

Procedure Information Sheet – Left Atrial Appendage Occlusion (LAAO)

Hosp No. :	HKID No.:
Case No. :	
Name :	
DOB :	M / F
Adm Date :	
Contact No. :	

1. Introduction

1.1. Atrial fibrillation (AF) is the most common cardiac arrhythmia, affecting 3-5% of the population aged 65-75years, and increasing to >8% of those older than 80 years. It is associated with substantial mortality and morbidity, particularly due to fatal or disabling stroke. The risk of ischemic stroke in patients with non-valvular AF (NVAf) is 3-5% per year, which is a fivefold increase compared with the unaffected population. For prevention of this complication, oral anticoagulation (OAC) is the standard treatment in patients with AF with a CHA2DS2-VASc stroke risk score >1. This anticoagulant therapy has been proven to effectively prevent thromboembolic strokes, but the increased risk of serious bleeding prevents many patients from taking this therapy. Therefore, alternative treatment option for stroke prevention – without increasing the risk of bleeding – in patients with AF with increased stroke risk are needed. Percutaneous left atrial appendage occlusion (LAAO) is a minimally invasive therapy, which should be taken into consideration in those patients with AF with a high stroke risk and not suitable for long-term use of OAC.

2. Before the Procedure

- 2.1. Doctor will review your medical record, history and current medications to confirm you are suitable for LAAO.
- 2.2. Trans-esophageal echocardiogram (TEE) will be performed to assess and confirm the anatomy of left atrial appendage, to see whether you are feasible for LAAO.
- 2.3. Doctor will explain to you and your relatives the benefits and details of the procedure, together with the possible risks and complications. You have to sign a consent form.
- 2.4. Before the procedure, your doctor will prescribe anti-platelet medications for you to prevent blood clot formation. You will be given antibiotic to decrease your chance of infection on the date of procedure.
- 2.5. Anti-coagulant or Metformin (for diabetes) may have to be stopped several days before the procedure. Drugs such as steroid may be prescribed as prophylaxis for allergy.
- 2.6. Fasting of 4-6 hours is required prior to the procedure. An intravenous drip may be set up. Shaving may be required over the puncture sites.
- 2.7. If you are a female, please provide your last menstrual period (LMP) and avoid pregnancy before the procedure as this procedure involves exposure to radiation.

3. The Procedure

- 3.1. Placement of the occluder will be performed by cardiologists experienced in intervention for structural heart diseases. This procedure will be performed in a well-equipped cardiac catheterization laboratory guided by fluoroscopy and transesophageal echocardiography (TEE).
- 3.2. This procedure is performed under sterile conditions with general anesthesia (GA) or monitored anesthetic care (MAC) monitored by an anesthetist.
- 3.3. Electrodes will be adhered on the chest to monitor the heart rate and rhythm. Blood oxygen monitor through your fingertip will be set up.
- 3.4. Measurement of blood pressure from your arm will be taken during the procedure.
- 3.5. Your doctor may perform TEE during the procedure. This test uses sound waves to take a closer look at the inside structures of the heart. To perform the test, you will swallow a thin flexible tube with a special tip. 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 (ultrasound) 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 your doctor to take a closer look at your left atrial appendage.
- 3.6. A small wound is made over the groin for access to your 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.
- 3.7. The septum separating the left and right atrium is punctured by a special needle under echocardiographic guidance. Contrast injection may be required for the procedure.



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- 3.8. Appropriate size of LAAO device will be chosen according to the repeated measurement over your LAA by echocardiographic and fluoroscopic assessment.
- 3.9. After deployment of the LAAO device, your doctor will confirm the device is located at optimal position with firm stability, adequate size compression, and adequate sealing over all lobes of LAA. After the final release of the LAAO device, the device will detach from the catheter that will be removed out of your body.

4. After the Procedure

- 4.1. After the procedure, catheters will be removed. The wound site will be compressed to stop bleeding.
- 4.2. Nursing staff will check your blood pressure, pulse and wound regularly.
- 4.3. Bed rest may be necessary for 4 hours. In particular, please do not move or bend the affected limb. Whenever you cough or sneeze, please apply pressure on the wound with your hand.
- 4.4. You should inform your nurse if you have any discomfort in particularly chest discomfort or find blood oozing from the wound site.
- 4.5. Once diet is resumed, please take more fluid to help eliminate contrast by passing urine.
- 4.6. Please follow instruction for the use of medications.

5. Follow Up

- 5.1. Usually you can be discharged in two to three days after the procedure.
- 5.2. The wound will be inspected and covered with light dressing. Please keep the wound site clean and change dressing if wet. In general, showers are allowed after 2 days.
- 5.3. Please avoid vigorous activities (household or exercise) in the first 3 days after the procedure. Bruising around the wound site is common and usually subsides 2-3 weeks later. If you notice any signs of infection, increase in swelling or pain over the wound, please come back to the hospital or visit a nearby Accident and Emergency Department immediately.
- 5.4. Usually your doctor has explained to you the results of the procedure before discharge. Should you have further questions, you and your close relatives can discuss with your doctor during subsequent follow-up.
- 5.5. After device implantation, your doctor will prescribe oral anticoagulant, or double anti-platelets (Aspirin and Clopidogrel) for initial 6-months and then Aspirin alone indefinitely.
- 5.6. Transesophageal Echocardiography would be performed within 3 months after the procedure to assess the sealing of LAA by the device.

6. Risks and Complications

- 6.1. There is a small risk about 0.5-1% of respiratory depression, low blood pressure or heart rate associated with general anesthesia or monitored anesthetic care. The sedative process will be closed monitored by an anesthetist to ensure safety.
- 6.2. There is a small risk regarding TEE (less than 0.5% esophageal rupture or aspiration) but the test would be necessary in most patients to have clear look of LAA, to guide the operation and to monitor development of severe complications.
- 6.3. The procedure 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%).

7. Remarks

- 7.1. It is hard to mention all the possible consequences if this procedure is refused.
- 7.2. The list of complications is not exhaustive and other unforeseen complications may occasionally occur. The risk quoted is in general terms. In special patient group (e.g. diabetics), the actual risk may be higher.
- 7.3. Should a complication occur, another life-saving procedure or treatment may be required immediately.
- 7.4. If there is further query concerning this procedure, please feel free to contact your nurse or your doctor.



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8. Reference

- 8.1. Holmaes, D. R., Reddy, V. Y. & Turi, Z. G, et al. (2009). Percutaneous closure of the left atrial appendage versus warfarin therapy for prevention of stroke in patients with atrial fibrillation: a randomised non-inferiority trial. *Lancet*, 374 534-42.
- 8.2. Reddy VY, Holmes D, Doshi SK, et al. (2011) Safety of percutaneous left atrial appendage closure: results from the Watchman Left Atrial Appendage System for Embolic Protection in Patients with AF (PROTECT AF) clinical trial and the Continued Access Registry. *Circulation*, 23 417–24.
- 8.3. Reddy VY, Möbius-Winkler S, Miller MA, et al. (2013). Left atrial appendage closure with the Watchman device in patients with a contraindication for oral anticoagulation: the ASAP study (ASA Plavix Feasibility Study with Watchman Left Atrial Appendage Closure Technology). *J Am Coll Cardiol*, 61:2551–6.
- 8.4. Tzikas, A. (2013). LAAO for stroke prevention in AF: multicenter experience with the Amplatzer Cardiac Plug (ACP). San Francisco: Transcatheter Cardiovascular Therapeutics Scientific Sessions.
- 8.5. Hospital Authority. Smart Patient Website.

I acknowledged the above information concerning the operation or procedure. I have also been given the opportunity to ask questions and received adequate explanations concerning the condition and treatment plan.

Patient/ Relative Signature: _____

Patient/ Relative Name: _____

Date: _____

