

OPTIONS TO CLOSE ATRIAL SEPTAL DEFECTS (ASDs)



Improved Exercise Tolerance



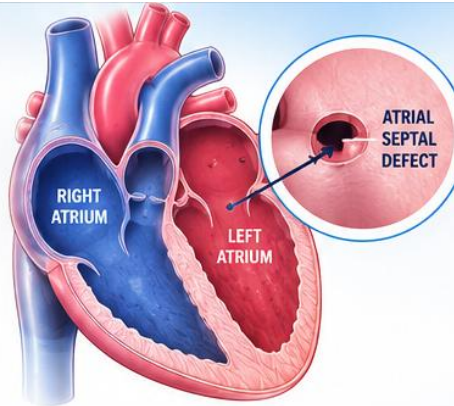
Prevents Right Heart Enlargement & Complications



Reduces Risk of Arrhythmias & Stroke



Better Quality of Life



An ASD is a hole in the wall (septum) between the upper chambers (atria) of the heart.

Closing the defect can improve symptoms, prevent complications, and protect long-term heart health.

1 OBSERVATION (NO IMMEDIATE CLOSURE)

Not all ASDs require immediate intervention.

SMALL ASDs

- May close spontaneously, especially in infants and young children
- Monitored with periodic echocardiograms
- No treatment needed if:
 - No right heart enlargement
 - No symptoms
 - No significant shunting



FOLLOW-UP INCLUDES



Echocardiography



Monitoring Growth & Exercise Tolerance



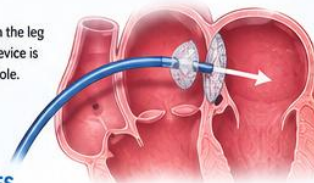
Watching for Arrhythmias or Pulmonary Hypertension

2 TRANSCATHETER DEVICE CLOSURE (NON-SURGICAL)

Preferred option for many secundum ASDs.

HOW IT WORKS

A catheter is inserted through a vein in the leg and guided into the heart. A closure device is deployed across the ASD to seal the hole.



COMMONLY USED DEVICES

AMPLATZER™ SEPTAL OCCLUDER

Most commonly used device worldwide



GORE® CARDIOFORM™ SEPTAL OCCLUDER

Softer, flexible device; useful in smaller or more delicate anatomy



OCCLUTECH® FIGULLA FLEX II

Alternative device used in many centers internationally



⚠ POSSIBLE RISKS

- Device embolization (rare)
- Arrhythmias
- Residual leak
- Cardiac erosion (very rare but serious)
- Blood clots or stroke
- Nickel allergy reactions (rare)

✓ ADVANTAGES

- ✓ No chest incision
- ✓ No heart-lung bypass
- ✓ Short hospital stay (often same day or overnight)
- ✓ Faster recovery
- ✓ Minimal scarring

❗ LIMITATIONS

- Suitable for: Secundum ASDs with adequate rims and appropriate size
- **NOT** suitable for: Very large defects, deficient rims, primum ASDs, sinus venosus ASDs, coronary sinus defects

3 SURGICAL ASD CLOSURE

Recommended when device closure is not feasible.

TYPES OF SURGICAL REPAIR



PRIMARY SUTURE CLOSURE
Small defects may be stitched closed directly.



PATCH CLOSURE
Larger defects are repaired using:
• Pericardial patch (patient's own tissue)
• Synthetic patch material

CONDITIONS COMMONLY REQUIRING SURGERY

- ✓ Primum ASDs (often associated with valve abnormalities)
- ✓ Sinus Venosus ASDs (often associated with anomalous pulmonary veins)
- ✓ Very Large Secundum ASDs (especially if rims are inadequate for device anchoring)

✓ ADVANTAGES

- ✓ Can repair nearly all ASD types
- ✓ Excellent long-term outcomes
- ✓ Allows correction of associated abnormalities

❗ DISADVANTAGES

- Open-heart surgery
- Chest incision/scar
- Longer recovery
- Requires cardiopulmonary bypass

MINIMALLY INVASIVE SURGICAL OPTIONS

Some centers offer mini-thoracotomy or robotic-assisted ASD repair.



- ✓ Smaller scars
- ✓ Faster recovery
- ✓ Less postoperative discomfort

4 EVALUATION BEFORE CLOSURE

- Echocardiogram (TTE/TEE)
- Electrocardiogram (ECG)
- Cardiac MRI or CT (as needed)
- Cardiac catheterization (in selected patients)



5 OUTCOMES AFTER ASD CLOSURE

Most patients do very well after closure.

- ✓ Improved exercise tolerance
- ✓ Prevention of right heart enlargement
- ✓ Reduced arrhythmia risk
- ✓ Reduced pulmonary hypertension progression
- ✓ Improved quality of life



Earlier closure generally leads to better long-term outcomes.

6 WHEN ASD CLOSURE MAY NOT BE RECOMMENDED

- ✗ Severe irreversible pulmonary hypertension (Eisenmenger physiology)
- ✗ Tiny hemodynamically insignificant defects
- ✗ Certain complex congenital heart conditions



Dr. Shabib Alhadheri, MD
Advanced Pediatric Cardiology

1478 W Elliot Rd, Suite 102, Gilbert, AZ 85233

Phone: 480-855-1339

Website: www.apcario.com

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