

Right Heart Catheterization Information Sheet

General indications for the procedure: Right heart catheterization is a procedure which allows the medical staff to gain important information concerning the function of the heart. It is used in both the diagnosis and management of a wide range of conditions in critically ill patients.

Description of procedure: Right heart catheterization is generally carried out following insertion of a small introducer sheath into one of the large veins of the body, usually either the femoral vein of the leg or the internal jugular or subclavian vein in the neck area. Prior to the procedure, the site of insertion is carefully cleansed using an antibacterial solution/detergent. The area is then infiltrated with a local anesthetic, usually lidocaine, which eliminates any associated pain during introduction of the sheath into the vein. Following anesthesia, a needle is inserted into the vein. Sometimes ultrasound guidance is used to image or take pictures of the vein during the procedure. After the needle is introduced into the vein, a small wire is threaded through the needle over which the introducer sheath/tube is advanced. After insertion of the introducer sheath, the right heart catheter, which is a long tube that allows the Doctor to both sample blood and measure pressures in the various chambers of the heart and in the lungs, is advanced through the introducer sheath and into the heart and ultimately into the major arteries in the lung. Once placed, the right heart catheter can be allowed to remain in the body for a period of days so that Doctors can monitor the progress of the patient. The catheter is generally sutured in place and a sterile bandage is then placed over the entire entry site.

After the procedure: When the right heart catheter is no longer required, the catheter and the introducer sheath are removed and light pressure is placed over the entry site to stop any bleeding which may occur. A small bandage can be placed over the puncture site until it is healed.

Risks of the procedure: Risks of right heart catheterization are usually minor, but can include bleeding at the site, abnormal heart beats (both rapid and slow), knotting of the catheter during insertion, perforation of the vein or artery, bleeding in the lung, blood clots which can form on the catheter, infections related to the catheter itself, air introduced into the area around the lung during insertion of the sheath, and perforation of the heart. These complications are rare.

Procedure alternatives: There are no alternative procedures which can provide the important information obtained during invasive right heart catheterization. Indirect data can be obtained using transthoracic echocardiography or ultrasound of the heart; however, generally right heart catheterization data and information obtained by transthoracic echocardiography are used together in providing proper management of the patient. In certain instances cardiac CT or cardiac MRI can provide similar information to right heart catheterization.

Probable consequences of refusing the procedure: In the event that a right heart catheter is not done, the diagnosis and management of the disease process will be more likely to be empiric and not based on hard clinical data. Therefore, there will remain a possibility that the patient will be incorrectly treated or that an important diagnosis will be missed.

Person(s) performing the procedure: The key portions of the procedure will be performed by a physician who is a member of the medical staff of Rush University Medical Center or a fellow in the advanced training program in cardiovascular medicine who is observed by a physician who is a member of the medical staff. Cardiovascular medicine fellows are licensed physicians in approved post-residency training programs. Portions of the procedure which they perform will be based on their level of competency.