

## Dobutamine Stress Echocardiogram (DSE)

### Introduction

The Covid pandemic has had a significant impact on the NHS ability to provide routine elective services. We recognise that patients are waiting longer than we would all like and it is not always possible to identify when treatment will take place. This document provides you with information on how you are able to support yourself while waiting to attend the hospital. The guidance has been written by clinicians who are responsible for your care.

Please read the following information in conjunction with the staying healthy guidance appropriate for your condition.

#### What is a Dobutamine Stress Echocardiogram (DSE)?

A dobutamine stress echocardiogram (DSE) is an ultrasound scan of the heart taken whilst exercising the heart with a drug called dobutamine. Dobutamine mimics exercise and allows us to see how the heart responds to performing exercise (stress). You will **not** need to perform any exercise during this test as the dobutamine drug simulates this.

Please read the following information in conjunction with the staying healthy guidance appropriate for your condition.

### Guidance for Patients

This is performed for one of 3 reasons:

**To assess for narrowings in the heart arteries (most common reason):** When the heart is resting, it does not need much blood flow so it pumps well. When your heart rate increases and exercises with dobutamine, the heart muscle needs more oxygen and more blood. If the blood flow is good, the heart muscle pumps and contracts more strongly. If however there are significantly narrowed blood vessels known as angina, the heart muscle fails to reach the required blood flow and this can lead to the affected areas of heart muscle becoming tired for a few minutes. The DSE allows the doctor to assess the adequacy of blood flow to the heart muscle to guide your treatment.

**To assess narrowing of the aortic valve:** Valves are doors that open and close in the heart, allowing blood to flow in the correct direction. Narrowing of a valve is known as 'stenosis'. In some cases of narrowing of the aortic valve (aortic stenosis) it is not clear whether the narrowing is mild or severe. By exercising the heart with dobutamine and it pump more strongly, a more accurate assessment of the degree of narrowing of the aortic valve can be made. This can then guide your treatment.

**To assess the heart muscle in patients with heart muscle disorders:** Assessing the ability of the heart muscle to pump more strongly when exercised with dobutamine can be helpful in the assessment and treatment of some heart muscle disorders, known as cardiomyopathies.

### How the test is performed

The DSE is performed lying on your left side.

## **My Planned Care Patient Information Platform**

You will have your blood pressure and heart rate checked and the first pictures of the heart will be taken whilst you are resting. To make the pictures clearer, a small amount of dye (contrast) may be injected into the needle in your hand or arm. This is very safe and consists of tiny bubbles in a liquid form.

Once the first pictures are taken, the exercise (stress) can start. You will be connected to a pump delivering a controlled drip of dobutamine into the needle in your hand or arm. The aim is to increase your heart rate to a certain level known as the 'target heart rate'. Once we are at this point, we can be sure that we are exercising the heart enough to answer the question that the doctor is looking into. If the dobutamine alone does not allow the heart to reach the 'target heart rate' a second drug called atropine may be given from a needle in your hand or arm to increase the heart rate to the target.

### **Contact Us**

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