



*Better
Together*

Patient information

Exercise Tolerance Test (ETT) or Stress Test

Medical Directorate - Cardio Respiratory Department

Exercise Tolerance Test (ETT)

The following notes are meant to help you understand what an Exercise Test is and why your Doctor has ordered one for you. However, if you have any further questions that are not explained below, please do not hesitate to ask any of the staff in the department or phone the department.

What is the purpose of an Exercise Test?

The usual reason for an Exercise Tolerance Test (ETT) is to investigate the cause of chest pain or chest discomfort. Many different problems can cause chest pain and an ETT will help your Doctor decide if your symptoms are due to heart disease i.e. angina and if so, the test will also be very helpful in deciding on its severity.

Other reasons for doing an ETT includes the assessment of your ability to exercise, the investigation of abnormal heart rhythms (palpitations), to see how well you have recovered after a myocardial infarction (heart attack).

What is Angina?

The heart muscle which pumps blood round the body itself needs a supply of blood as 'fuel'. This is delivered to it through blood vessels called the coronary arteries that branch like a tree so that the blood gets to all parts of the heart muscle.

With age, everyone's coronary arteries begin to fur up and get hardened and narrowed as fatty deposits are laid down in their walls. This process occurs earlier and is more severe in people who smoke, have high blood pressure (hypertension), have a high cholesterol level in their blood, have a bad (fatty) diet, diabetes or those families who have a history of heart trouble.

When more than one of these risk factors is present together, the danger of heart disease is greatly increased.

When the narrowing in one or more coronary artery branches gets bad enough, these arteries cannot supply enough blood to the heart muscle particularly during exercise and emotion when it needs much more fuel than during rest.

When the heart muscle is starved of blood in this way, you become aware of a discomfort, tightness or ache usually in the chest or left arm. These are all forms of angina.

What is an ETT and how does it help?

An ETT is simply a means of getting you to do a controlled amount of exercise in a standardised way – usually by walking on a moving belt (treadmill) but sometimes by cycling on a static bike. The Doctor and physiologist overseeing the test will note: -

- 1) How long you can exercise for.
- 2) What symptoms you get.
- 3) What changes occur in your heart rate (pulse) and blood pressure
- 4) What changes occur in your heart tracing (ECG, cardiograph) which is continuously recorded throughout the test.

These readings will help your Doctor decide whether or not you have angina (due to coronary artery narrowings) and if so whether there is likely to be one or several such narrowings.

What are the risks of having an ETT?

This is a very safe procedure. However, as with many procedures, it does carry risks.

There is a very small risk of having chest pain, a change in heart rate (arrhythmia), or an angina attack during the procedure.

There is a one in 10,000 risk of suffering from a cardiac arrest during the procedure.

You will be able to discuss the procedure with a doctor. You will be asked to sign a consent form to say that you understand the procedure and what it involves.

Are there any alternatives available?

There is no direct alternative. Some but not all other important information can be obtained using a special heart scan (Tech MIBI scan) this involves a radioactive material and injection of a drug, which stimulates the heart to respond to the stress of exercise.

What will happen if I don't have any tests?

Deciding your management will be based largely on clinical factors, i.e. the history and examination. It will not be possible to offer you any form of cardiac intervention (balloon angioplasty, stents or surgery) without recourse to the MIBI exercise test or scan.

What happens during an ETT?

Before the test, you will have 10 sticky pads (electrodes) placed on your torso.

Through wires attached to these pads, your heartbeat will be monitored; your blood pressure is also monitored during the test. You will be asked to step on to the treadmill and start walking. The treadmill is controlled by a special computer programme, used worldwide, which enables the exercise tolerance of each patient to be measured. Age and sex are also taken into consideration.

The treadmill automatically runs at pre-set speeds and gradients (slopes). Every three minutes the speed and gradient increase. Your response is monitored at the time, and you will be encouraged to report every symptom as it happens.

It is important to keep the staff informed of how you feel during the test since any such symptoms and the time they start may be an important measure.

Even when you experience symptoms, the test may not be stopped since you will usually be asked to exercise for as long as you can. Sometimes however, for a variety of reasons the Doctor or Physiologist may stop the test before then.

The treadmill can be stopped immediately – at the touch of a button – but usually it will wind down slowly; just like an athlete winding down at the end of a race.

Your ECG, heart rate and blood pressure will be monitored every minute during the test and while you rest afterwards until they return to the pre-test level, it is then you are allowed home

Before the test

You may be asked to stop some or all of your heart drugs (especially Beta Blockers) for 48 hours before the test. If so, you should start them again after the test, unless told otherwise.

If you have any worries or queries about stopping your medication please contact the Cardio Respiratory department at least 48 hours before your test.

- Please wear comfortable clothes and sensible flat shoes.
- Do not eat more than a light snack within two hours of the test.
- Alcohol should not be consumed 12 hours prior to the test.
- If possible, please bring a list of your medication with you.

Other points to note

If you are unable to keep your appointment it is very important for you to telephone, even at short notice, so that your appointment can be given to someone else on the waiting list.

Finally unfortunately there are no shower facilities within the department, but you will be given a towel, and a drink of water at the end of the test.

When will I get my results?

Your consultant will tell you your results at your next clinic appointment. If you do not have a clinic appointment, you will be sent one after the test. The consultant should also contact your family doctor (GP) with the results.

Further Information

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