Clinical Guidelines

VENTRICULAR SEPTAL DEFECT

SETTING	South West England and South Wales
GUIDELINE FOR	Cardiology teams in South West England and South Wales hospitals
PATIENT GROUP	Adult patients with congenital heart disease

GUIDANCE

Follow-up:
Small VSD (native or residual, normal LV, normal PAP, asymptomatic) – 3-5 years
Small VSD with haemodynamic effect or larger VSD - yearly
Post surgical closure (with no residual abnormality) – 5 years
Post device closure – regular f/u during first 2 years, then 2-5 yearly depending on result
Discharge isolated muscular VSDs

Associated lesions:
valvar or subvalvar pulmonary stenosis
double-chambered RV
usually isolated but a common component of complex CHD, e.g. (eg, Fallot, TGA)
left-sided obstructive lesions (e.g. subaortic stenosis and coarctation)
progressive aortic regurgitation due to cusp prolapse through the defect

Inheritance:
occasionally familial
5% maternal inheritance

Long-term complications:
aortic regurgitation (5%, especially if sub-arterial VSD)
tricuspid regurgitation
left ventricular dysfunction
PH
subpulmonary stenosis, usually due to DCRV
discrete subaortic stenosis
patch leaks or residual VSDs (seldom require reoperation)
AF if LA dilatation from chronic volume overload
complete heart block early or late after surgical repair
ventricular arrhythmias uncommon unless late repair
endocarditis

At each visit:

History:
usually none
palpitations
dyspnoea

Exam:	systolic murmur at the left lower sternal border can be VSD or RVOTO early diastolic murmur at LSE if AR
ECG:	normal unless Eisenmenger's or LV dilatation
Echo:	residual shunting location, number and size of any residual defect LA and LV size left ventricular function aortic valve prolapse (of RCC or NCC) and/or regurgitation RV or LV outflow obstruction tricuspid regurgitation estimation of RV systolic pressure from TR jet (if high, excluded RVOT obstruction)

Further investigations:

CXR:	not routine normal if small VSD
CPET:	to assess functional capacity and chronotropic competence if bi (tri) fascicular block post repair
Holter:	periodic if bi (tri) fascicular block post repair
TOE:	most useful to assess VSD/AR
Catheter:	for quantification of shunting, assessment of PAP and PVR/reversibility if suspected PH.
EP study:	for refractory atrial arrhythmias.
MRI:	useful for assessment of anatomy of RVOT obstruction for LV volumes and to estimate Qp/Qs
Drugs:	if LV dysfunction
Pregnancy:	no contra-indications in uncomplicated VSD contraindicated in Eisenmenger's
Contraception:	no limitations
Endocarditis:	antibiotic prophylaxis before high-risk dental work if prosthetic valve, previous endocarditis, residual defects at the site of or adjacent to the site of prosthetic material and for 6 months following VSD closure

Discuss if:

- left to right shunt with left heart volume overload and no PH. If PH present, closure still considered if left to right shunt (Qp:Qs >1.5)
- greater than mild aortic regurgitation

- subaortic stenosis
- previous endocarditis
- significant right ventricular outflow tract obstruction (cath gradient or mean echo gradient > 50 mmHg)
- development of double chambered RV

Appendix 1 – Evidence of Learning from Incidents

The following table sets out any incidents/ cases which informed either the creation of this document or from which changes to the existing version have been made.

Incidents	Summary of Learning
n/a	

Table A

REFERENCES	• Baumgartner H et al. 2020 ESC Guidelines for the management of adult congenital heart disease. Eur Heart J. 2020 00, 1-83. • Stout et al. 2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease. Journal of the American College of Cardiology Aug 2018, 735-1097. • Canadian Adult Congenital Heart Network (www.cachnet.org)
RELATED DOCUMENTS AND PAGES	Regional Referral Guidance for Adult Patients with Congenital Heart Disease RegionalReferralGuidanceAdultPatientsWithCongenita-3.pdf Regional Referral Pathway for Cardiac Disease in Pregnancy ClinicalGuidelineForCardiacDiseasePreExistingOrPre-1.pdf
AUTHORISING BODY	Cardiac Executive Group, Bristol Heart Institute
SAFETY	None
QUERIES AND CONTACT	**Bristol:** Contact any of the following via UHBW switchboard – 0117 923 0000 Dr S Curtis Dr G Szantho Dr M Turner Dr R Bedair ACHD Specialist Nurse Team 0117 342 6599 **Cardiff:** via UHWales switchboard - 029 2074 7747 Dr S MacDonald Dr H Wallis Dr DG Wilson Dr N Masani ACHD Specialist Nurse Team 02920 744 580
AUDIT REQUIREMENTS	Adherence to guideline will be audited periodically as part of ACHD departmental audit

Plan Elements	Plan Details
The Dissemination Lead is:	Dr Stephanie Curtis
Is this document: A – replacing the same titled, expired SOP, B – replacing an alternative SOP, C – a new SOP:	A
If answer above is B: Alternative documentation this SOP will replace (if applicable):	
This document is to be disseminated to:	South West and South Wales Congenital Heart Network
Method of dissemination:	Email
Is Training required:	No

Document Change Control

Date of Version	Version Number	Lead for Revisions	Type of Revision	Description of Revision
Jan 2021	2	Consultant Cardiologist	Minor	Updated contacts and related documents. "Discharge isolated muscular VSDs" added in follow up. Maternal risk change to 5% under Inheritance.