

STRESS ECHOCARDIOGRAPHY – HOW WHEN AND WHY?

- Stress echocardiography is a well validated investigation in the evaluation of coronary artery disease and some forms of valvular heart disease.
- Exercise stress echocardiography is performed on either treadmill or bicycle with echo images before and immediately after exercise. The images are then compared side by side to allow identification of a new or worsening wall motion abnormality with stress which correlates strongly with clinically important coronary disease.
- Patients need to be able to exercise and have reasonable echo windows for the test to be useful. Non-ambulant patients can have a pharmacological stress echo. The usual agent used in Australia is dobutamine.
- Stress echo has a much higher sensitivity and specificity for clinically important coronary disease than stress testing utilising just ECG. For those reasons it is worth considering a stress echo in subjects who have a high incidence of false positive, false negative or indeterminate Stress ECG results. Subjects in this category include those with an abnormal resting ECG, female subjects with low to moderate clinical probability of coronary disease, subjects with valvular heart disease and those who have had a previous false positive or false negative stress ECG.
- Nuclear stress testing is also a much more accurate test than stress ECG. In comparison to stress echo it is generally a little more sensitive but also a little less specific. Both stress echo and stress nuclear testing have a low rate of false positive and false negative results.
- In comparison to stress nuclear testing, stress echo is a much quicker test, has no exposure to ionising radiation, is considerably cheaper and generally more available.
- Stress echo also gives via the echo images valuable contributing clinical information on valvular disease, pulmonary artery pressure, left ventricular systolic and diastolic function and if left ventricular hypertrophy is present.

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