

## Guideline for assessment and treatment of Atrial Septal Defect (ASD) in adults

### Guideline Detail

Board Approval Date: May 2019 (to be completed by Network Team)

Next Review date: May 2021

Status:

### Contents

#### Summary of Guideline

Atrial septal defect (ASD) is one of the most common lesions diagnosed in adult life. It is a hole between the left and right atriums.

Treatment to close the hole (if significant enough) may be performed via a cardiac catheter or surgery in a Specialist Congenital Centre (Leeds Teaching Hospitals)

Management and follow-up will depend on the type of ASD and treatment pathway

#### Aims

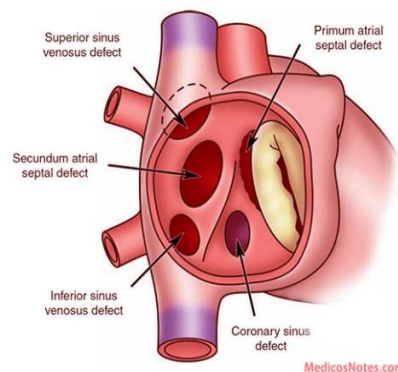
To improve the diagnosis and management of adults with an ASD

#### Objectives

To provide evidence-based recommendations for appropriate diagnosis, investigation and management of adults with an ASD

#### Background

An ASD causes right heart volume loading, which can lead to tricuspid regurgitation, right heart failure and atrial arrhythmias. Pulmonary hypertension is rare but does occur in a small number of patients.



- **Secundum:** This is the most common type of ASD, and occurs in the middle of the atrial septum.
- **Primum:** This defect occurs in the lower part of the atrial septum, and may occur with other congenital heart problems.
- **Sinus venosus:** This rare defect usually occurs in the upper part of the atrial septum, associated with the SVC. Anomalous drainage of the right upper +/- middle lobe pulmonary veins is common. It rarely occurs inferiorly associated with the IVC.
- **Coronary sinus.** In this rare defect, part of the wall between the coronary sinus — which is part of the vein system of the heart — and the left atrium is missing.

#### ASSOCIATED LESIONS

- Partial anomalous venous drainage of right pulmonary veins (common with sinus venosus defects, occasionally with secundum ASDs)
- Persistent left SVC to coronary sinus with coronary sinus defects
- Mitral valve prolapse
- Pulmonary stenosis

## LONGTERM COMPLICATIONS OF UNTREATED/TREATED ASD

- Arrhythmias (late AF in up to 1/3, especially if > 40 years and/or if atrial arrhythmias pre-operatively)
- Residual/recurrent ASD is uncommon
- SVC/pulmonary vein stenosis may occur after sinus venosus ASD closure
- Pericardial effusion and tamponade can occur in weeks after surgical closure ASD. The patient may present with fever, fatigue, vomiting, chest pain, or abdominal pain and will require an immediate trans thoracic echo.
- Following device closure there is a risk of device migration or erosion (see Device Clinic Guideline)

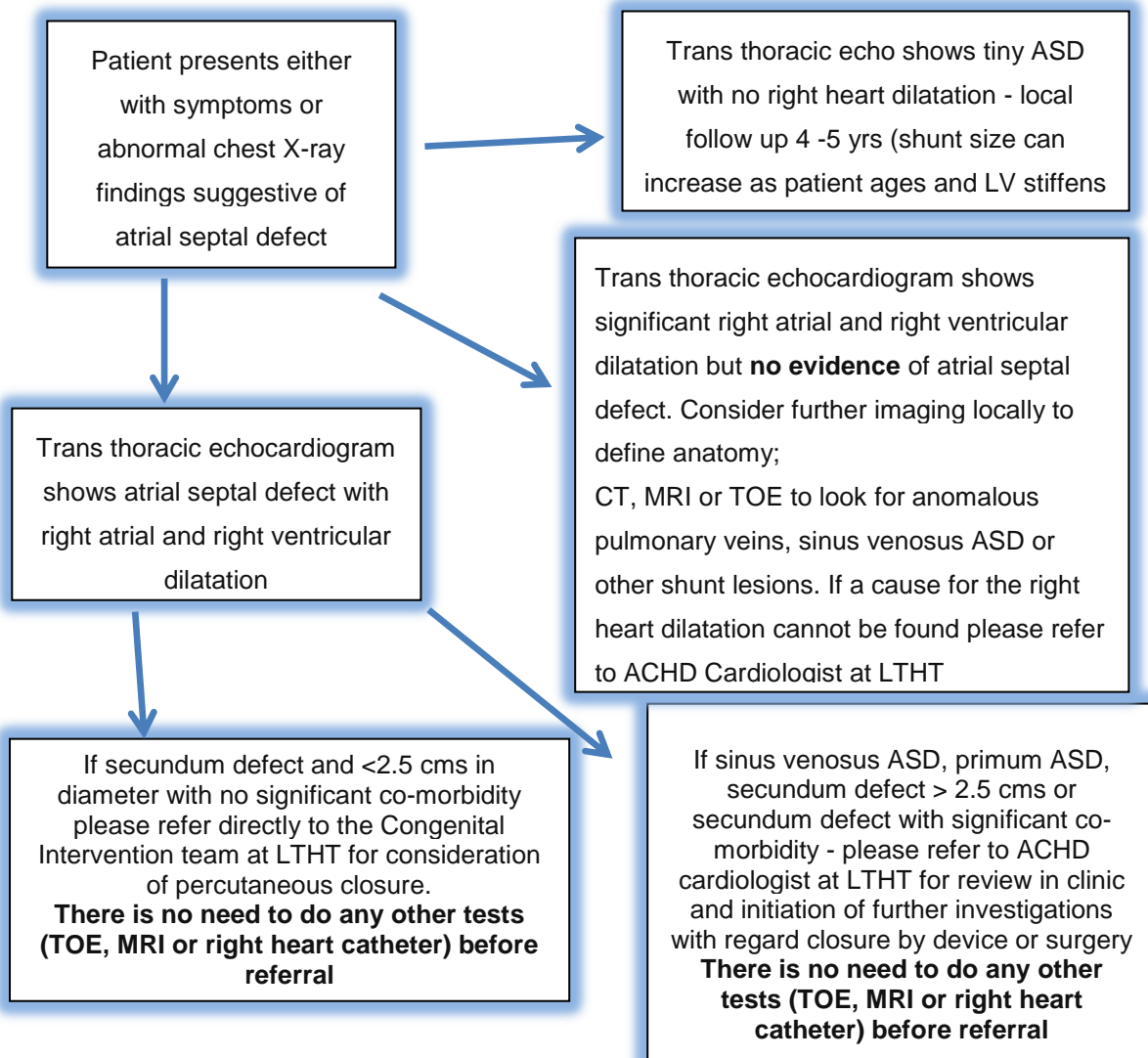
## Diagnosis

Patients often present in late middle age with increasing breathlessness, atrial arrhythmias or the ASD is picked up as an incidental finding following routine CXR or echo. A transthoracic echocardiogram will confirm the diagnosis in the majority of patients with ASD.

If transthoracic echocardiogram shows right atrial and right ventricular dilatation but no evidence of ASD consider further imaging to define anatomy;

CT, MRI or TOE to look for anomalous pulmonary veins, sinus venosus ASD or other shunt lesions.

## Treatment / Management



## FOLLOW-UP FOR PREVIOUSLY CLOSED ASD

- If the patient had a **secundum** defect repaired as a child with no sequelae, **discharge** - (be aware of the potential for associated lesions in patients with historic repairs - if on going right heart dilatation, please refer to ACHD cardiologist in Leeds, Sheffield or Hull for further investigations)
- Following adult repair and stable **4 - 5 yearly review locally** - there is an increased risk of arrhythmias
- If pre-closure PH, atrial arrhythmias, RV or LV dysfunction, or associated significant lesions, **6 monthly follow-up** in Leeds, Sheffield, or Hull ACHD clinics
- If unoperated and no indication for closure (ie no right heart dilatation - this can develop as patients age due to increasing LV stiffness), **3 yearly follow-ups at the local hospital under general cardiology**.
- Following device closure patients lost to follow up should be referred to device clinic at LTHT

### Audit and Monitoring Compliance

The number of surgical and intervention treatments will be recorded on 4D, and data submitted to the national database NICOR. These outcomes are monitored nationally, and any deviation from expected outcomes will be notified. Procedural complications are recorded on the 4D database, and discussed in the monthly departmental clinical governance meeting.

Audit results will be presented to the Network Board meeting, which will agree actions arising from the recommendations, and monitor the progress of the actions.

### Conflicts of Interests

None

### Provenance:

Author: Dr Kate English, Consultant Cardiologist

Clinical condition: Atrial Septal Defect (ASD)

Target patient group: Adults

Target professional group : Consultant Cardiologists based in the Yorkshire & Humber Network

### Evidence Base:

References and Evidence levels:

C. Expert consensus.

Baumgartner H et al. ESC Guidelines for the management of grown-up congenital heart disease (new version 2010).

Eur Heart J. 2010 Dec;31(23):2915-57

Stout KK, Daniels CJ, Aboulhosn JA, Bozkurt B, Broberg CS, Colman JM, Crumb SR, Dearani JA, Fuller S, Gurvitz M, Khairy P, Landzberg MJ, Saidi A, Valente AM, Van Hare GF, 2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease, *Journal of the American College of Cardiology* (2018), doi: 10.1016/j.jacc.2018.08.1029

Canadian Adult Congenital Heart Network ([www.cachnet.org](http://www.cachnet.org))

Approved by Y+H CHD Network Board, May 2019

For review, May 2021

