



# DORV Anatomy and the variants

Yen Ho  
Imperial College London  
Royal Brompton Hospital



**Brompton Cardiac Morphology**  
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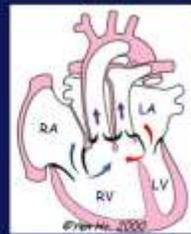
## What is DORV ?

A form of ventriculo-arterial connection: Hearts in which the great arteries, for their greater part, are supported by the morphologically right ventricle

**DORV can exist with** any pattern of atrial arrangement (situs), any pattern of atrioventricular connections



Rarely without a VSD (interventricular communication)



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Malalignment of outlet septum

Overriding of the aortic or pulmonary valve across VSD

>50% override of the valve  
**DORV**

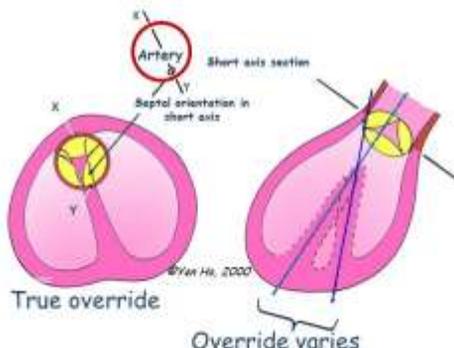
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A form of ventriculo-arterial connection: Hearts in which the great arteries, for their greater part, are supported by the morphologically RV

## Assessment of Arterial Override: 50% rule ?



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• Usual atrial arrangement and concordant atrioventricular connections

## Physiology varies :

- simple VSD-like
- Fallot
- Transposition
- single ventricle

**Synonyms and other names:**  
Taussig-Bing malformation; tetralogy of Fallot with extreme dextroposition of the aorta; Eisenmenger's anomaly (Eisenmenger VSD)



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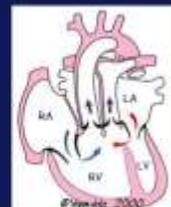
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• Usual atrial arrangement and concordant atrioventricular connections

## VSD (almost) always present

- subaortic VSD with PS (Fallot type)
- subpulmonary VSD (Taussig-Bing / transposition type)
- subaortic VSD without PS (Eisenmenger anomaly)
- doubly committed VSD
- non-committed VSD



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## Double Outlet Right Ventricle

Sub-aortic      Sub-pulmonary      Doubly committed

Non-committed

- ★ = VSD
- ▬ = outlet septum
- SMT = septomarginal trabeculation
- = ventriculo-infundibular fold

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## Double Outlet Right Ventricle: sub-aortic VSD

Sub-aortic

With or without pulm stenosis

- ▬ = outlet septum
- SMT = septomarginal trabeculation
- = ventriculo-infundibular fold

### Anatomic features

- VSD in between limbs of SMT
- Outlet septum is fused to anterior limb of SMT
- Morphology of VSD depends on fusion or non-fusion of VIF to posterior limb of SMT
- 'Fallot type' ..... yes / no

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## Double Outlet Right Ventricle: sub-pulmonary VSD

Sub-pulmonary

### Anatomic features

- VSD in between limbs of SMT
- Outlet septum fuses with VIF posteriorly or with posterior limb of SMT
- Outlet septum fuses with SMT & VIF ----- muscular VSD
- Outlet septum fuses with VIF (VIF not fused to SMT) ----- perimembranous VSD

'transposition type'

- ▬ = outlet septum
- SMT = septomarginal trabeculation
- = ventriculo-infundibular fold

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## Double Outlet Right Ventricle: sub-pulmonary VSD

Sub-pulmonary

'transposition type'

Sub-pulm. infundibulum 'Taussig-Bing'

Pulm-Mitral-Tricuspid Continuity

Perimembranous VSD

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## Double Outlet Right Ventricle: sub-pulmonary VSD

Sub-pulmonary

'transposition type'

### Associated anomalies:

- Subaortic obstruction
- Aortic arch obstruction
- Left coronary artery courses in front of the subpulmonary outflow tract
- Straddling mitral valve
- Mitral stenosis
- Tricuspid valve cordal attachments

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## Double Outlet Right Ventricle: sub-pulmonary VSD

Aortic Arch

Ductus

Ao

PT

VSD

RV

Aortic stenosis, arch hypoplasia, restrictive VSD, TV attachments

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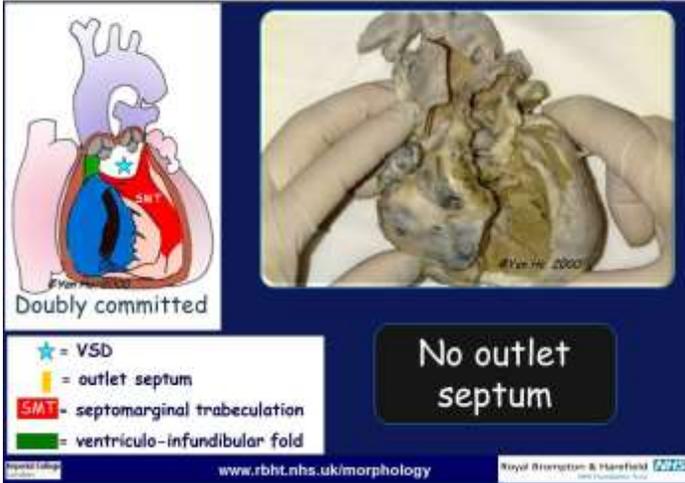
Subaortic obstruction (RV outflow)

- \* Muscular infundibulum
- \* Anomalous muscle bundles
- \* Anomalous tension apparatus
- \* Deviated outlet septum (with VSD)

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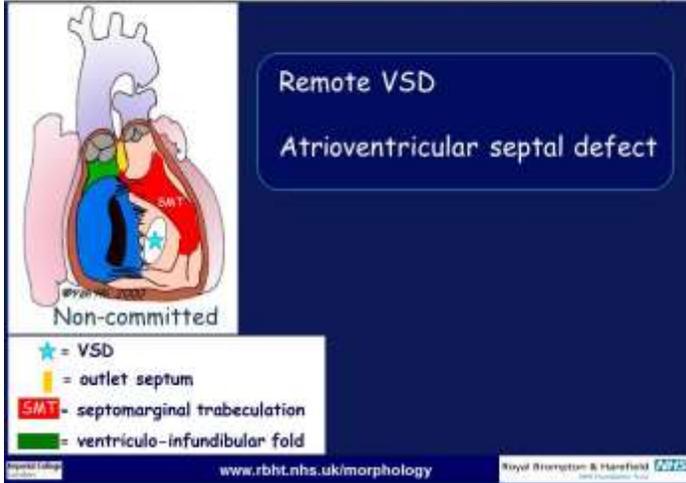
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Analyse ventriculo-arterial connections independent of: Position of great arteries  
Bilateral or single infundibulum

- Location and size of VSD
- Presence or absence of pulmonary or aortic outflow tract obstruction
- Other associated malformations

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