

Morphology of VSDs

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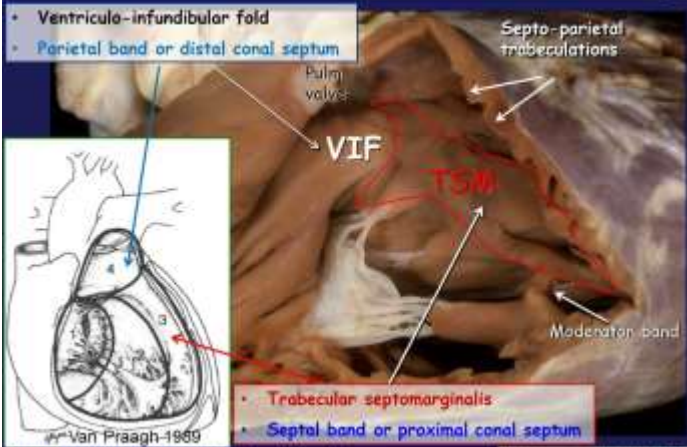
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www.rbht.nhs.uk/Morphology

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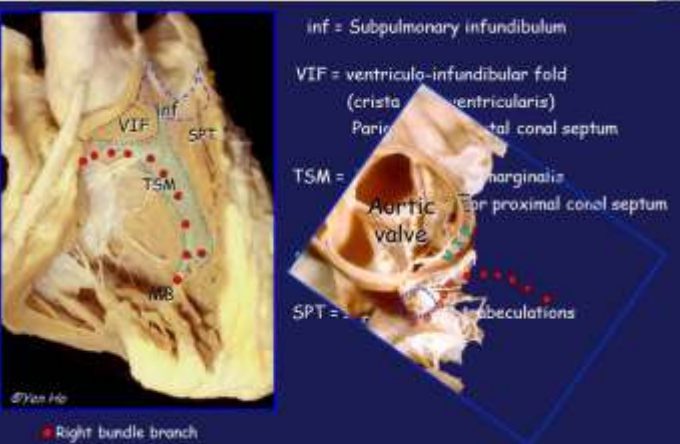
Normal RV



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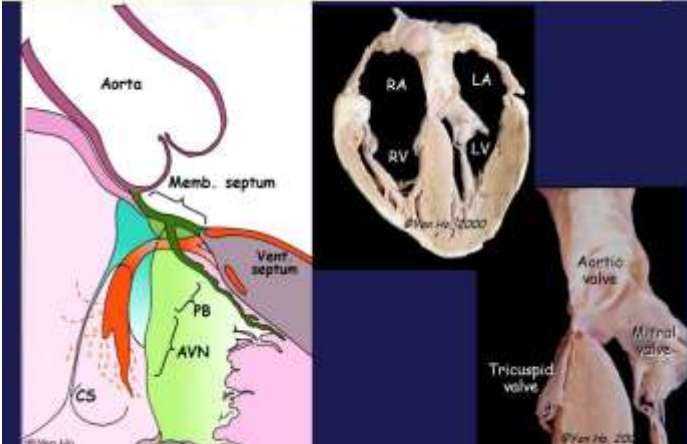
Normal RV: septum



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Normal RV: membranous septum

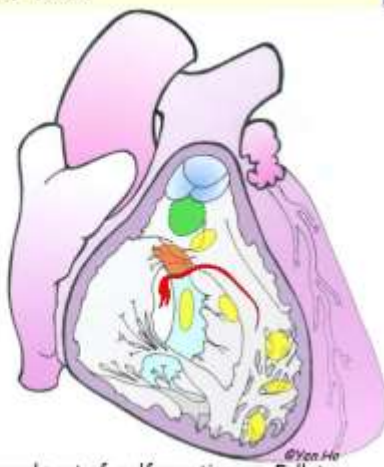


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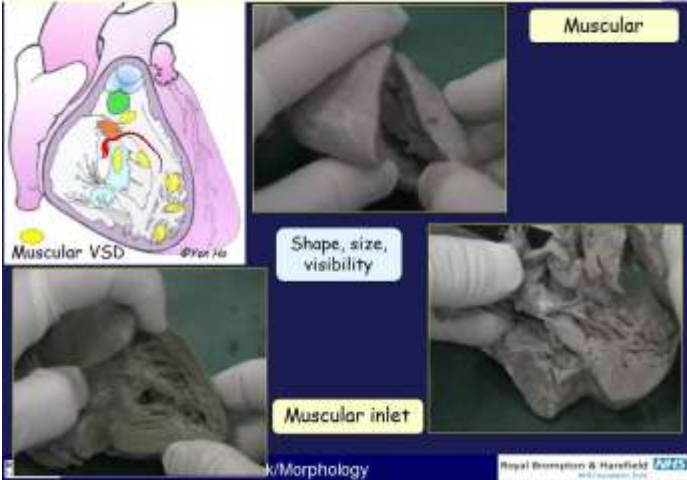
RV aspect: description of VSDs

- Size
- Location
 - inlet
 - outlet
 - apical/trabecular
- Borders
 - Perimembranous
 - Muscular
 - Doubly committed & juxtaarterial



Associated anomalies e.g. septal malalignment, integral part of malformation e.g. Fallot

Muscular VSD



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Muscular VSD

Muscular outlet

AV conduction bundle not on VSD margin

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Perimembranous VSD

Perimembranous VSD
(infracristal/Kirklin II & III, Kawashima type 2, Tatsuono type 2)

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Perimembranous VSD

Perimemb. outlet VSD

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Perimembranous VSD

Perimemb. outlet VSD

Compare with perimemb. inlet VSD

Perimemb. outlet

Proximity of outlet valve or inlet valves

Perimemb. inlet

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Perimembranous VSD

Gerbode defect

Deficiency of leaflets of tricuspid valve → Inlet AV membranous septum

Deficient Atrioventricular membranous septum

Co-existing ventricular septal defect

Inlet ventricular membranous septum

'membranous septal defect'

Proximity to:

- Aortic valve
- Tricuspid valve
- Conduction system

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Doubly committed and juxtaarterial VSD

Doubly committed and juxtaarterial VSD

(infundibular/supracristal/subpulmonary, Kawashima type 1, Tatsuono type 1)

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Doubly committed and juxtaarterial VSD

DCJA VSD

DCJA VSD

PT

TV

Ao

LA

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Doubly committed and juxtaarterial VSD

DCJA VSD

DCJA VSD

With muscular postero-inferior border

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Doubly committed and juxtaarterial VSD

DCJA VSD

DCJA VSD

With fibrous postero-inferior border

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Doubly committed and juxtaarterial VSD

DCJA VSD

DCJA VSD

PT

R

N

L

Tricuspid valve

PT

Tricuspid valve

RV

PT

Ao

LV

- The arterial valves form the roof of the defect
- muscular or perimembranous

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Doubly committed and juxtaarterial VSD

Associated Aortic insufficiency - DCJA

PA

Aorta

RV

IVS

LV

IVS

IVS

AI

Tatsuno et al. Pathogenetic mechanisms of prolapsing aortic valve and aortic regurgitation with ventricular septal defect. Circulation; 1973

2 mechanisms:

- Lack of anatomical support for the valve
- Haemodynamic effects: L to R shunt thru' VSD during early systole

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VSD

Aortic insufficiency - not confined to DCJA VSD

Perimembranous outlet VSD

VSD

Left ventricle

R

N

L

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VSD: associated lesions

Septal malalignment: outlet



Perimembranous outlet VSD

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VSD: associated lesions

Septal malalignment: outlet



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VSD: morphology and nomenclature



- Location, number
- Size of defect
- The margins
- Proximity to important structures e.g. conduction system, aortic valve
- Associated malformations

Holes can have different shapes and sizes on RV and LV perspectives

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