



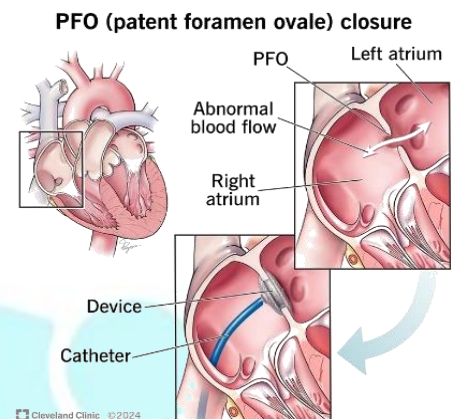
Operation Information

Patent Foramen Ovale (PFO) Closure

Introduction

The foramen ovale is a naturally occurring opening in the wall (interatrial septum) between the right and left atria of the heart, which is normal during fetal development but typically closes on its own after birth. However, in up to one-fourth of adults, this opening fails to close completely. Despite most individuals with a PFO remaining asymptomatic, it can significantly increase the risk of stroke in some patients; this occurs when blood clots from the body bypass the lungs by passing directly through the opening into the left atrium, where they enter the bloodstream and block blood vessels in the brain.

To mitigate this danger, a PFO closure is performed—a minimally invasive procedure that uses a specialized closure device to permanently seal the PFO, thereby blocking the pathway for clots and reducing the long-term risk of stroke.



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Source:
<https://my.clevelandclinic.org/health/diseases/17326-patent-foramen-ovale-pfo>

Outcomes

Transcatheter patent foramen ovale closure would reduce the risk of stroke.

Procedures

Placement of the PFO occluder will be performed by cardiologists experienced in intervention for structural heart diseases. This operation will be performed in a well-equipped cardiac catheterization laboratory guided by fluoroscopy and transesophageal echocardiography (TEE). Intra-cardiac echocardiography may also be used for guidance of the operation.

1. This operation is performed under sterile conditions with general anaesthesia (GA) or monitored anaesthetic care (MAC) delivered by an anaesthetist. The operation may also be performed using local anaesthesia.
2. Electrodes will be adhered to the chest to monitor the heart rate and rhythm. Other vital signs such as blood oxygen level and blood pressure will be monitored.
3. Doctor may perform TEE during the operation. This test uses sound waves (ultrasound) to take a closer look at the structures of the heart. To perform the test, a thin flexible tube with a special tip will be swallowed. This tube sits in the esophagus (the tube that connects the mouth to the stomach). The special tip of the tube sends out sound waves that echo within the chest wall. The esophagus is located behind the heart so these echoes are picked up and create a picture of the heart that is displayed on a video monitor. The pictures will allow the doctor to take a closer look at the PFO.
4. A small wound is made over the groin for access to the vein. Both groins may be used. Sheaths will be placed inside the vein. Catheters are advanced to the heart. Pressures within the heart are measured. Contrast is injected and films are taken.

5. The catheters will be passed through the PFO under echocardiographic or fluoroscopic guidance. Contrast injection may be required for the operation.
6. Appropriate size of PFO occluder will be chosen according to the repeated measurement of PFO by echocardiographic and fluoroscopic assessment.
7. After deployment of the PFO occluder, the doctor will confirm that the device is located at the optimal position with firm stability, adequate size compression, and adequate sealing. After the final release of the PFO occluder, it will be detached from the catheter which will be removed from the body.

Possible Risks & Complications

1. There is a small risk of around 0.5-1% of respiratory depression, low blood pressure or heart rate associated with GA or MAC. The sedative process will be closely monitored by an anaesthetist to ensure safety.
2. There is a small risk regarding TEE (less than 0.5% esophageal rupture or aspiration pneumonia) but the test would be necessary in most patients to have a clear look at the PFO, to guide the operation and to monitor the development of severe complications.
3. The operation is associated with major complications, including cardiac perforation and tamponade (about 4%), device embolism (about 1%), stroke (about 0.5%), major bleeding (about 1%) and death (about 1%).

****** The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or vessel perforation, further operations may be required.

Pre-operative Preparations

1. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of the operation.
2. TEE or Computed Tomography (CT) will be performed to assess and confirm the anatomy of the PFO, to see whether PFO closure is suitable.
3. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
4. Please inform the doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia.
5. Blood thinner medications or Metformin (for diabetes) may have to be stopped several days before the operation as per the doctor's instructions. Steroid will be given if there is a history of allergy. Special anti-platelet drug (e.g., Plavix) should be taken before the operation. Antibiotics will be given to decrease the chance of infection on the day of the operation.
6. No food or drink four to six hours before the operation. An intravenous drip may be set up. Shaving may be required over the puncture site.
7. If you are a female, please provide the last menstrual period (LMP) and avoid pregnancy before the operation as this operation involves radiation exposure.
8. Please change into a surgical gown after removing all belongings including undergarments, dentures, jewellery and contact lenses.
9. Please empty your bladder before the operation.

Post-operative Instructions

1. After the operation, the catheters will be removed. The wound site will be compressed or sutured to stop bleeding.
2. The blood pressure, pulse and wound will be monitored regularly by nursing staff.
3. Bed rest may be necessary for 4 hours. In particular, please do not move or bend the affected limb. Please apply pressure to the wound with your hand while coughing and sneezing.
4. Please inform the nurse of any discomfort in particularly chest discomfort or blood oozing from the wound site.
5. Once the diet is resumed, please take more fluids to help eliminate contrast by passing urine.
6. Please follow the instructions on the use of medications.
7. Usually, you can be discharged a couple of days after the operation.

Advice on Discharge

1. The wound will be inspected and covered with a light dressing. Please keep the wound site clean and change the dressing if wet. In general, showers are allowed after 2 days.
2. Please avoid vigorous activities (household or exercise) in the first 3 days after the operation. Bruising around the wound site is common and usually subsides 2-3 weeks later.
3. Usually, the doctor will explain the results of the operation before discharge. For any further questions, please discuss with the doctor during subsequent follow-up.
4. After device implantation, oral anticoagulant, or double antiplatelet (Aspirin and Clopidogrel) will be prescribed for the initial 6 months and then Aspirin alone indefinitely.
5. TEE would be performed within 3 months after the operation to assess the sealing of the PFO by the device.
6. Please take appropriate endocarditis prophylaxis for 6 months following device implantation.
7. Immediately consult your doctor or return to the hospital for professional attention in the event of any signs of infection, such as an increase in swelling or pain over the wound, shivering, high fever over 38°C or 100.4°F, or any other unusual symptoms, etc.
8. Any follow-up consultations should be attended as scheduled.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

Compiled by Union Hospital Operating Theatre (OT) Governance Committee

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