



Right Heart Catheterisation

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What is right heart catheterisation?

Right heart catheterisation is a procedure that involves introduction of a catheter into the right-sided heart chambers in order to assess pressures, oxygen content, and flow of blood through the heart. This soft flexible catheter is introduced peripherally via a large vein and is gently brought up to the heart with live x-ray guidance.



The parameters it can assess include:

- How well your heart is pumping or how much blood volume it can pump in a minute.
 - Pressures within right heart chambers including the right atrium, ventricle, and pulmonary arteries.
 - Oxygen levels within the circulation and whether there is any abnormal connection between the left and right heart.
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Another name for this is pulmonary artery catheterisation. Right heart catheterisation is different from coronary angiography, which is used to check for blockages in your coronary arteries.

Why do I need right heart catheterisation?

This procedure is often required when we need more information about cardiac haemodynamics, to confirm or characterise a heart condition.

Common reasons or indications for this test can include:

- Assessment for high pressures within lung arteries (pulmonary hypertension)
 - Evaluation for heart function disorders (eg. heart failure)
 - Evaluation for heart valve disorders
 - Evaluation of shortness of breath
 - Evaluation for mechanical circulatory support in heart failure
 - Evaluation for organ transplantation
 - Assessment for abnormal connections within the heart (for example, atrial septal defects, ventricular septal defects or patent ductus arteriosus)
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How is right heart catheterisation performed?

This procedure is performed by a cardiologist in an invasive diagnostic catheterisation laboratory.

Prior to procedure

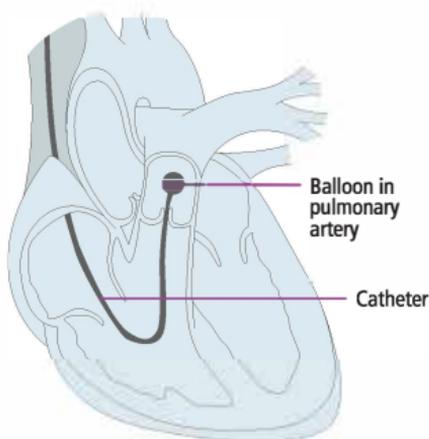
Prior to the procedure, you may be required to have blood tests checked to ensure that you can undergo this procedure safely. You are also required to fast (no eating or drinking) for 6 hours before the procedure.



During procedure

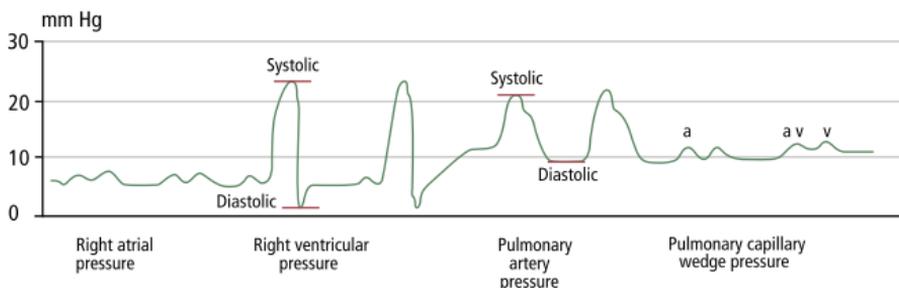
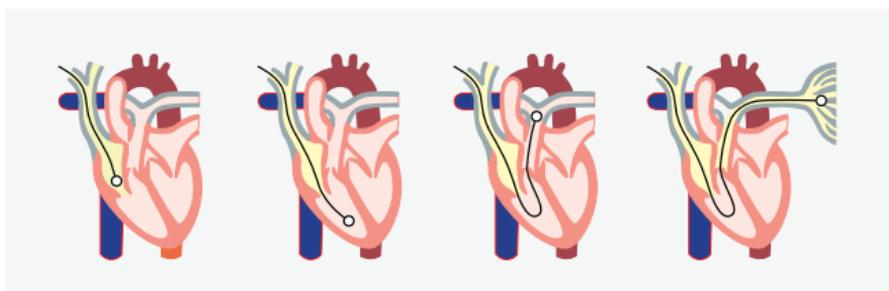
You will be awake and in a lying position. Your attending cardiologist will numb the site which is chosen for introduction of the catheter. The most common sites are the groin (femoral vein), neck (jugular vein), or arm (basilic vein).

A thin catheter will be introduced gently into the veins and guided to the right-sided heart chambers. You will not feel this catheter inside after insertion.



This catheter will be utilised to measure pressures in the right heart chambers such as the right atrium, right ventricle, pulmonary arteries, as well as a pulmonary capillary wedge pressure. It can also be used to estimate heart function (cardiac output), and to measure oxygen content at each of these chambers.

During the procedure, the doctor may ask you to hold your breath, bear down, cough or perform simple exercises to improve our assessment capabilities and accuracy.



As part of this procedure, medication may be administered either through inhalation or intravenously to help the blood vessels relax. This will be able to let us understand how your vessels respond to medication. Intravenous fluids (saline) may also be infused to assess if additional fluids affect the pressures in your heart.

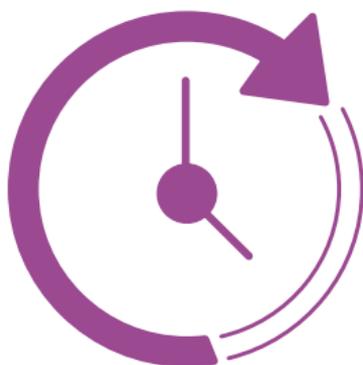
Sometimes, we may need to assess pressures on the 'left' side of your heart as well, or a concurrent coronary angiogram. This will require introduction of a separate catheter into an artery, to be brought up to the heart in a similar manner.

In other situations, when a heart muscle disorder is suspected and requires investigation, heart muscle biopsy ('endomyocardial biopsy') might also be performed in the same setting, through the same vein puncture site.

How long does this procedure last?

This depends on how complex the procedure may be. In general, a routine right heart catheterisation takes around half an hour.

Additional time may be required if the procedure is complex, or if more tests are required.



What happens after the procedure?

You will be monitored in a dedicated recovery unit by specialty nurses and staff. Your vital signs and parameters will be monitored closely for around 4 hours after the procedure.

To reduce bruising, direct pressure or bandages will be applied to the catheter insertion site. Please do not bend the affected limb or remove these bandages until they have been reviewed.

Most patients will be able to go home on the same day. It is recommended that you are brought home by a friend or relative.

There may be additional tests or treatments ordered for you if the right heart catheterisation procedure is abnormal. In some situations, when the results of right heart catheterisation are very abnormal, the performing doctor might choose to leave the catheter in the heart for a few days to aid in medication adjustment. For such a situation, the patient will be admitted into our high dependency unit.

Is right heart catheterisation safe?

This procedure has a low risk of complications and is well tolerated by patients. The most commonly reported adverse effect is temporary bruising at the site that was used for introduction of the catheter.



Your doctor will speak to you about other uncommon complications of this procedure.



You will be asked to sign a consent form before proceeding with this procedure.



Please talk to your doctor about any questions or concerns that you might have.

Is any other preparation required?

There may be changes to your medication prior to your procedure. Your doctor will inform you of these changes.



Location



Contact Information

National University Heart Centre, Singapore

NUH Main Building Zone F, F02-03, Angiography Centre

Opening Hours: 7.00 am - 4.30 pm (Monday - Friday)

Closed on Weekend & Public Holidays

Tel: (65) 6772 2256

Email: reception_angiography@nuhs.edu.sg

Website: www.nuhcs.com.sg

Getting to NUH

Circle Line Kent Ridge MRT Station

Commuters can transit at the Buona Vista MRT Interchange and alight two stops after at the Kent Ridge Station. The station is served by three exit-entry points.

Exit A: Right at the doorstep of National University Heart Centre, Singapore.

Exit B: Along South Buona Vista Road, which links to Singapore Science Park 1.

Exit C: Leads to NUH Medical Centre.

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