(AHI), with AHI<5 considered unlikely to have OSA; AHI
5.1–14.9 considered equivocal; and AHI>15 considered likely
to have OSA. Aortic dimensions were assessed according to
AHI group both as absolute dimensions and normalised for
age, gender and body surface area (Z Score).

Results: 802 patients were identified who had both echocar-
diographic and ApneaLink™ data available (Age = 58 ±13
years, Female = 531). There was a significant, progressive
increase in aortic size (mm) compared with AHI (Table 1),
with a significant increase in patients likely to have
OSA (AHI>15) compared with those that were not (AHI <5).

Conclusions: These results support an association between
OSA, and increasing aortic size, indicating a role for echocar-
diographic screening of patients with OSA.

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Patients Understanding and Perceptions of Cardiovascular Risk Assessment
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Background: Cardiac computed tomography (CT) scan-
ing is being increasingly employed in cardiovascular risk
assessment. Patients have been encouraged to become more
involved in their medical care and health decisions. It is there-
fore important to investigate patients understanding and
perception of the cardiac imaging.

Aim: To assess whether patients who have a cardiac CT
scanning have a favourable understanding and perception of
the investigation and test results.

Methods: This was a single-centre, cross-sectional study of
asymptomatic adults from Hobart, Tasmania. Patients com-
pleted a questionnaire about test understanding and health
perception following a cardiac CT scan. Data were described
as proportions and group comparisons were undertaken by
chi-squared test.

Results: Ninety-one patients were included (participation
rate 63%). The mean age was 58 ± 8 years, 59% were men and
a coronary artery calcium score (CACS) >0 was present in 69%.
Over 96% of patients understood the rationale for the scan
and the nature of results, 85% considered that the test was
very important for their health, 66% that it would influence
their risk, and 45% that it made a difference to the way they
viewed their treatment for cholesterol. A significantly higher
proportion of patients without CAC felt that results did not
influence their treatment compared to those without CACS (32% vs 14%, respectively; p = 0.048).

Conclusion: Patients have a high level of understanding of
the nature of the results and a favourable perception following
a cardiac CT scan. The results suggest that CAC found on
cardiac CT scanning may be valuable in motivating patients
in whom lifestyle modifications and drug therapy could be
recommended.

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Patient-Specific Computer Simulation of Transcatheter Aortic Valve Implantation in
Bicuspid Aortic Valve Morphology
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Background: A patient-specific computer simulation of
transcatheter aortic valve implantation (TAVI) in tricuspid
aortic valve morphology has been developed which can
predict the transcatheter heart valve (THV) frame defor-
mation, paravalvular regurgitation (PVR) and conduction
disturbance. We wished to validate a patient-specific com-
puter simulation of TAVI in bicuspid aortic valve morphology
(BAV).

Method: A retrospective study was performed on 37 BAV
patients that had both pre- and post-procedural com-
tputed tomography (CT) imaging. Pre-procedural CT imaging
was used to create finite element models of the aortic root.
Finite element analysis and computational fluid dynam-
ics were performed. The computer simulation output was
compared to post-procedural CT imaging, cineangiography,
echocardiography and electrocardiograms. For each patient,
multiple computer simulations were performed, in order to
identify an optimal THV size and position for the patient’s
specific anatomical characteristics.

Results: The computer simulations accurately predicted
the THV frame deformation (minimum diameter intraclass
correlation coefficient [ICC] 0.84, maximum diameter ICC
0.88, perimeter ICC 0.91, area ICC 0.91), more than mild PVR
(area under the receiver operating characteristic curve [AUC]
0.86) and major conduction abnormalities (new left bundle
branch block or high-degree atrioventricular block) (AUC
0.87). When compared to the implanted THV size and implant