values for Euro I, Euro II and STS were 3.7 ± 3.8% vs 7 ± 8% ($P < 0.0001$), 1.5 ± 1.1% vs 2.6 ± 3.6% ($P < 0.0001$), and 1.8 ± 1.3% vs 2.9 ± 2.6 ($P < 0.0001$), respectively, (all $P < 0.001$). All scores were significantly correlated (for Euro 1 vs Euro II, Euro I vs STS and Euro II vs STS, the r coefficients were 0.847, 0.627 and 0.655, respectively; $P < 0.0001$). All scores were negatively correlated with AVA: r = –0.187 (Euro I), r = –0.173 (Euro II) and r = –0.232 (STS); $P < 0.001$. Kaplan-Meier survival at 30 days was 98.5% ± .8 and at 1 year 92.4% ± 1.8. Patients with EOA < 0.75 m^2 and Euro I^3 3.7 had the poorest survival at 1 year.
By univariate analysis, in contrast to the group risk scores, the AVA area was not related to the outcome of 1 year. By multivariate analysis, only the preoperative risk scores appeared related to 1-year survival (Euroscore I: OR 1.09, CI 1.02-1.17; STS: 1.14, CI 1.05-1.14).

Conclusions The one-year outcome after AVR for AS appears to depend mainly on the preoperative risk scores but not on the AS severity. These data suggest that indications for aortic valve replacement in the setting of AS should take into account risk scores, rather than the definition of "severe AS" based on a cut-off value of AVA.

Planned endocardial pulmonary vein isolation: proposed algorithm for determining the need for pre-procedural transesophageal echocardiography. (Δ) — Mariana Floria[2], Luc De Roy[1], Olivier Xhaet[1], Dominique Blommaert[1], Marina Gerard[1], Jacques Jamart[1], Fabien Dormal[1], Olivier Deceuninck[1], Stephanie Seldrum[1], Baudouin Marchandise[1], Erwin Schroeder[1] *([1]Department of Cardiology, CHU of Mont-Godinne, Yvoir, Belgium, [2]II Medical Clinic, „Sf. Spiridon" University Hospital, University of Medicine and Pharmacy "Gr. T. Popa", Iasi, Romania).*

Background It is not clear whether transoesophageal echocardiography (TEE) should be performed prior to a planned atrial fibrillation (AF) ablation in all patients.

Methods The objectives of this study were to determine in 681 consecutive patients: (i) the relationship between the CHADS2 and CHA2DS2-VASc scores, the presence of a thrombogenic milieu and left atrial (LA) volume; (ii) the need for TEE in patients with low and intermediate thromboembolic risk assessed; and (iii) the predictive accuracy of these two scores for the presence of thrombi in the LA/ LAA (LA appendage) before a planned AF ablation.

Results The prevalence of thrombi was 1%. All patients with thrombi had LA dilatation, a CHADS2 score ≥ 1 and a CHA2DS2-VASc score ≥ 2. CHADS2 or CHA2DS2-VASc scores < 2 had an almost maximal negative predictive capability of excluding the presence of a thrombus (99.8% and 100%, respectively; 95% CI: 99-100). A CHADS2 score ≥ 2 had a sensitivity and specificity of 86% (95% CI: 42-100) and 82% (95% CI: 79-85), respectively, to predict the presence of a thrombus in the LA/LAA, while a CHA2DS2-VASc score ≥ 2 had a sensitivity and specificity of 100% (95% CI: 59-100) and 67% (95% CI: 63-70). The area under the curve for CHADS2 and CHA2DS2-VASc scores ≥ 2 was 0.928 (95% CI: 0.906-0.946) and 0.933 (95% CI: 0.912-0.951).

Conclusions Not all patients undergoing planned endocardial pulmonary vein isolation need pre-procedural TEE. Both scores < 2 had an almost maximal negative predictive capability of excluding the presence of a thrombus in the LA/LAA. Based on these results we propose an algorithm for determining the need for TEE before an AF ablation procedure.

The effect of an internet-based telerehabilitation programme on the physical fitness of coronary artery disease patients after the acute rehabilitation phase. (Δ) — Ines Frederix[1], Dominique Hansen[3], Jan Berger[2], Niels Van Driessche[4], Kim Bonne[2], Toon Alders[2], Paul Dendale[4] *([1]Catholic University of Leuven, Leuven, Belgium, [2]ReGo, Heart centre, Hasselt, Belgium, [3]PHL, Hasselt, Belgium, [4]University Hasselt, Hasselt, Belgium).*

Background The aim of this study was to evaluate whether the addition of a motion sensor with automated feedback by e-mail or SMS to the conventional in-hospital rehabilitation phase could keep coronary artery disease patients physically fit. We already showed this was the case in a short-term (6 weeks) follow-up in a former report. This abstract illustrates the results in a longer-term (18 weeks) follow-up study that engages more patients.

Methods 37 coronary artery disease patients were included in this randomised, controlled trial after admission for PCI or CABG (the target population of the study is n = 80). All patients were included during phase II of the cardiac rehabilitation programme. Patients with a defibrillator, important arrhythmias or severe heart failure (NYHA class III and IV) were excluded from the trial. The patients in the intervention group (n = 21) were asked to wear the motion sensor continuously during the day for 18 weeks. Each week they received feedback (via SMS or e-mail) that was designed to gradually increase the patients' activity level. In the control group (n = 16), the patients wore the motion sensor three times for one week for measurement purposes only (week 1, 6 and 18). These sensors were taped, thereby making it impossible for the patients from the control group to monitor their daily activities. They also did not receive feedback via SMS or e-mail. All patients performed a maximal cardiopulmonary exercise test at week 1, 6 and 18 to determine their peak oxygen uptake (VO_2 peak). The primary hypothesis of the trial was that the addition of a telerehabilitation programme to the conventional cardiac rehabilitation programme results in

a sustained increased physical fitness (VO_2 peak). The one-way ANOVA repeated measures test was used to test this hypothesis. In addition, the Mann Whitney U test was used to compare the self-reported high-intensity physical activity by the IPAQ-questionnaire, between the intervention group and the control group, at the end of the trial.

Results Figure 1, showing minimum, 25% quartile, median, 75% quartile and maximum increase in VO_2 peak for the control and intervention groups, is based on a one-way ANOVA repeated measures test. It indicates a significantly larger increase in VO_2 peak in the intervention group, compared to the control group after 18 weeks of follow-up ($P = 0.05$).

The Mann Whitney U test on the IPAQ-questionnaire further revealed that the self-reported high-intensity physical activity was significantly higher in the intervention group, compared to the control group ($P = 0.03$).

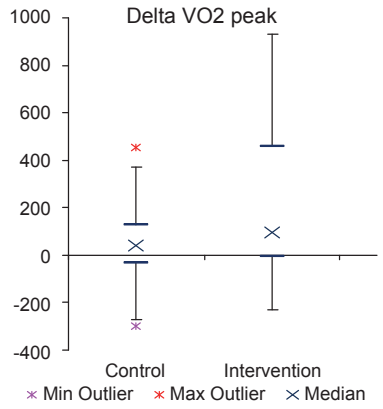

Figure 1 Alteration in VO_2 peak (delta VO_2 peak) between week 1 and week 18.

Conclusions The addition of a motion sensor and internet-based telerehabilitation programme to conventional cardiac rehabilitation resulted in a significantly larger increase in VO_2 peak after 18 weeks, as compared to conventional rehabilitation alone. This observation is promising, because it has been proven difficult for coronary artery disease patients to stay physically fit after the conventional, in-hospital cardiac rehabilitation.

Impaired apical adenosine-induced hyperaemia in patients with (sub)acute transient left ventricular ballooning syndrome. (Δ) — Kaatje Goetschalckx[1], Peter Kayaert[2], Piet Claus[1], Bert Ferdinande[1], Frank Rademakers[1], Jan Bogaert[1], Walter Desmet[1] (*[1]University Hospital Leuven, Leuven, Belgium, [2]University Hospital Brussels, Brussels, Belgium).*

Background The aetiology and pathophysiology of transient left ventricular ballooning syndrome (TLVBS) is still unknown. It is the aim of our study to assess the subendo- to subepicardial perfusion ratio at rest and at adenosine-induced hyperaemia in patients with TLVBS in comparison with non-ischemic patients with suspicion of coronary artery disease non-ischaemic (CAD).

Methods Ten patients, all women, with acute TLVBS were prospectively enrolled for a cardiac magnetic resonance (CMR, 1.5 T, Achieva, Philips) rest and adenosine stress perfusion study, within 4 days after the onset of symptoms, additionally to functional analysis. A dual-bolus first-pass contrast imaging protocol, using a Fermi deconvolution technique, was used to allow absolute quantification of myocardial blood flow (Cardioviewer, KU Leuven). Data was compared to 27 patients (36% women) with more than 2 cardiovascular risk factors and the suspicion of CAD. Ischaemic CAD-patients were excluded based on coronary angiography, including fractional flow reserve measurements in stenosis between 50 and 70%.

Results In the (sub)acute phase of apical ballooning, no regional differences in perfusion between the apical and the basal region could be detected both at rest and during stress, despite wall motion abnormalities with a mean left ventricular ejection fraction of 42%. Hyperaemic flow in TLVBS-patients was significantly impaired compared to CAD-patients in the apical slice (0.86 vs 1.24 ml/g/min, $P < 0.05$). In TLVBS-patients, the apical hyperaemic subendo- to subepicardial ratio (1.20 ± 0.18) was significantly higher than at the base (0.95 ± 0.11, $P < 0.05$) and in CAD-patients (1.03 ± 0.11, $P < 0.05$).

Conclusions In TLVBS-patients, apical adenosine stress perfusion is impaired compared to non-ischaemic CAD-patients, with a remarkably high subendo- to subepicardial ratio.

Lean tissue mass loss after CABG surgery: implications for clinical care. (Δ) — Dominique Hansen[1], Marc Hendrikx[3], Urbain Mees[3], Jan Berger[2], An Stevens[1], Bert Op 't Eijnde[1], Paul Dendale[1] (*[1]Hasselt University, Faculty of Medicine and Life Sciences, Diepenbeek, Belgium, [2]Jessa Hospital, Heart Centre Hasselt, Hasselt, Belgium, [3]Jessa Hospital, Department of Cardiothoracic Surgery, Hasselt, Belgium).*

Background The impact of coronary artery bypass graft (CABG) surgery on lean tissue mass is speculative. Therefore, it remains to be determined whether body composition should be analysed in standard follow-up in CABG patients, and/or whether clinical care should be adapted.

Methods In 14 subjects undergoing elective CABG surgery, lean tissue mass was assessed (dual x-ray absorptiometry scan) before and after surgery (27 ± 7 days). Blood hormones affecting skeletal muscle protein synthesis (insulin, testosterone, cortisol, insulin-like growth factor-1