/BTC and DT patients**



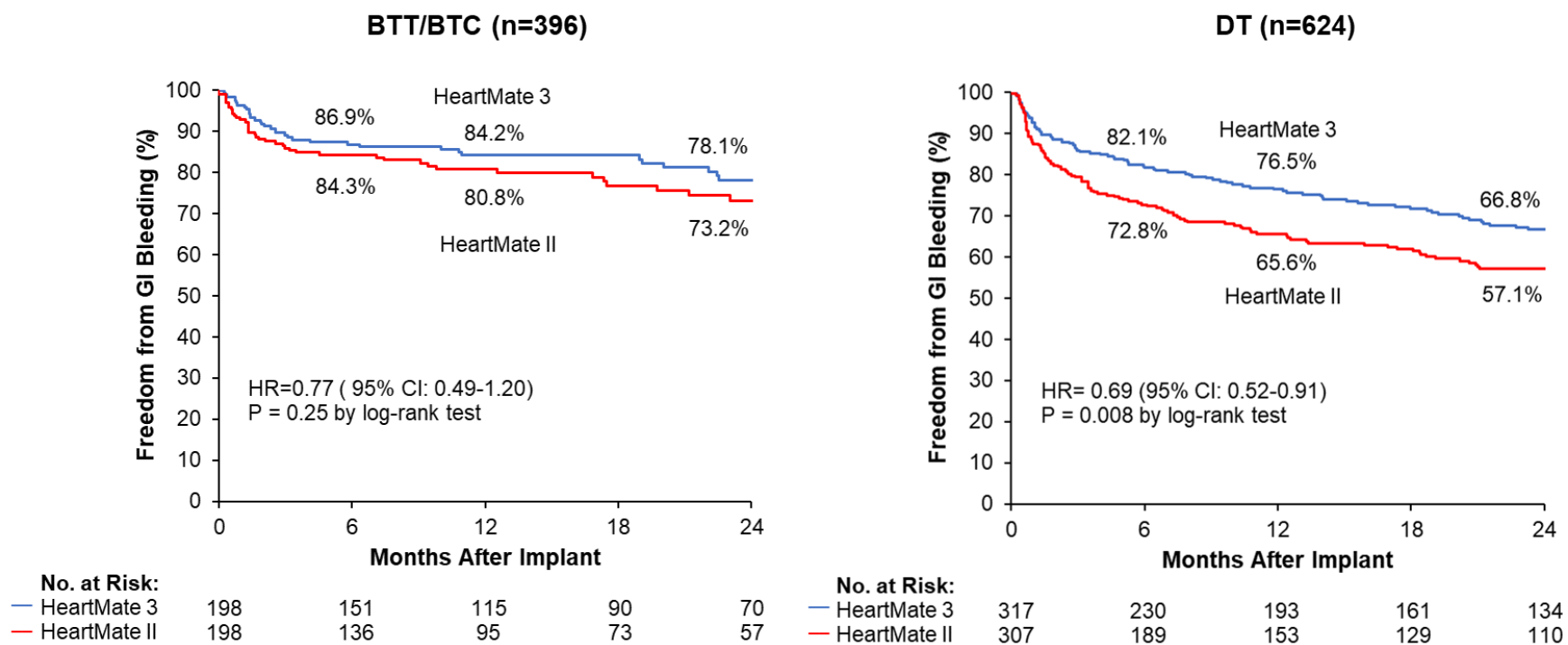
BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII.

**eFigure 4. Freedom from any stroke in BTT/BTC and DT patients**



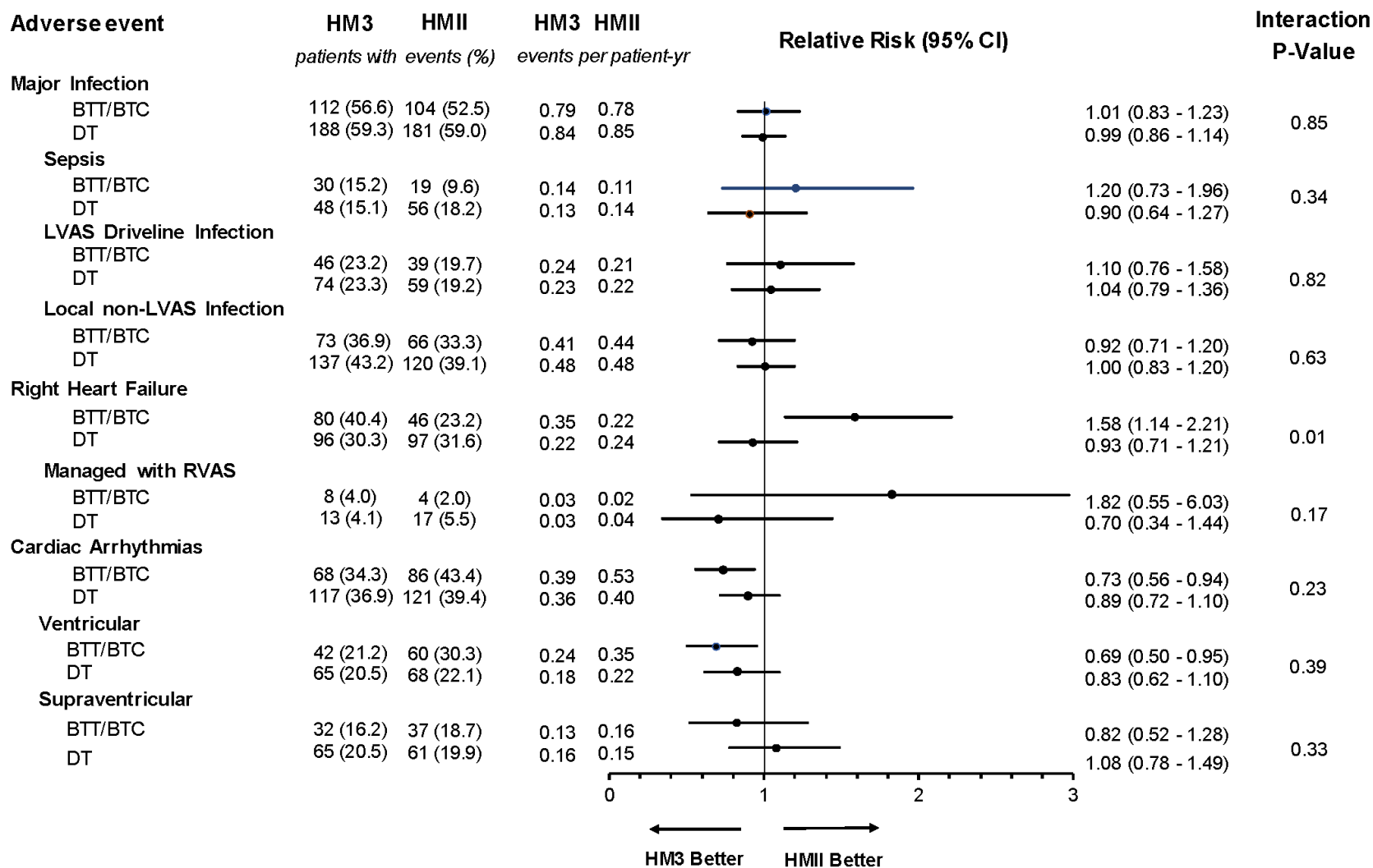
BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII.

**eFigure 5. Freedom from gastrointestinal bleeding in BTT/BTC and DT patients**



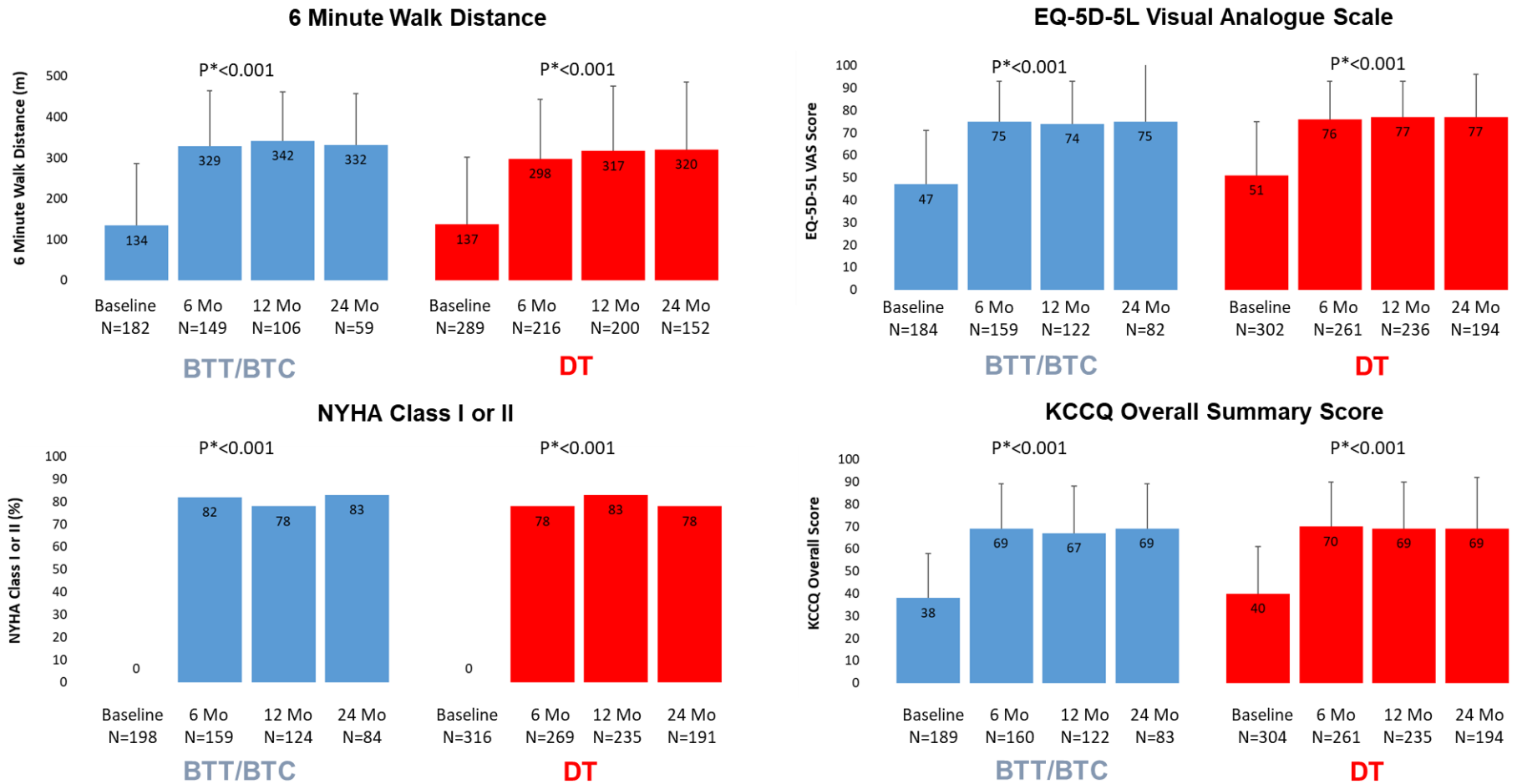
BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII.

**eFigure 6. Comparison of non-hemocompatibility related adverse events in BTT/BTC and DT patients**



BTC, bridge to candidacy; BTT, bridge to transplantation; CI, confidence interval; DT, destination therapy; HeartMate 3, HM3; HeartMate II, HMII; RVAS, right ventricular assist system

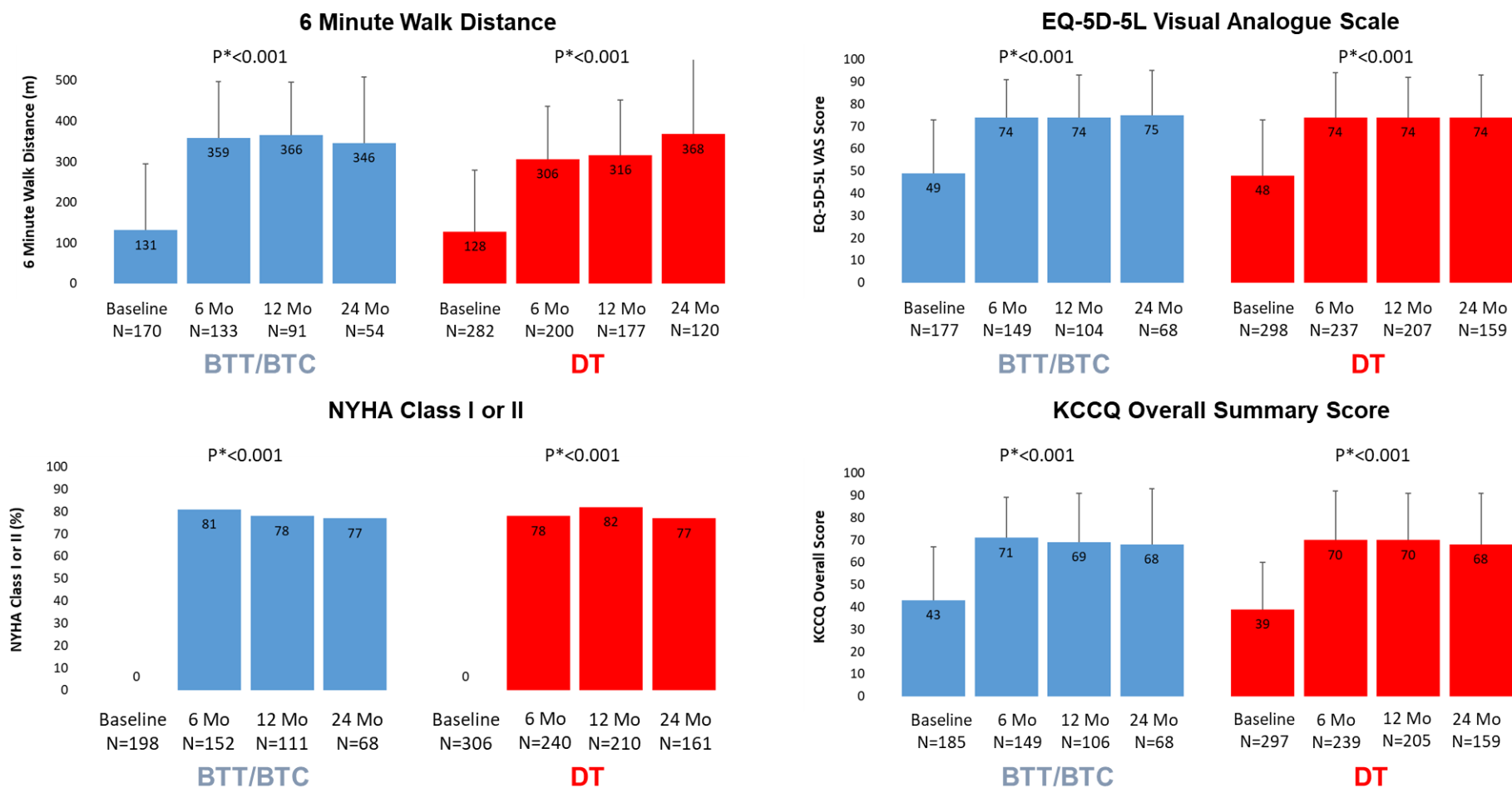
**eFigure 7. Functional status and quality of life for BTT/BTC and DT patients implanted with HeartMate 3**



\* p-values for treatment over time. Longitudinal changes were analyzed with linear mixed-effects modeling using data from baseline, 3, 6, 18 and 24 month visits. HeartMate 3 vs. HeartMate II from mixed modeling over all time points were not significant for any assessment.



**eFigure 8. Functional Status and quality of life for BTT/BTC and DT patients implanted with HeartMate II**



\* p-values for treatment over time. Longitudinal changes were analyzed with linear mixed-effects modeling using data from baseline, 3, 6, 18 and 24 month visits. Comparisons of HeartMate 3 vs. HeartMate II from mixed modeling over all time points were not significant for any assessment.

## SUPPLEMENTARY TABLES

**eTable 1. Components of the primary endpoint**

	<b>HeartMate 3 BTT/BTC (n=198)</b>	<b>HeartMate II BTT/BTC (n=198)</b>	<b>HeartMate 3 DT (n=317)</b>	<b>HeartMate II DT (n=307)</b>
Patients failing the primary endpoint <sup>a</sup>	36 (18.2%)	53 (26.8%)	82 (25.9%)	120 (39.1%)
Withdrawal post-implant	1 (0.5%)	0 (0%)	3 (0.9%)	3 (1.0%)
Reoperation <sup>b</sup>	6 (3.0%)	29 (14.6%)	8 (2.5%)	44 (14.3%)
Disabling stroke	7 (3.5%)	10 (5.1%)	13 (4.1%)	20 (6.5%)
Death	22 (11.1%)	14 (7.1%)	58 (18.3%)	53 (17.3%)

BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy.

<sup>a</sup> The event that occurred first was noted as the failure event.

<sup>b</sup> Includes pump replacement, urgent heart transplantation for device malfunction, or explantation or permanent deactivation of the device for a reason other than myocardial recovery.

**eTable 2. Cox proportional hazards model for the primary endpoint**

<b>Final Model Parameters</b>	<b>Hazard Ratio</b>	<b>95% Confidence Interval</b>	<b>P-value</b>
HeartMate 3 vs. HeartMate II	0.644	(0.509 - 0.815)	<0.001
eGFR (per increase of 1 ml/min/1.73 m <sup>2</sup> )	0.992	(0.986 - 0.998)	0.01
Non-Caucasian vs. Caucasian	0.726	(0.546 - 0.966)	0.03
BTT/BTC vs. DT	0.833	(0.639 - 1.085)	0.18
Ischemic vs. non-ischemic etiology	1.378	(0.994 - 1.912)	0.05
PCWP (per increase of 1 mmHg)	0.989	(0.976 – 1.002)	0.10
Age (per increase of 1 year)	0.997	(0.985 – 1.009)	0.62
Prior cardiac surgery vs. no prior cardiac surgery	0.928	(0.665 – 1.294)	0.66

BTC, bridge to candidacy; BTT, bridge to transplantation; DT, destination therapy; eGFR, estimated glomerular filtration rate; PCWP, pulmonary capillary wedge pressure.

**eTable 3. Days out of the hospital and rehospitalizations**

<b>Patients discharged from implant hospitalization on LVAD support</b>	<b>HeartMate 3</b>	<b>HeartMate II</b>	<b>Difference or HR (95%CI)</b>	<b>P</b>
<b>BTT/BTC</b>	n=191	n=188		
Median duration of rehospitalization [interquartile range] – days	12 [3-32]	14 [3-32]	- 2	0.90 <sup>a</sup>
Median duration on LVAD support <i>outside</i> of hospital [interquartile range] – days	507 [263-685]	450 [206-678]	+ 57	0.23 <sup>a</sup>
Rate of rehospitalization for any cause – EPPY	2.52	2.53	1.01 (0.91-1.14)	0.83 <sup>b</sup>
<b>DT</b>	n=294	n=283		
Median duration of rehospitalization [interquartile range] – days	15 [4-43]	22 [7-49]	- 7	0.005 <sup>a</sup>
Median duration on LVAD support <i>outside</i> of hospital [interquartile range] – days	668 [438-700]	644 [342-693]	+ 24	0.01 <sup>a</sup>
Rate of rehospitalization for any cause - EPPY	2.12	2.43	0.88 (0.81-0.96)	0.003 <sup>b</sup>

CI, confidence interval; EPPY, events per patient year; HR, hazard ratio.

<sup>a</sup> P values for differences in duration are from Wilcoxon Rank Sum test. <sup>b</sup> HR and associated P values were calculated from the Andersen-Gill model.