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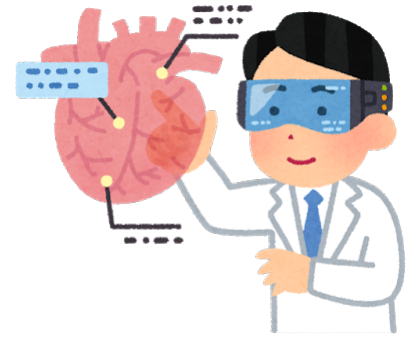
Pediatric Cardiac Catheterization Care



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All information above has been reviewed by Pediatric specialists
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Taichung Veterans General Hospital

I.What is cardiac catheterization?



The cardiac catheter is a soft and sterile catheter that can insert into a blood vessel in the groin, an artery in the forearm, or a blood vessel in the neck. With the aid of X-ray, it is placed along the blood vessels to the heart, then the contrast injection is used to evaluate the condition of the heart, valves and coronart artery as a technique for diagnosis and treatment, it can also as an examination or follow-up before and after heart surgery.

II.What does the situation need to implement the cardiac catheterization?

1. The examination:

The cardiac catheterization can view the heart structure, heart function, blood flow,occlusion of cardiac vascular, oxygenation, cardiac electrical physiology, pressure value of cardiac, cardiac biopsy, etc.



2. The treatment:

Device closure of congenital heart defects, including patent ductus arteriosus(PDA), atrial septal defect(ASD), ventricular

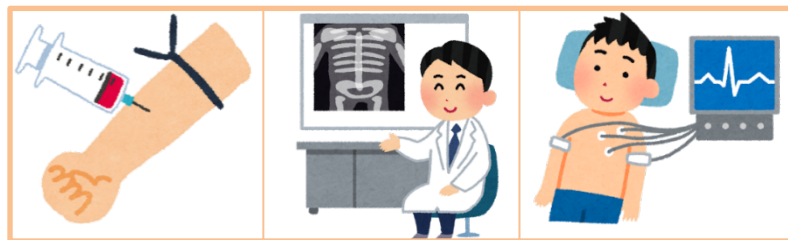
septal defect(VSD).Balloon dilation, placement of stent treat stenosis blood vessels. The electrocautery or placement of a pacemaker treat arrhythmias.



III.The precautions of cardiac catheterization:

1.Before Examination

- (1) Hospitalization is arranged and patient will need to have a routine blood analysis, chest X-ray, electrocardiogram, and echocardiography.



- (2) Sedation Anesthesia Permit and Cardiac Catheterization

Permit must be accomplished by the legal guardian of the children.

- (3)Take a shower to keep skin clean.
- (4) Before cardiac catheterization, infants should fast for 4-6 hours, children and adults fast for 6-8 hours.
- (5) An intravenous line will be performed so that medications and fluids can be given through your vein during the procedure.

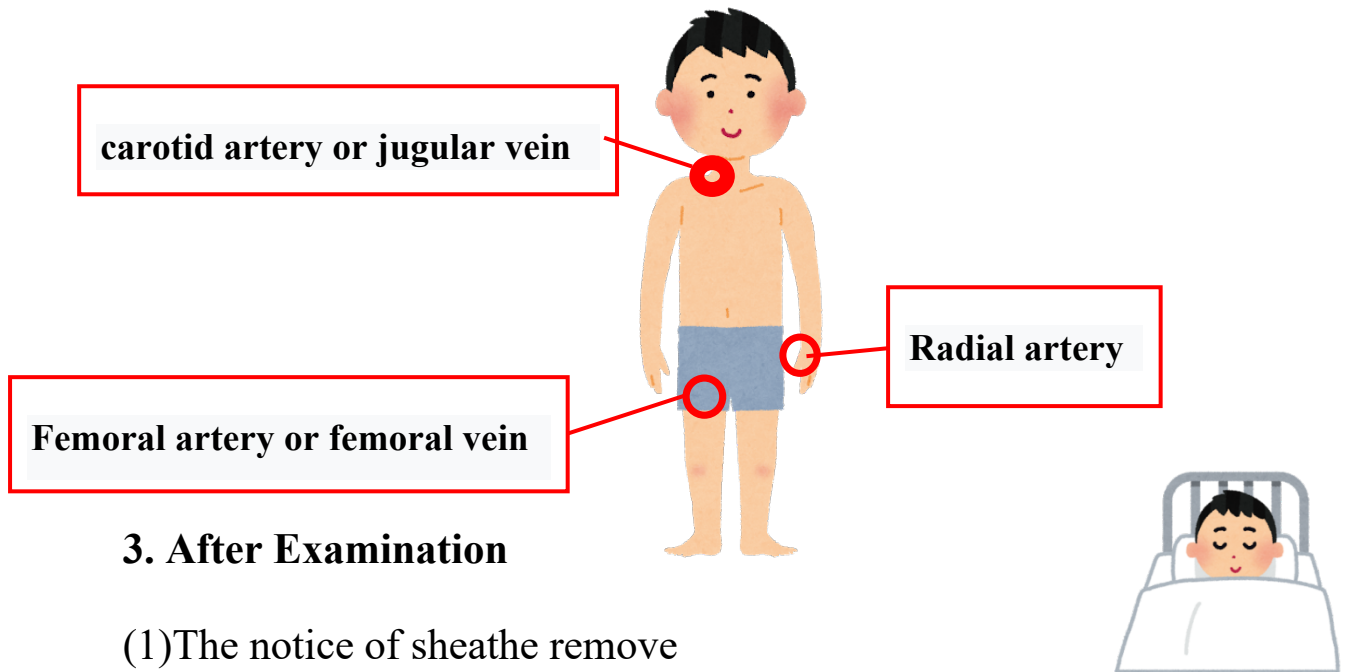
(6) Please tell the doctors or nurses if you or your children have any uncomfortable symptoms.



2. During Examination

- (1) Please take off your underwear (except diapers) when you are notified for cardiac catheterization.
- (2) Cardiac catheterization usually takes about 90 ~120 minutes, including the preparation in nursing station to recovery time in cardiac catheterization room. Some patients needing special treatments will require more time during the procedure. Family members should wait outside the cardiac catheterization room patiently.
- (3) Sedative drugs will be given to help patient relax if necessary.
- (4) Sterilization and local anesthesia will be performed by the cardiologist at the catheter insertion site. Then, the catheters will be inserted at the right or left groin into the heart. When the catheter is in place, a small amount of contrast will be injected into the blood vessels or the heart and digital x-ray

films will be used to show images of how the blood flows inside the heart.



3. After Examination

(1)The notice of sheathe remove

a.After pulling out the inspection catheter, the doctor will first press the wound with his hands to stop the bleeding, and then come back to the ward to continue to use a sand bag to stop the bleeding. The hemostasis time is according to the doctor's instructions; you must lie down for 4-6 hours without getting out of bed.

b.On the day of cardiac catheterization, get out of bed should be reduced, pressurized with a sand bag for 4-6 hours (to avoid rebleeding), and the wound should be kept dry (to prevent bacterial infection).

c. If you lie down and pressurize with the sand bag, please pay attention to whether there is blood oozing from the wound during activities. If there is blood oozing, please notify the nursing staff immediately. If the wound continues to ooze blood, the sand bag will continue to pressurize the wound. Until there is no bleeding.

d. Within 24 hours after the catheter is removed, do not exert too much force on the affected limb, do not lift heavy objects, and do not exercise vigorously.

(2) If you need to use the toilet while lying flat, please notify the nurse to assist with the use of diapers, bedpans or urinals on the bed.

(3) Nursing staff will regularly monitor the breathing, heartbeat, blood pressure, and the presence of bleeding at the puncture site, and whether the lower extremities turn purple or black, swell, or have poor local blood circulation.

(4) Family members should help to observe patient's condition.

If dizziness, chest tightness, palpitation, nausea/vomit, sweating, bleeding from the gauze on the wound, and

confusion, conscious change or any uncomfortable symptoms occurred, do notify the doctor and nurse immediately.



(5)After backing from sedation,the patient could be feed with little water. If no vomiting or choking was found observation 30 minutes, the patient could eat without contraindications.

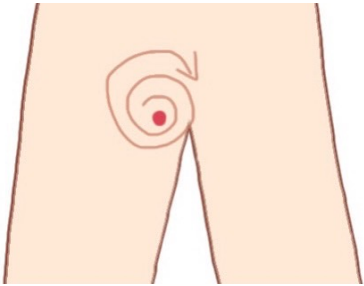
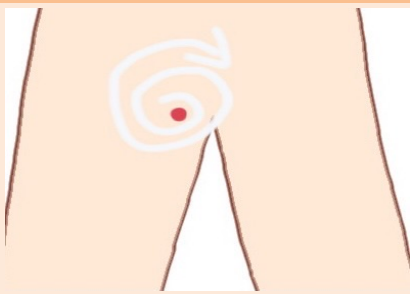
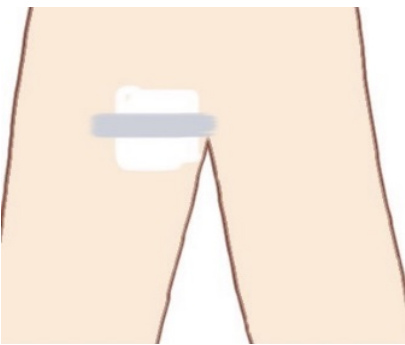
(6)Your child would need to be transferred to Pediatrics Intensive Care Unit(PICU) if special treatments were performed during the examination or the patient had a critical congenital heart disease with serious condition.



(7)The wound should be checked and dressing changed by the doctor next day. After the interpretation of Electrocardiogram, Echocardiography Laboratory, or Chest X-ray, the doctor will determine the date of discharging from the hospital.

V. The precautions after you discharged:

1. Gauze and dressing should be changed every day and the wound should stay dry and clean after you discharged. The ways to change them are as the following:

	Use sterile cotton sticks with water soluble iodine, swipe on the wound in a circular way from out to in. Don't swipe on back again. And the circular range should be 5cms bigger than the wound.
	2 mins later, use physiological saline to clean up the water soluble iodine in the same way.
	At last, cover up the wound with sterile gauze and get it fixed with medical paper tape. Dressing change routine should be carried until the wound gets encrusted. And if the wound gets wet or gauze is dropped, change the dressing and gauze right away.

2. If you had treatment, the medicine must be taken on time according to the doctor's instructions after cardiac catheterization.

3. Patient may have to return to the hospital when the puncture wound has inflammation symptoms such as redness, swelling, heat, serious pain or bruise swelling over the catheterization site, and observe the urine color, like hematuria or tea colored urine.

4. Exercise as what the doctor recommends, and also take medication to prevent infective endocarditis.



VI. Reference:

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Let's take a test to confirm that you have a thorough understanding.

1. After completion of the cardiac catheterization, it is necessary to lie flat for 4-6 hours, and apply pressure to the puncture site for 4-6 hours to prevent bleeding.
☐YES ☐NO ☐Not sure
2. Avoid strenuous exercise and heavy lifting within 24 hours after a cardiac catheterization.
☐YES ☐NO ☐Not sure
3. After discharge, there is no need to change the dressing or pay attention to the wound from the cardiac catheterization.
☐YES ☐NO ☐Not sure
4. Within 24 hours after a cardiac catheterization, if there is a need to cough, sneeze, climb stairs, or engage in strenuous activities, use your hand to apply pressure to the incision to avoid bleeding.
☐YES ☐NO ☐Not sure
5. After the cardiac catheterization is completed, it is necessary to observe whether there is bleeding at the puncture site and check for any signs of discoloration, swelling, or other abnormalities in the lower limbs.
☐YES ☐NO ☐Not sure