These were taken at multiple time points (baseline, 6 and 24 hours post procedure). Calculated volumetric parameters included 3D end-diastolic volume (EDV) and end-systolic volume (ESV), stroke volume (SV) and 3D LA volume (LAV). Diastolic function was monitored using the indices mean E:E′ and systolic function/contractility was measured with dP/dt max and early peak systolic velocity (S′). The FloTrac system (consisting of the Vigileo monitor and sensor), uses a clinically validated algorithm to provide continuous cardiac output (CO), stroke volume (SV) and systemic vascular resistance in real-time.

Results TAVI resulted in an immediate increase in cardiac output (3.7 (baseline), 4.6 (6 h) 4.5 l/min (24 h), $p<0.5$ baseline vs 6 h and 24 h) with no significant change in systemic vascular resistance (1162, 1292 and 1367 dyn*s/cm^5). However, 6 h post-TAVI there was a significant decrease in systolic function as measured by dP/dt max/EDV (see Abstract 164 figure 1A) and co-existent impairment of diastolic function as indicated by medial E:E′ values (see Abstract 164 figure 1B), which was associated with an appropriate increase in LA volume (70.3, 82.6 and 72.8 ml, $p<0.05$ baseline vs 6 h). Following this, there was a recovery of both systolic and diastolic indices. In addition, another marker of systolic function, S′ increased after 24 h (6.4, 6.6, 8.2 cm/s, $p<0.05$ baseline vs 24 h and 6 h vs 24 h). Concurrent with this recovery, we observed a significant decrease in EDV and ESV at 24 h post-TAVI (EDV: 94.9 to 83.4 ml ($p<0.05$); ESV 41.9 to 33.5 ml ($p<0.05$)). These changes in haemodynamics were associated with significant increase of troponin I levels at 24 h and increase in CK-MB at 6 h after the procedure (troponin: 0.06 vs 1.19 μg/l, $p<0.05$; CK-MB 1.6 vs 6.6 μg/l, $p<0.05$).

Conclusion Successful TF TAVI results in an immediate improvement in cardiac output. However, overlying this, within the first 24 h both systolic and diastolic dysfunction occurs. The rise in the markers of myocardial injury suggest this may be due to myocardial stunning and/or some periprocedural myocardial damage. Recovery of contractility is observed after 24 hours.

| 165 | THE OXVALVE STUDY: ECHOCARDIOGRAPHIC SCREENING FOR VALVULAR HEART DISEASE IN THE COMMUNITY SETTING: METHODOLOGY, FEASIBILITY AND PRELIMINARY RESULTS |

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Introduction Valvular heart disease (VHD) is poorly researched in comparison with other areas of cardiovascular disease. Principle limitations are the diverse nature of patients with VHD, inability to identify individuals at the earliest stages of disease and lack of an appropriate investigational infrastructure. Studies addressing the contemporary epidemiology and natural history of VHD are scarce but demonstrate an increasing prevalence in the elderly, associated with significant morbidity and mortality. Cohort studies in the USA are ongoing but there are no European or UK studies to date. We have developed a large scale, prospective community echocardiographic screening study within the adult Oxfordshire population, to determine the epidemiological characteristics of VHD in the UK for the first time, to assess the acceptability of echocardiographic screening for VHD, and establish cohorts with well-characterised genetic and echocardiographic phenotypes for future study. Herein, we present preliminary data for the first 1050 patients, with enrolment ongoing.

Methods Patients >65 years, registered with participating general practices (GP) and with no known VHD, were invited to attend their GP surgery where routine demographic and cardiac data were collected and a focused examination undertaken. Participants underwent a standard transthoracic echocardiogram (TTE) according to

British Society of Echocardiography guidelines. The threshold for inclusion in the screen positive group was deliberately low to capture all manifestations of VHD. Participants were given preliminary results, before completing a shortened Spielberger STAI questionnaire.

Results Uptake was 46% (age range 65–96 years; male to female ratio 1:1.1). VHD was detected in 33% of participants and prevalence increased with increasing age (see Abstract 165 figure 1). Mitral regurgitation and aortic regurgitation were the most common lesions detected (present in 17% and 14% respectively). The majority of VHD was graded as mild (84%); only 1% of VHD detected was severe. The majority of participants (99%) described themselves as calm or relaxed at the time of screening; none expressed significant levels of worry or tension. 98% would be prepared to undergo repeat echocardiography as screening for VHD.
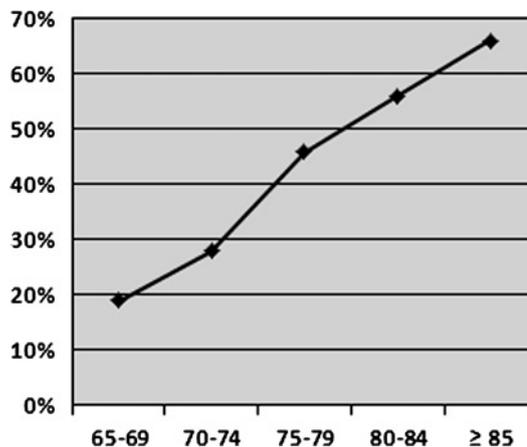
Abstract 165 Figure 1   Prevalence of VHD in ≥65s by age group.

Conclusions The prevalence of VHD in adults aged over 65 in the Oxfordshire population, using a low threshold for detection, is approximately 33% and increases with age. Mitral regurgitation is the most common lesion, and the majority of detected VHD is mild. Echocardiographic screening for VHD is feasible in the primary care setting and acceptable in this group of patients.

| 166 | CARDIOVASCULAR MAGNETIC RESONANCE (CMR) TAGGING IDENTIFIES DIFFERENTIAL VENTRICULAR REMODELLING IN PATIENTS WITH BICUSPID VS TRICUSPID AORTIC VALVE DISEASE |

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Background Bicuspid aortic valves (BAV) are a common inherited abnormality with a very high rate of adverse cardiac events at an earlier age than tricuspid aortic valves (TAV). Risk stratification for moderate to severe aortic stenosis, in both bicuspid and tricuspid disease, remains a significant clinical challenge. It is unknown whether pathological left ventricular (LV) remodelling, a strong predictor of adverse cardiac events, differs between patients with bicuspid and tricuspid valvular disease with comparable transvalvular gradients. Cardiovascular magnetic resonance (CMR) tagging provides detailed characterisation of global and regional contractility, and is a powerful investigative tool in the assessment of myocardial disease. We therefore assessed left ventricular strain (using CMR tagging), valve morphology and LV hypertrophy in patients with bicuspid and tricuspid aortic valve disease matched for transvalvular gradient.

Methods 42 subjects were recruited in total: 24 patients with moderate to severe BAV (age 55 ±15 yrs, female 21%, peak trans-