Abstract 108 Table 1 Adjusted and unadjusted hazard ratios for all-cause mortality in patients with heart failure according to whether LVSD worsened or improved. * Corrected for age, sex, NT-proBNP, NYHA class, systolic blood pressure, heart rate, heart rhythm, IHD, loop diuretic, ACEI or ARB, beta-blocker, MRA, and creatinine. Abbreviations: angiotensin converting enzyme inhibitor (ACEI); angiotensin receptor blocker (ARB); confidence interval (CI); hazard ratio (HR); left ventricular systolic dysfunction (LVSD); mineralocorticoid receptor antagonist (MRA); New York Heart Association (NYHA)

Conflict of Interest Funded by the National Institute for Health Research

AN RER OF 1.05 TO SIGNIFY A MAXIMUM TEST UNDERESTIMATES PEAK VO2 IN PATIENTS REFERRED FOR HEART TRANSPLANTATION

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Background The most recent International Society for Heart Lung Transplantation (ISHLT) guidelines defines a maximal cardiopulmonary exercise test (CPET) as a respiratory exchange ratio (RER) of >1.05 with the achievement of anaerobic threshold (Mehra et al., 2016). Based off a maximal CPET, the ISHLT recommend a peak oxygen consumption (VO2peak) of ≤14 ml/min/kg for patient's intolerant of beta-blockers and ≤12 ml/min/kg in the presence of a beta-blocker for guiding heart transplantation listing. Recently, Thomas and Sylvester (2020) demonstrated that a RER of 1.05 underestimated peak VO2peak and would impact patients’ risk stratification for surgery, or diagnostic outcomes. It is unknown whether this is true for patients with advanced heart failure referred for heart transplantation assessments.

Methods A retrospective analysis of patients with advanced heart failure that underwent a CPET as part of their heart transplant assessment between May 2019 and July 2021 was performed via cycle ergometry. Patients were included if they met all of the following: symptom-limited test, peak RER >1.15 and >6-minute test duration. Oxygen consumption (VO2), minute ventilation and heart rate were collected at >1.15 and >6-minute test duration. Oxygen consumption (VO2) met all of the following: symptom-limited test, peak RER increased from 1.05 to peak (p<0.001) (Figure 1). Based on ISHLT guidelines for using VO2peak to guide heart transplantation listing, inappropriate referrals for heart transplantation would have occurred in 5%, 26%, 29% and 31% of patients when taking VO2 at an RER of 1.05 compared to 1.10, 1.15, 1.20 and peak RER, respectively.

Conclusion In our cohort of patients with advanced heart failure, VO2peak progressively increased in parallel to RER from 1.05 to peak. Using an RER of 1.05 to determine a maximal CPET in patients referred for heart transplantation will underestimate true peak VO2peak in a proportion of cases and may lead to inappropriate heart transplantation referrals.

Conflict of Interest None

RISK OF MORTALITY IN HEART FAILURE ADMISSIONS IN WEEKEND AND BANK HOLIDAYS

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Introduction The weekend effect occurs as a result of the failure of healthcare provision to improve processes of care, including ensuring 24/7 access to life-saving diagnostic and therapeutic procedures such as echocardiography in patients with heart failure (HF). Increased mortality has been linked to weekend patient admissions globally thus it is important to