measures of velocity with CT derived LVOT area led to improved estimation of AoV area, \( r_c = 0.75, p < 0.01 \).

**Conclusion** The use of the continuity equation on echocardiography leads to underestimation of the AoV area. The combination of echocardiography and CT measurements makes the continuity equation estimate of CT area near the same as CT planimetry.

**M4** ANNULAR VERSUS SUPRA-ANNULAR SIZING FOR TRANSCATHETER AORTIC VALVE REPLACEMENT IN BICUSPID AORTIC VALVE DISEASE


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**Introduction** CT measurement of supra-annular area (SA) has been proposed as an alternative to annular area (AA) for sizing of transcatheter valves in bicuspid aortic valves (BAV). This study examines the reproducibility of SA and AA measurements and their potential impact on downstream transcatheter heart valve sizing and clinical outcomes.

**Methods** 44 consecutive patients (mean age: 73±15 years, 57% male) undergoing CTA with subsequent SAPIEN 3 valve insertion for severe bicuspid aortic stenosis (AS) were included. AA was measured at the basal ring. SA was measured by generating a circle defined by the intercommisural distance. AA and SA were measured by 2 independent observers. Baseline characteristics, TAVR procedural data, and discharge echocardiography data were collected.

**Results** The SA was significantly larger than the AA (562±146 mm² vs. 518±112 mm², p=0.013). Interobserver agreement was high using both techniques (ICC AA=0.98, p<0.001; SA=0.80, p<0.001), but with narrower limits of agreement with AA measurements (mean difference (limits of agreement): AA=-3 mm² (22;19), SA=-16 mm² (-92;76)). AA-based device sizing demonstrated substantial agreement with final valve insertion (\( k=0.72, p<0.001 \)), while SA demonstrated fair agreement (\( k=0.40, p<0.001 \)). There was no difference in post TAVR gradients, paravalvular leakage or valve success between patients with concordant sizing between AA and SA, and those in whom SA would have suggested an alternate valve size.

**Conclusion** Supra-annular sizing is less reproducible than annular sizing, with no difference in procedural complication rates in patients in whom supra-annular sizing would have altered the device size used. These results suggest no role for supra-annular sizing in current clinical practice.

**M5** REPORTING INCIDENTAL CORONARY AND CARDIAC CALCIFICATION ON THORACIC CT – BSCI/BSCCT SURVEY OF RADIOLOGIST OPINIONS

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**Introduction** Coronary and cardiac calcifications are common incidental findings on thoracic CT which are frequently not reported. This survey sought the opinions of UK radiologists regarding reporting of incidental calcification.

**Methods** Using an online survey form UK radiologists were invited to answer questions regarding reporting of coronary, aortic valve, mitral and thoracic aorta calcification on routine non-cardiac/vascular thoracic CT.

**Results** 210 radiologists completed the survey including 24 (11%) trainees and 186 (89%) consultants. 30% were not sub-specialists in cardiac, thoracic or vascular imaging. Calcification was not reported by 11% for the coronary arteries, 21% for the aortic valve, 25% for the mitral valve and 38% for the aorta. Age and indication for imaging were the most frequent factors influencing the reporting of calcification. For coronary calcification a per patient visual assessment was the most frequently used (66%), followed by per vessel visual assessment (14%), semi-quantitative scoring (5%) and Agatston scoring (2%). Several comments suggested that guidelines for reporting incidental coronary and cardiac calcification would be useful.

**Conclusion** Reporting of incidental coronary and cardiac calcification varies widely and guidelines are required.

**M6** COMPARING CTCA AND CACS IN ASSESSING RISK IN HIGH HAZARD OCCUPATIONS

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**Introduction** The role of Computed Tomography Coronary Angiography (CTCA) in assessing occupational risk in individuals in high hazard occupations with suspected CAD has not been fully explored. We explored how CTCA alters occupational disposition compared with coronary artery calcium scores (CACS), currently used by employers and regulatory bodies.

**Methods** 6-year consecutive data from high hazard employees undergoing CTCA were analysed. Demographics, CTCA (maximal stenosis and aggregate stenosis), CACS and occupational disposition pre- and post-CTCA were captured.

**Results** CTCA data from 139 individuals were collected; comprising 82 pilots and air traffic controllers, and 57 non-pilot aircrew and ground-based employees. Initially, all individuals were medically restricted due to an abnormal exercise test (35%) or resting ECG (36%), cardiac symptoms (27%) or ≥2 risk factors (25%). After CTCA, 61% of pilots and controllers were returned to unrestricted flying, and 60% of non-pilot aircrew/ground-based employees were fully employable. Of the pilots and controllers with a CACS of <10 (n=55), 5% had a stenosis ≥50%. Of the non-pilot aircrew/ground-based employees with a CACS of <10, 15% had a stenosis ≥70%, (or ≥50% in the left main stem).

**Conclusion** CTCA effectively excludes CAD in most high hazard employees, allowing return to unrestricted roles. However, a substantial proportion with occupationally significant stenoses are not identified with CACS. Current use of these investigations by regulatory authorities/employers allows those at significant risk of coronary events to return to unrestricted high hazard employment. CTCA appears the most accurate non-invasive test to confirm or exclude suspected occupationally relevant CAD in high-hazard occupations.