

TGA

(Transposition of the Great Arteries)

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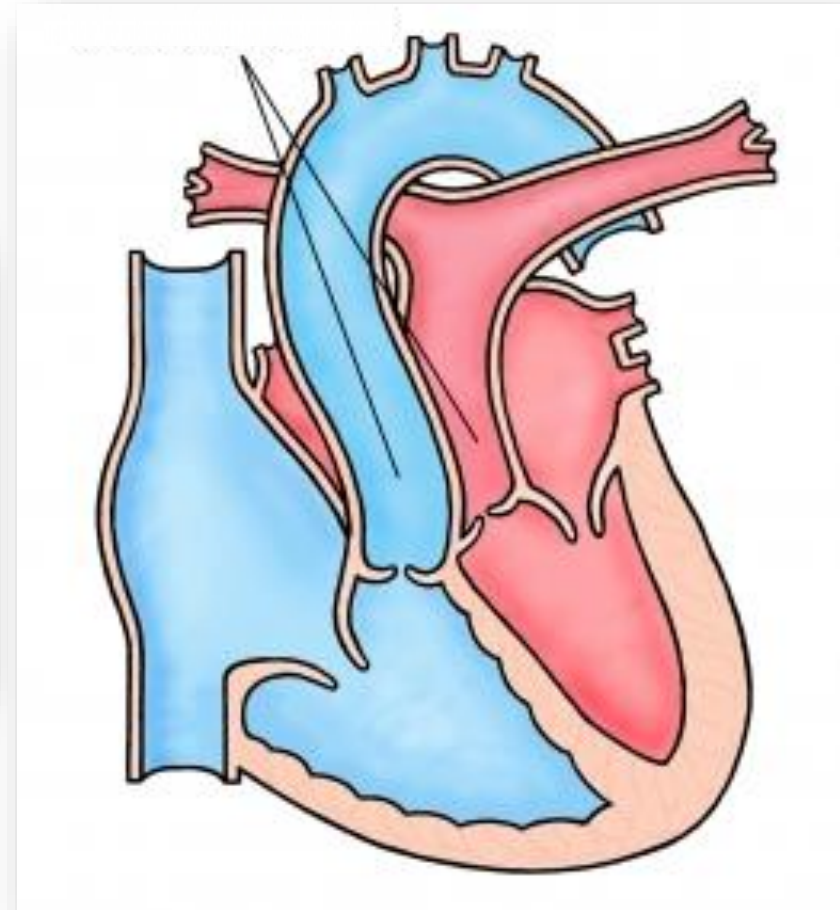
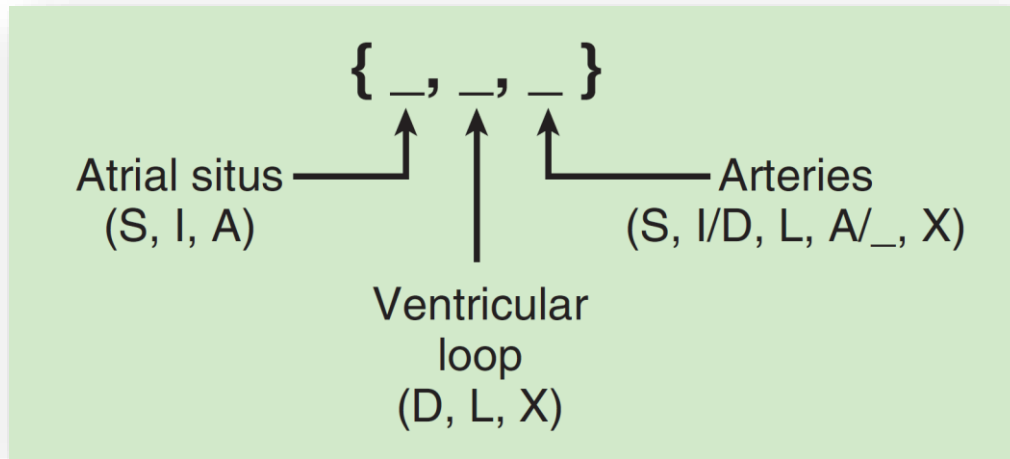
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Disclosure

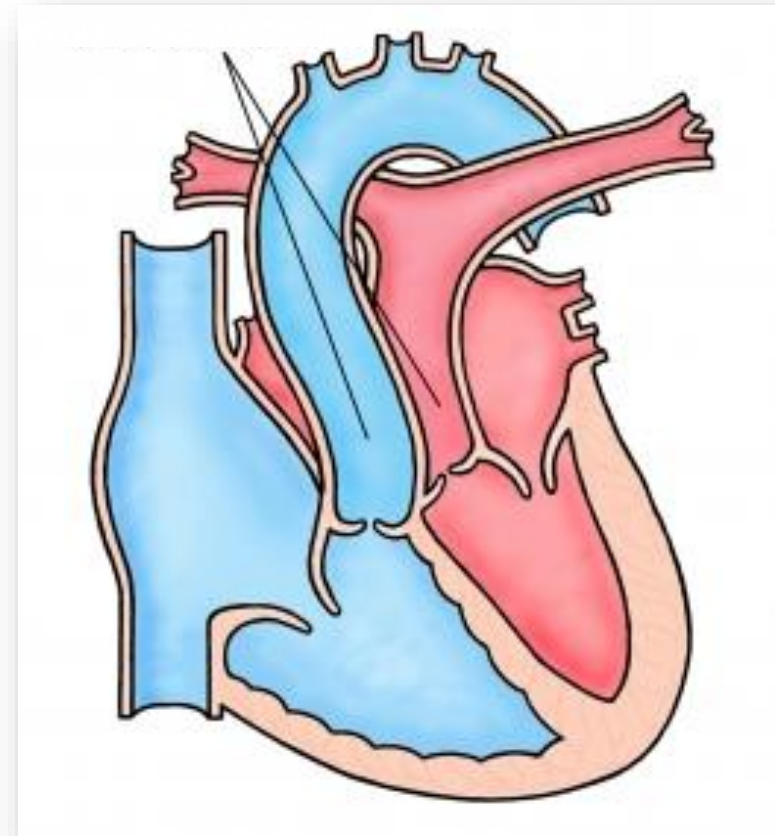
- I have no conflict of interest to disclose with respect to this presentation.

Segmental analysis

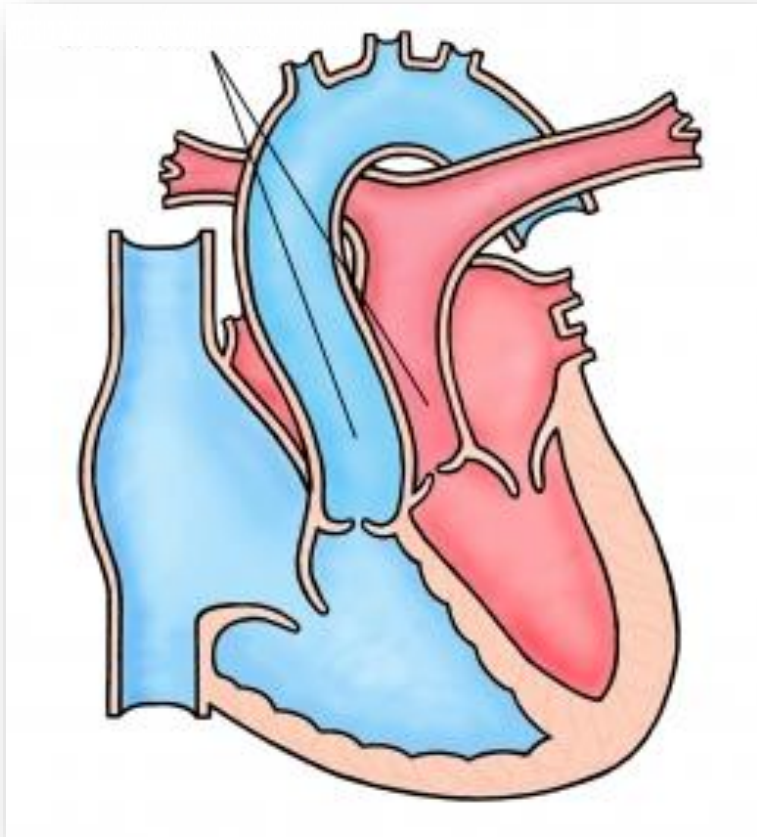


Transposition of the Great Arteries

- D-TGA or complete TGA
 - 10%
 - Male predominance
 - Associated malformations
 - VSD
 - PS (LVOTO)
 - Arch obstruction



TGA



Ao from RV / PA from LV
(Ventriculoarterial discordance)

Parallel circulation (hypoxia)
Need mixing to survive

TGA

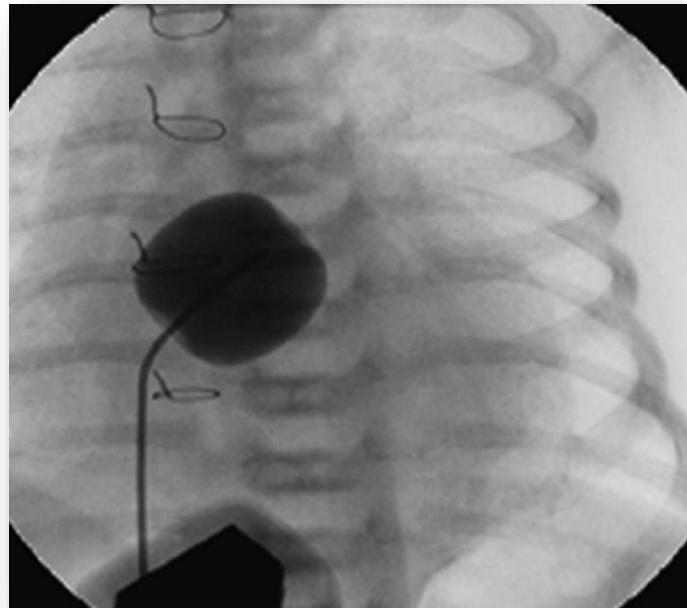


Diagnosis and Management

- Echocardiography / CT
- Preop. management for hypoxemia
 - Hydration
 - PGE1 (prostaglandin E1)
 - BAS (balloon atrial septostomy)
 - Emergency operation

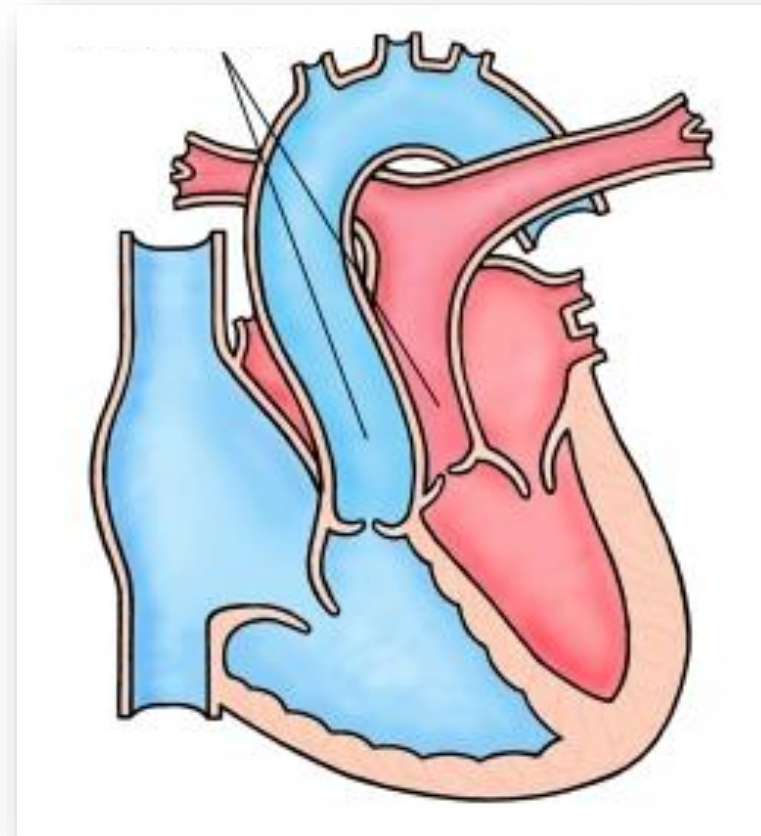
BAS

- Balloon atrial septostomy (1966)
- For adequate mixing



Surgical management

- Anatomic repair
 - Arterial switch operation
- Physiologic repair
 - RV as systemic ventricle
 - Atrial switch operation



Palliation / Atrial switch

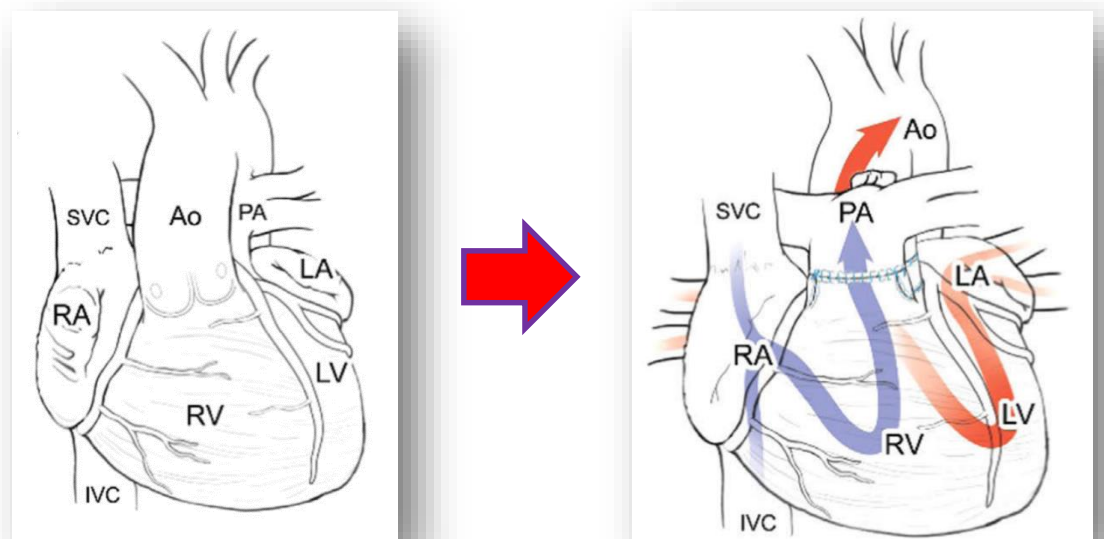
- Palliation
 - Atrial septectomy
 - PAB
- Atrial switch
 - Senning (1959)
 - Mustard (1964)



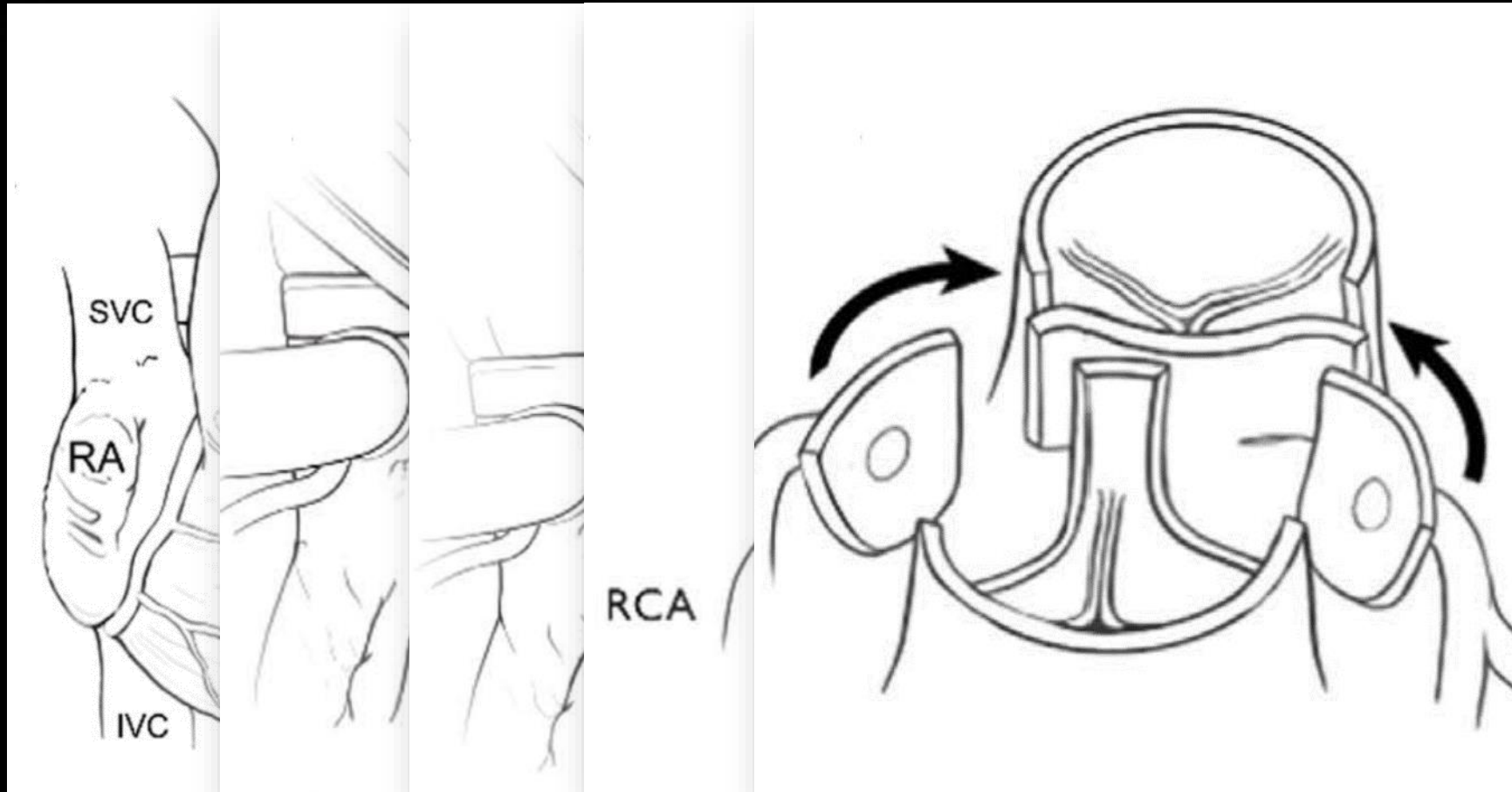
Blalock-Hanlon atrial septectomy

Arterial switch operation

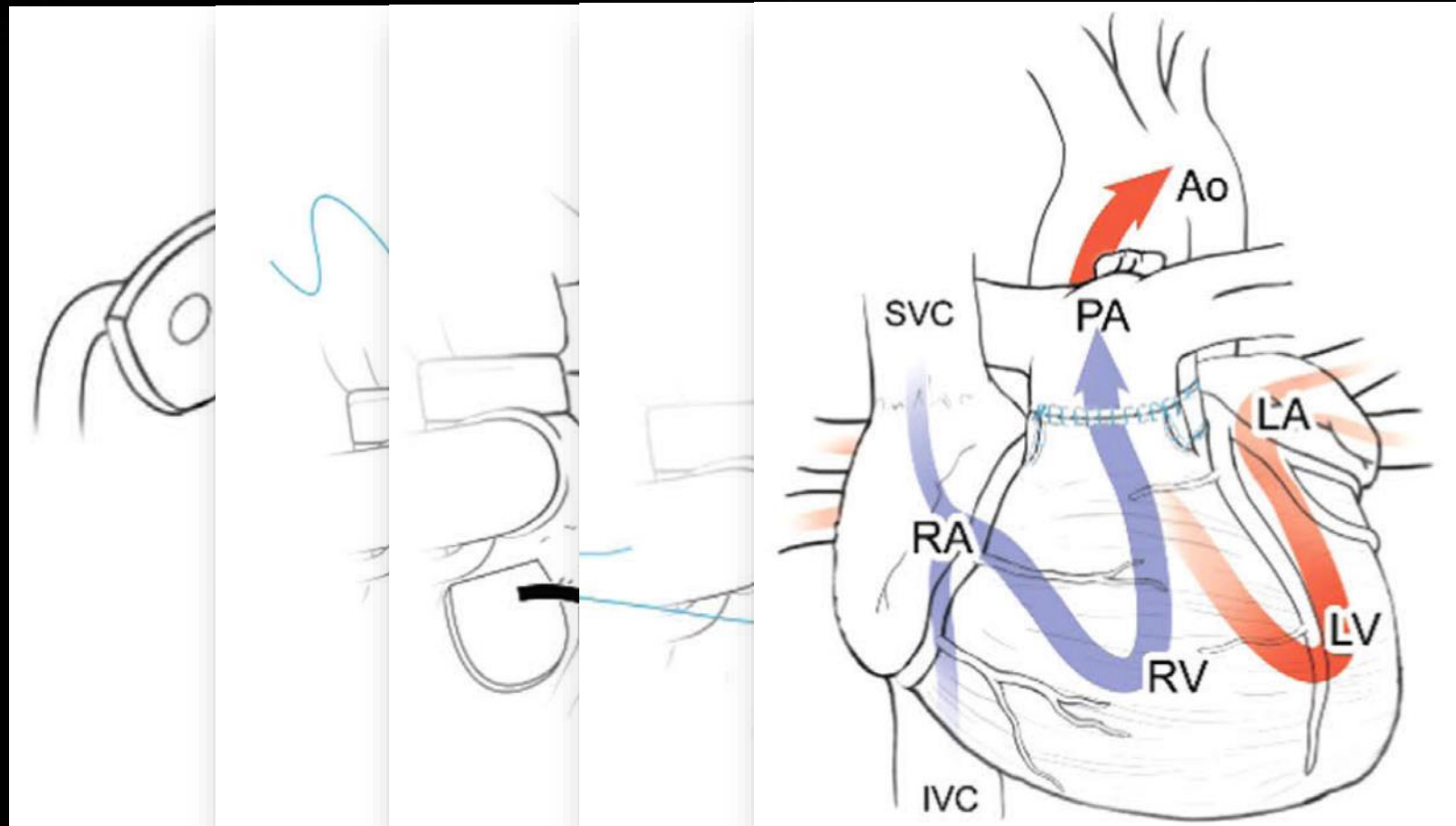
- First success in 1975 by Jatene
 - For neonate in 1984
- The procedure of choice, if “switchable”
- Technique
 - Trap-door technique
 - Closed technique
 - Lecompte maneuver



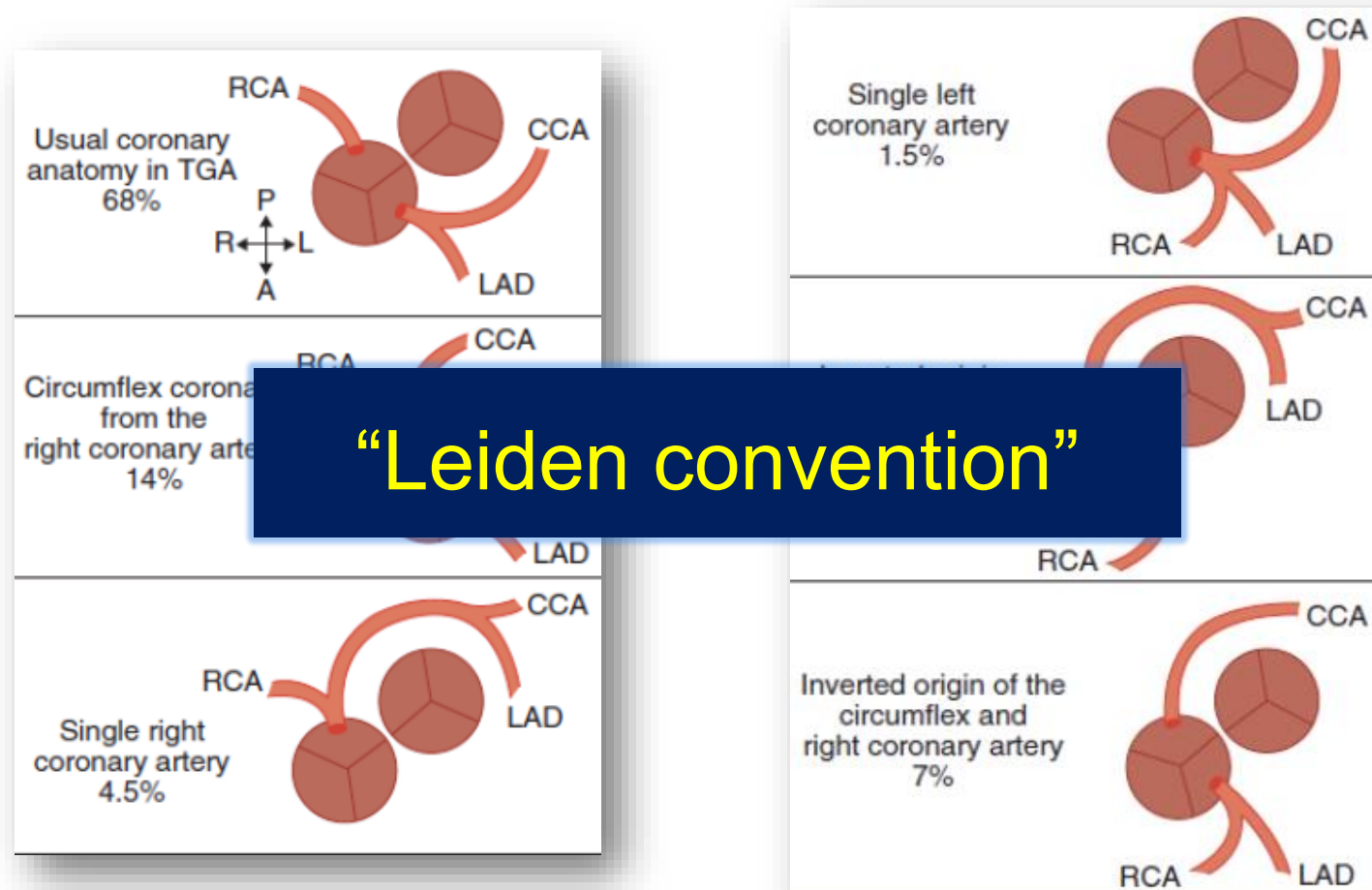
Arterial Switch Operation



Arterial Switch Operation



Coronary arteries in TGA



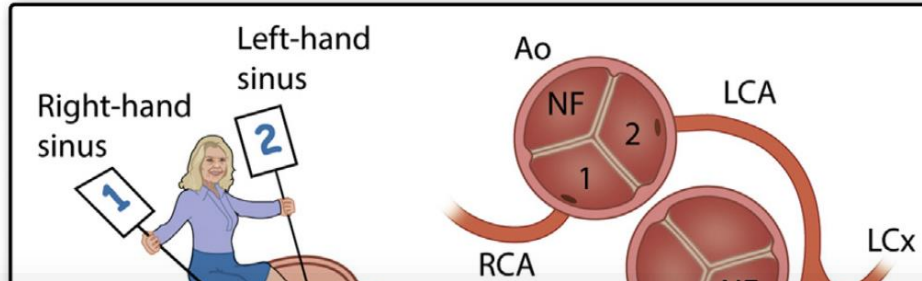


Modified Leiden convention

Step 1

Position in the non-facing sinus

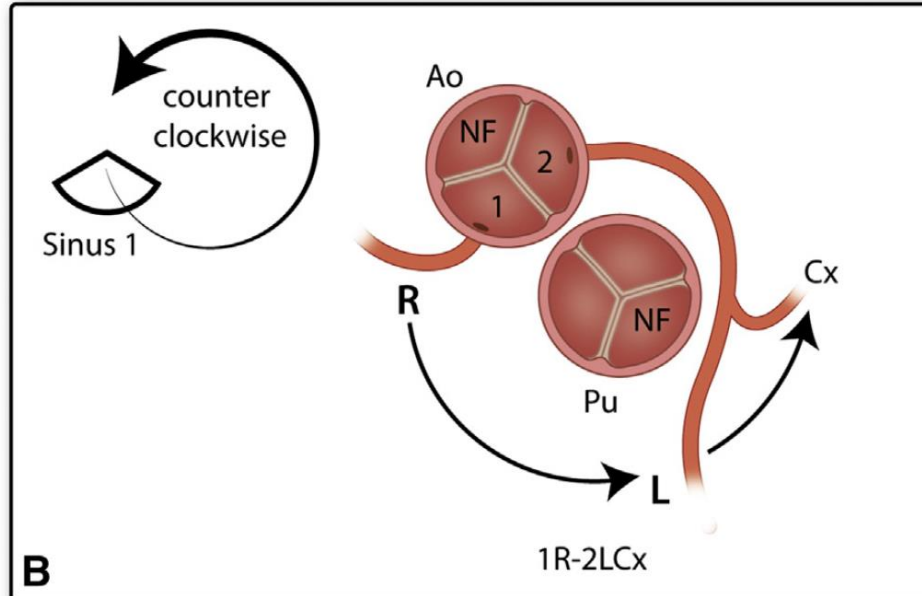
- Right-hand sinus: sinus 1
- Left-hand sinus: sinus 2



Step 2

Annotation coronary arteries

- Start with sinus 1
- Name encountered branches in counter clockwise order
- R= right coronary artery
- L= left anterior descending coronary artery (LAD)
- Cx= left circumflex artery (LCx)



Modified Leiden convention

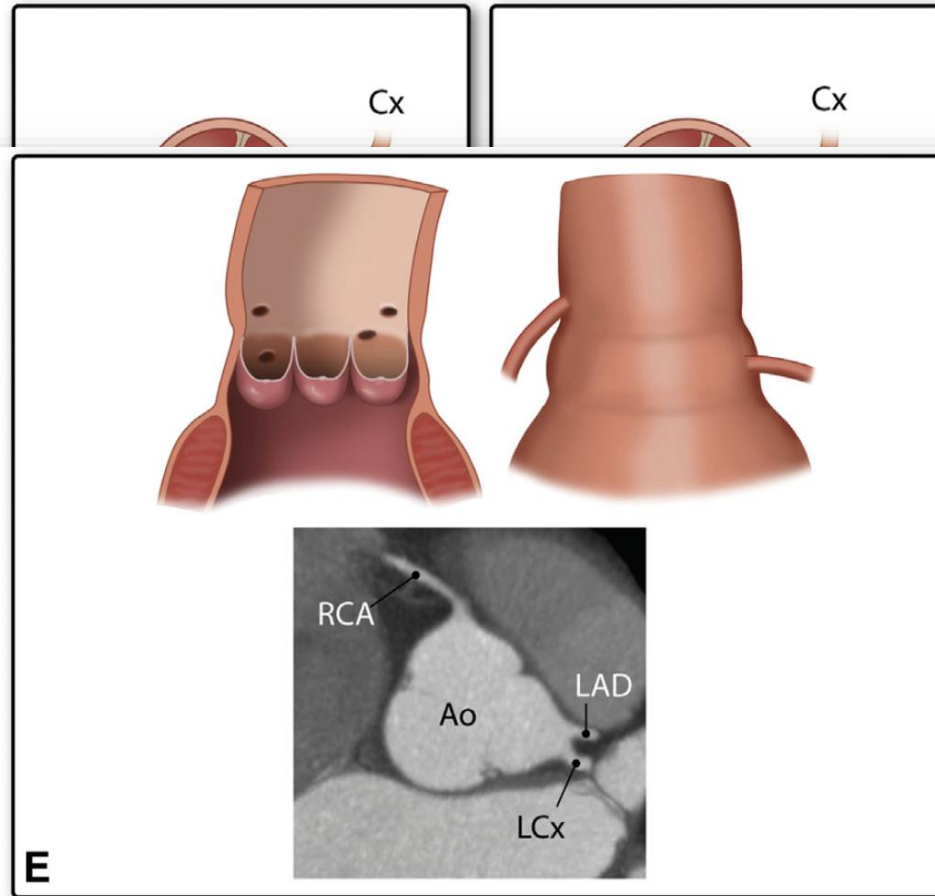
Step 3

Variations in coronary orifice origin

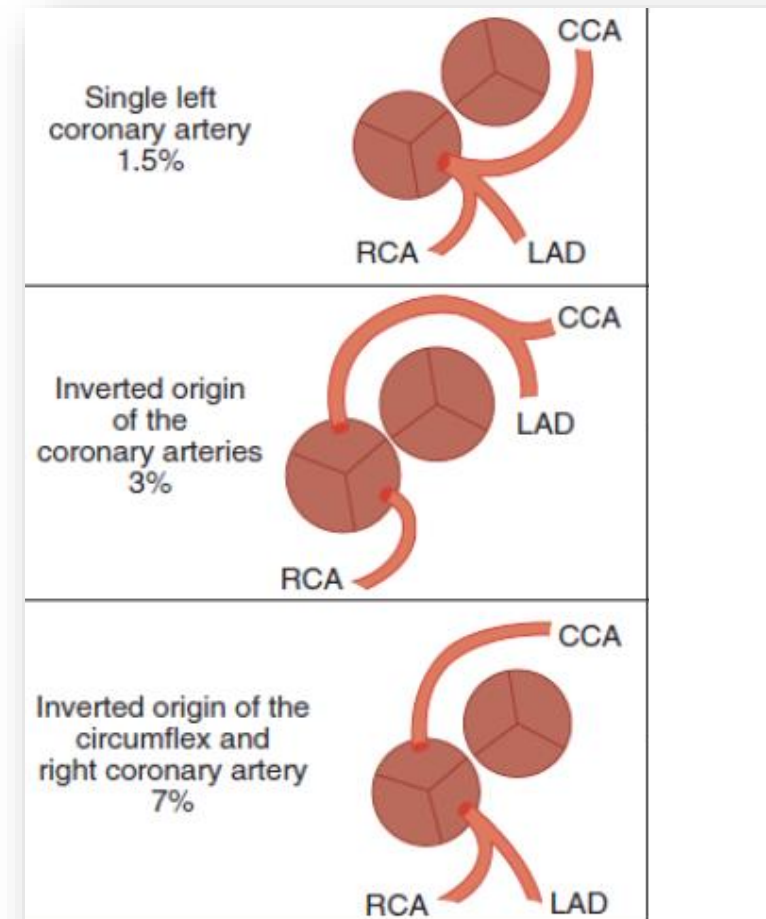
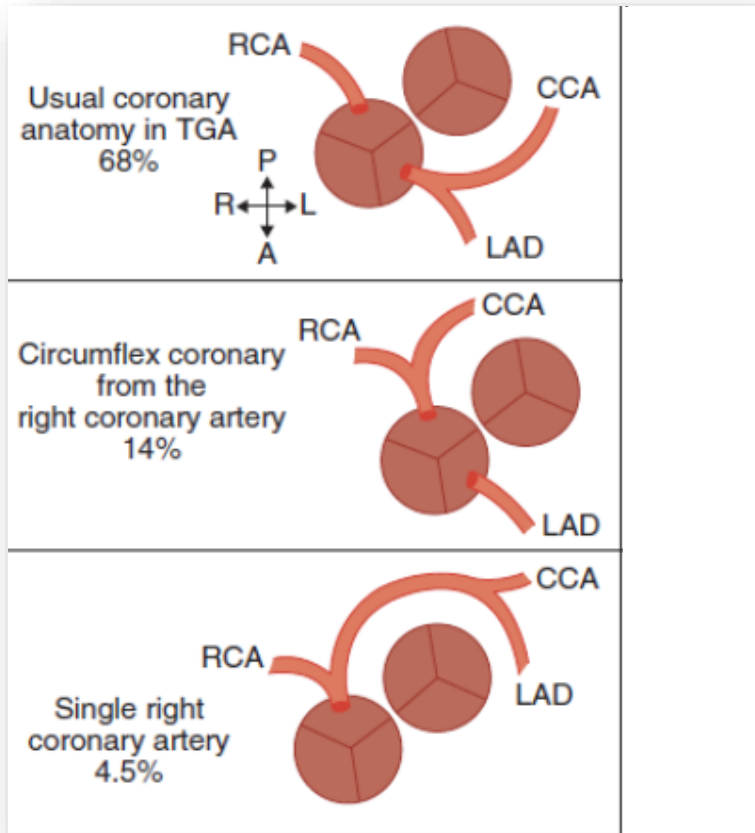
- Branches originating from a separate

Associated characteristics with respect to coronary course/anatomy

- Interarterial/intramural course
- Relative relationship of the great arterial orifices
- Acute angle (vertical/horizontal) of coronary artery
- Degree of alignment of facing commissures
- Eccentric position of coronary orifices in horizontal/vertical plane
- Single, common, double orifices
- Accessory branches
- Left-right dominance
- Type B BAV with inconclusive morphology: describe coronary anatomy extensively



Quiz



Case

- F/6 days, 3.14kg
- Diagnosis
 - Complete TGA
 - ASD, PDA
- Operation
 - Arterial switch operation
 - ASD closure, PDA division

Outcome of ASO for TGA

- Good
- Causes for reintervention

- **RVOTO**
- **Neo-AR or Neo-aortic root dilatation**
- **Coronary artery lesion**

Take-home key points

- TGA (Transposition of the great arteries)

- **Ventriculo-arterial discordance**
- **Arterial switch operation**
- **Coronary artery anatomy & coding**

Thank you for your attention

