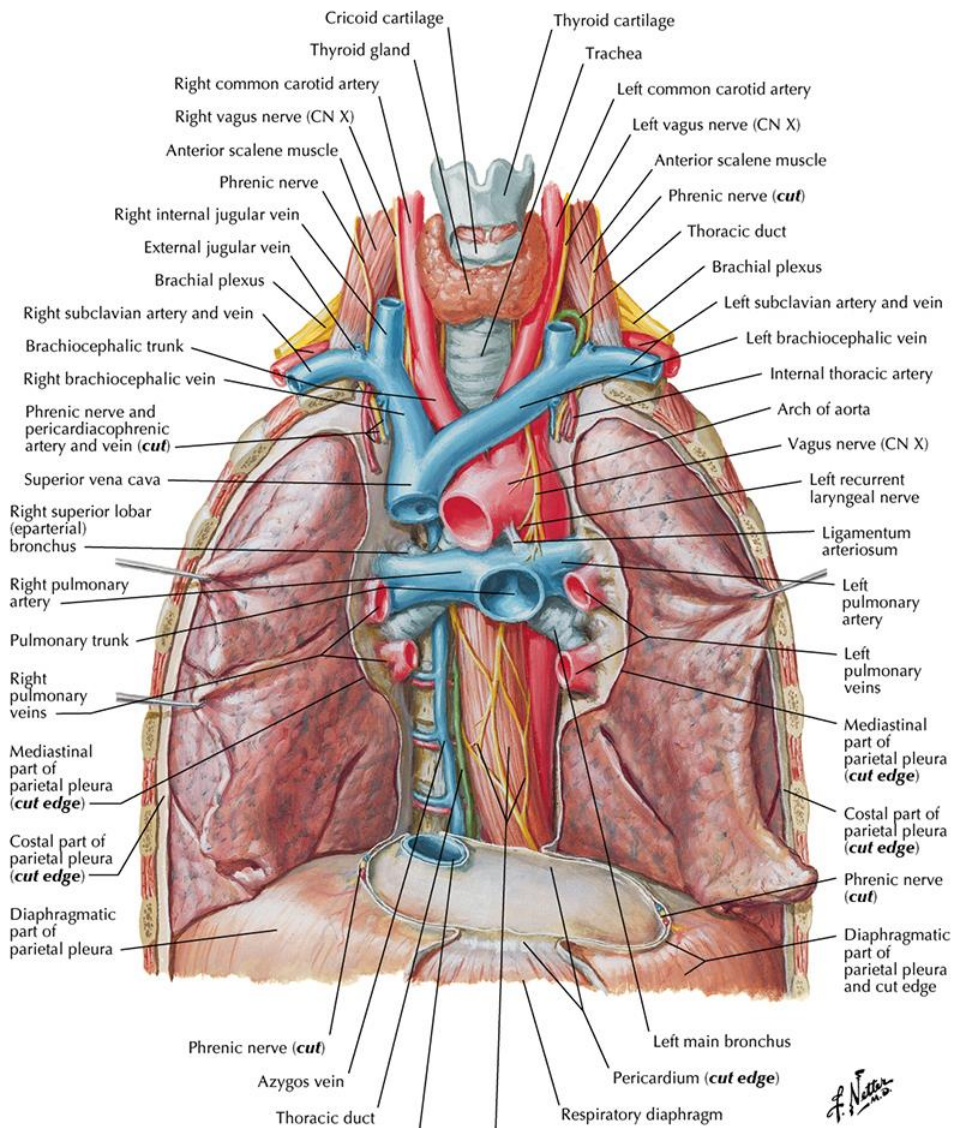
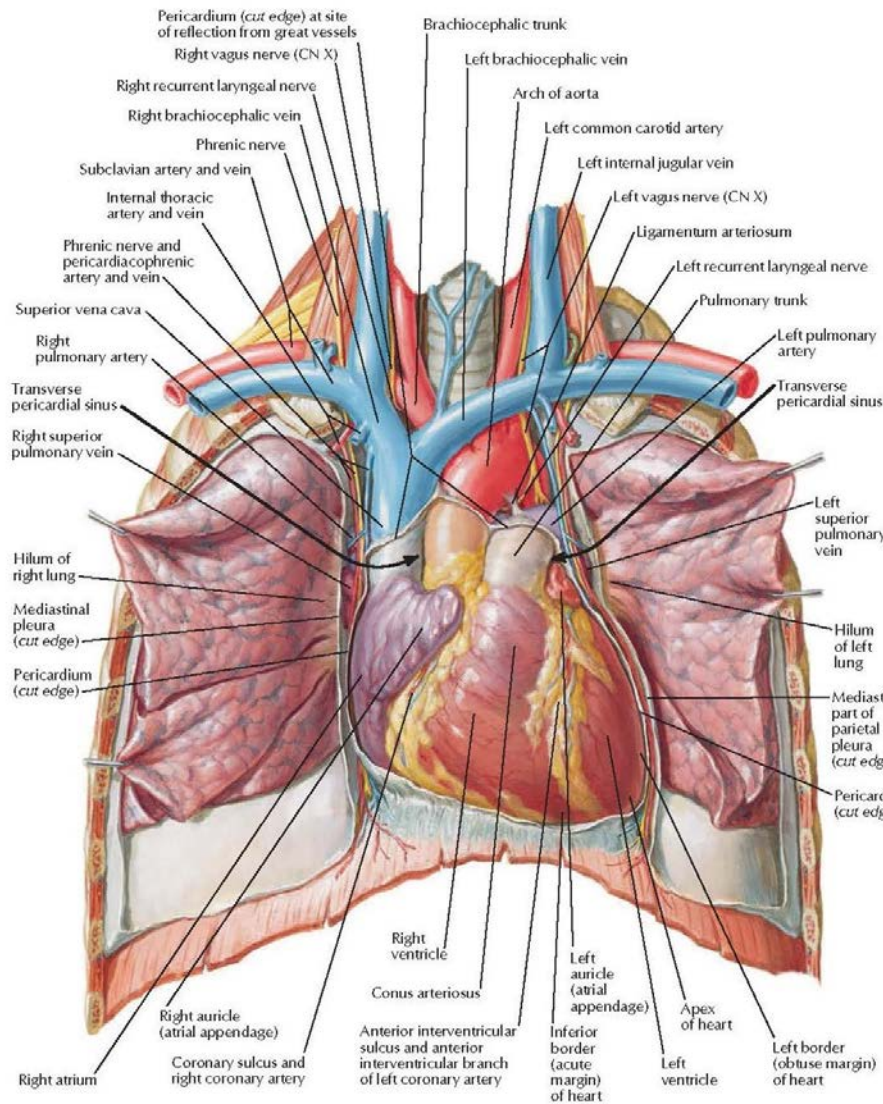




Wilhelmina Kinderziekenhuis

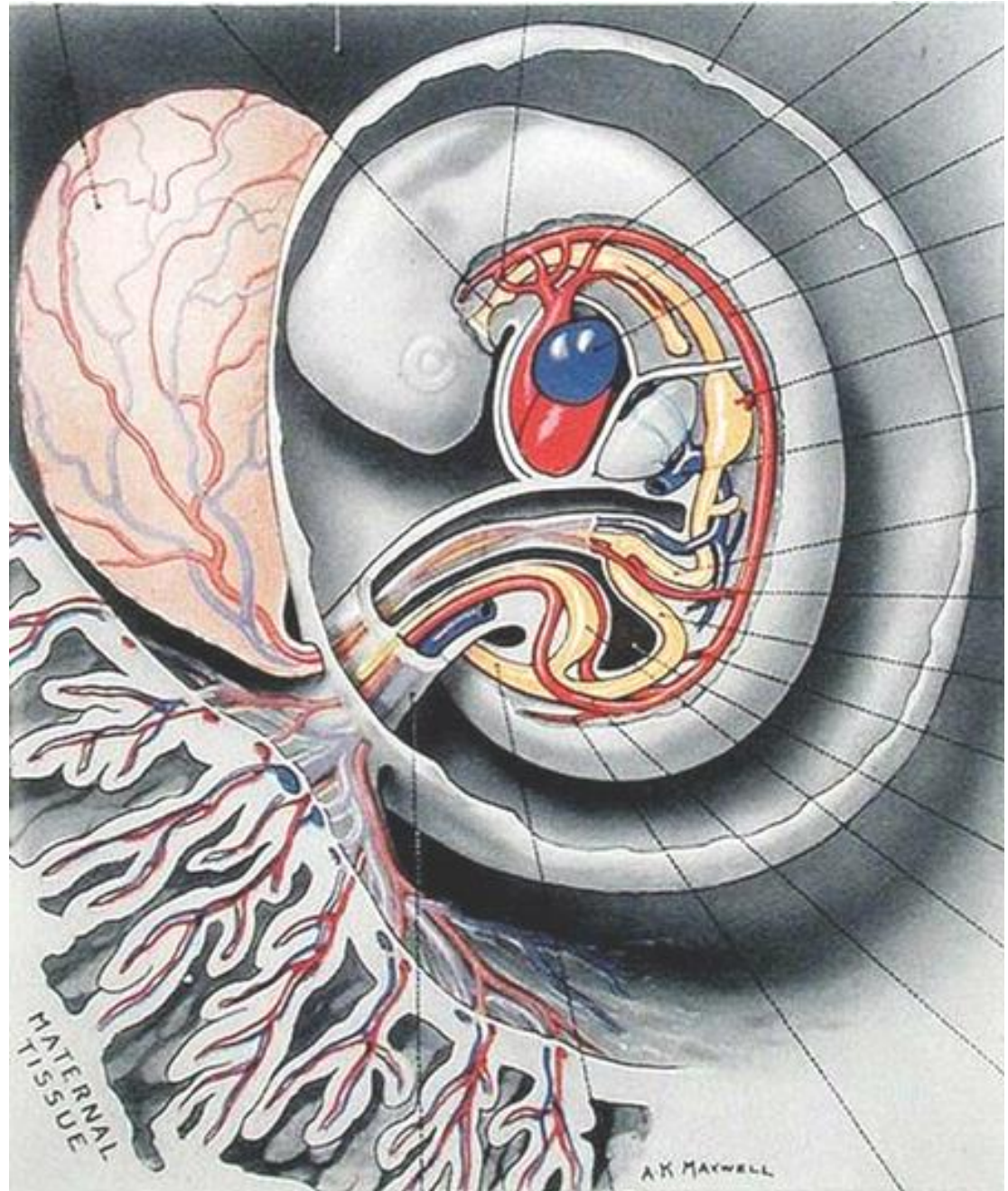
# Chirurgie van de aortaboog van coarctatio tot dubbele boog

Bram van Wijk, congenitaal cardio-thoracaal chirurg

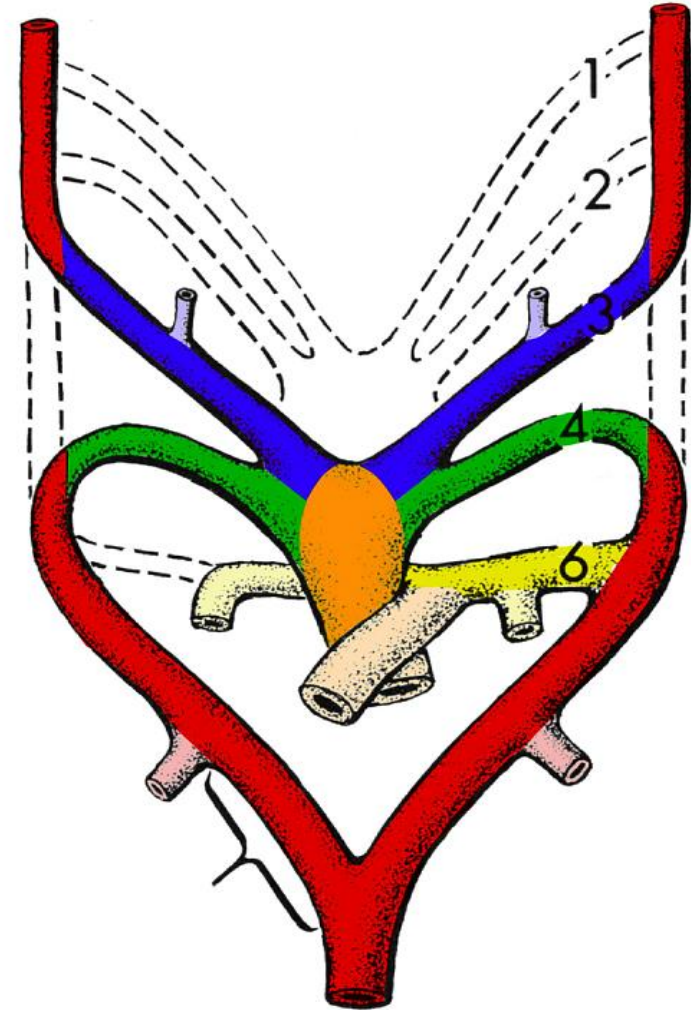
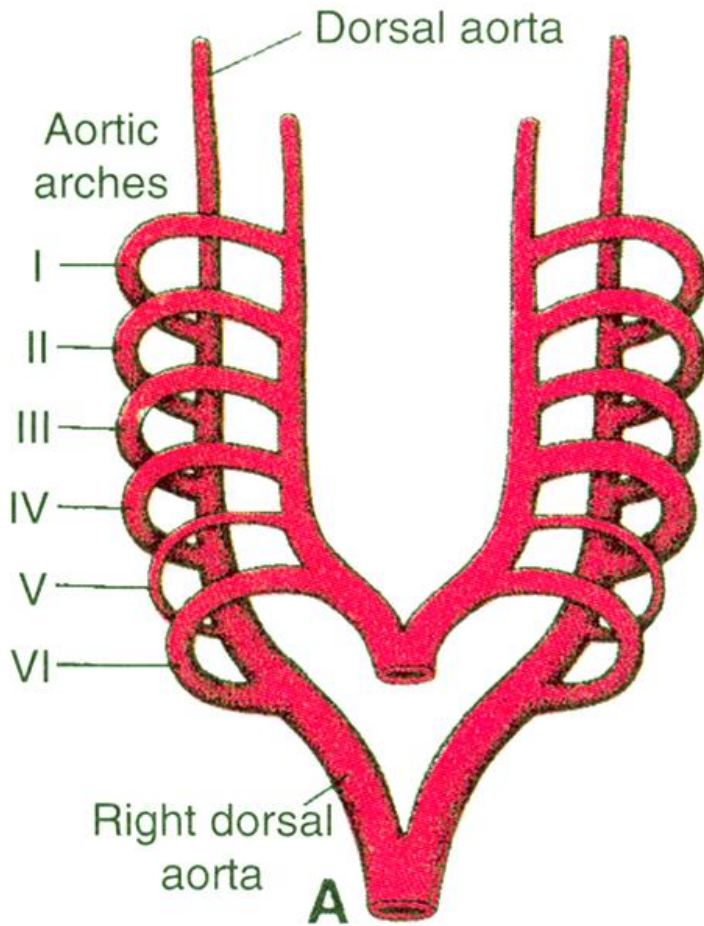


# Embryologische ontwikkeling

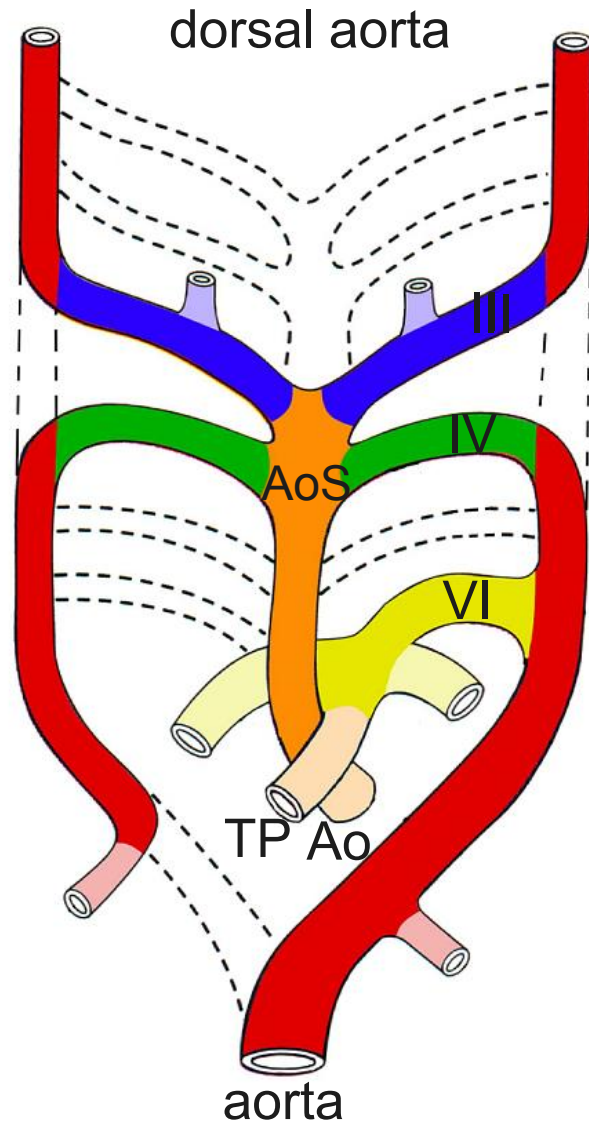
## Kieuwboogarterien



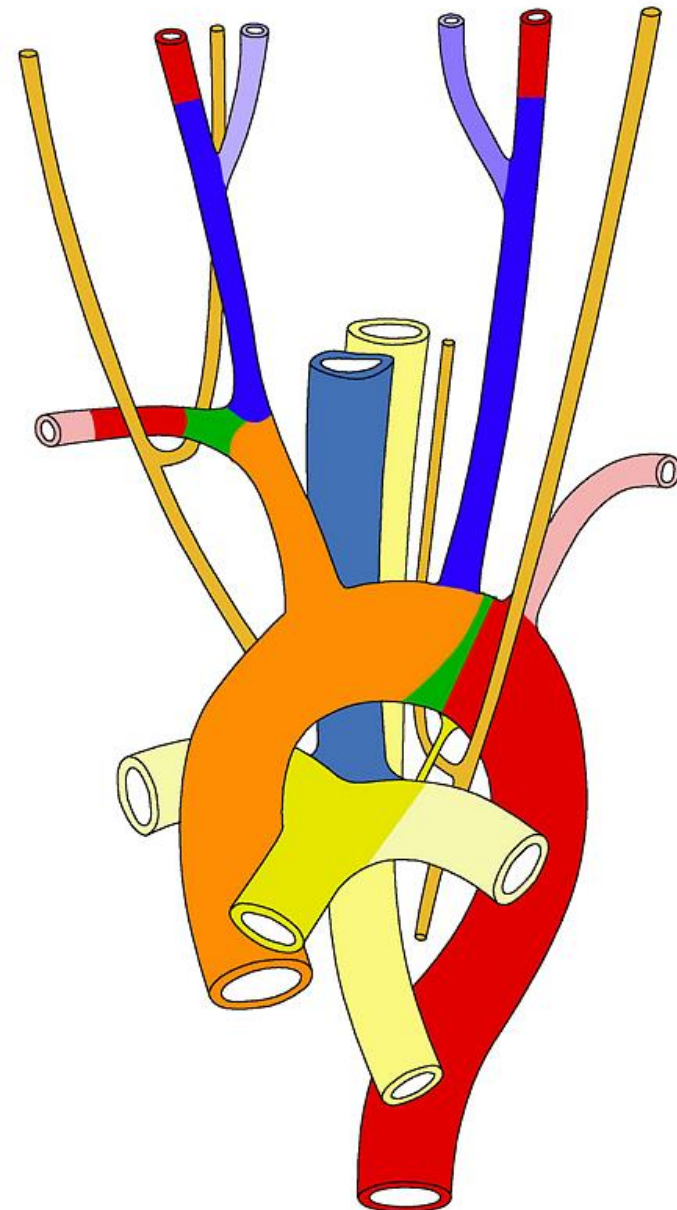
# Kieuwboogarteriën



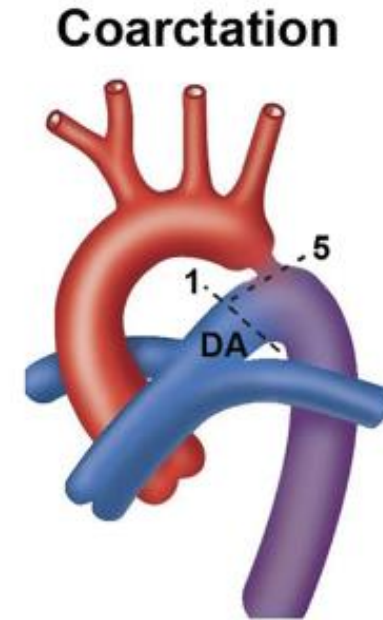
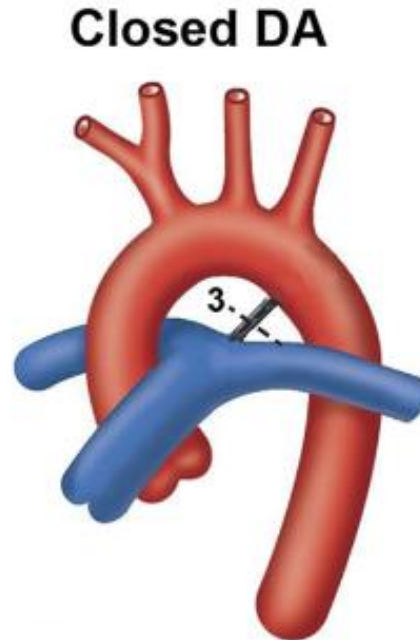
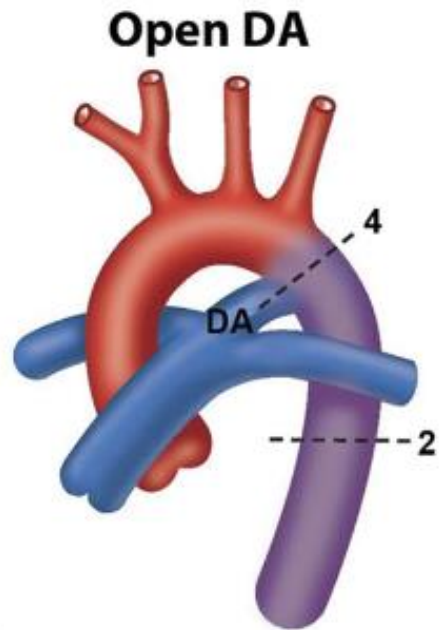
# Embryonale situatie



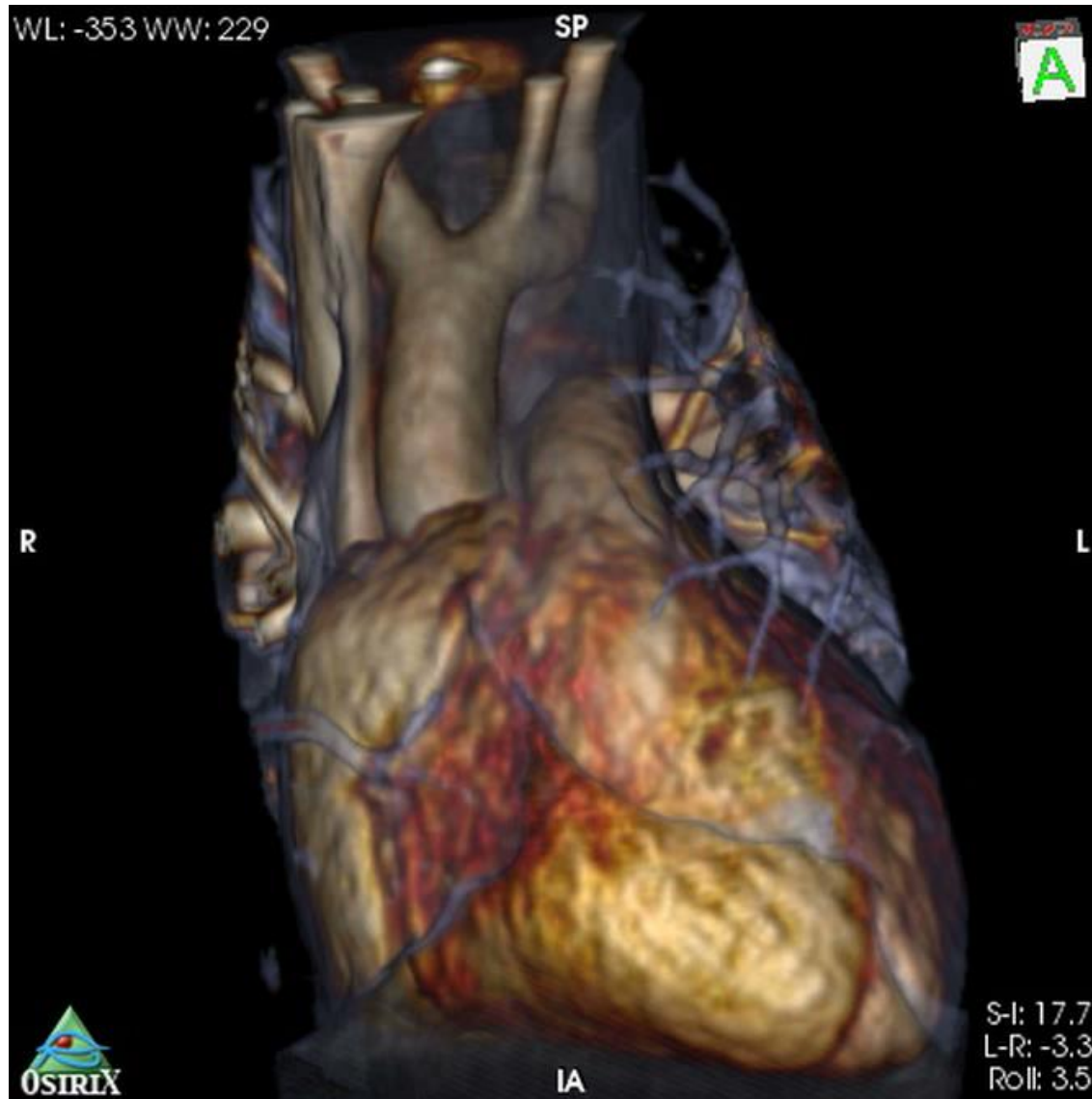
# Volwassen situatie



# Ductus arteriosus - Coarctatie



# Vaatringen: Dubbele aortaboog

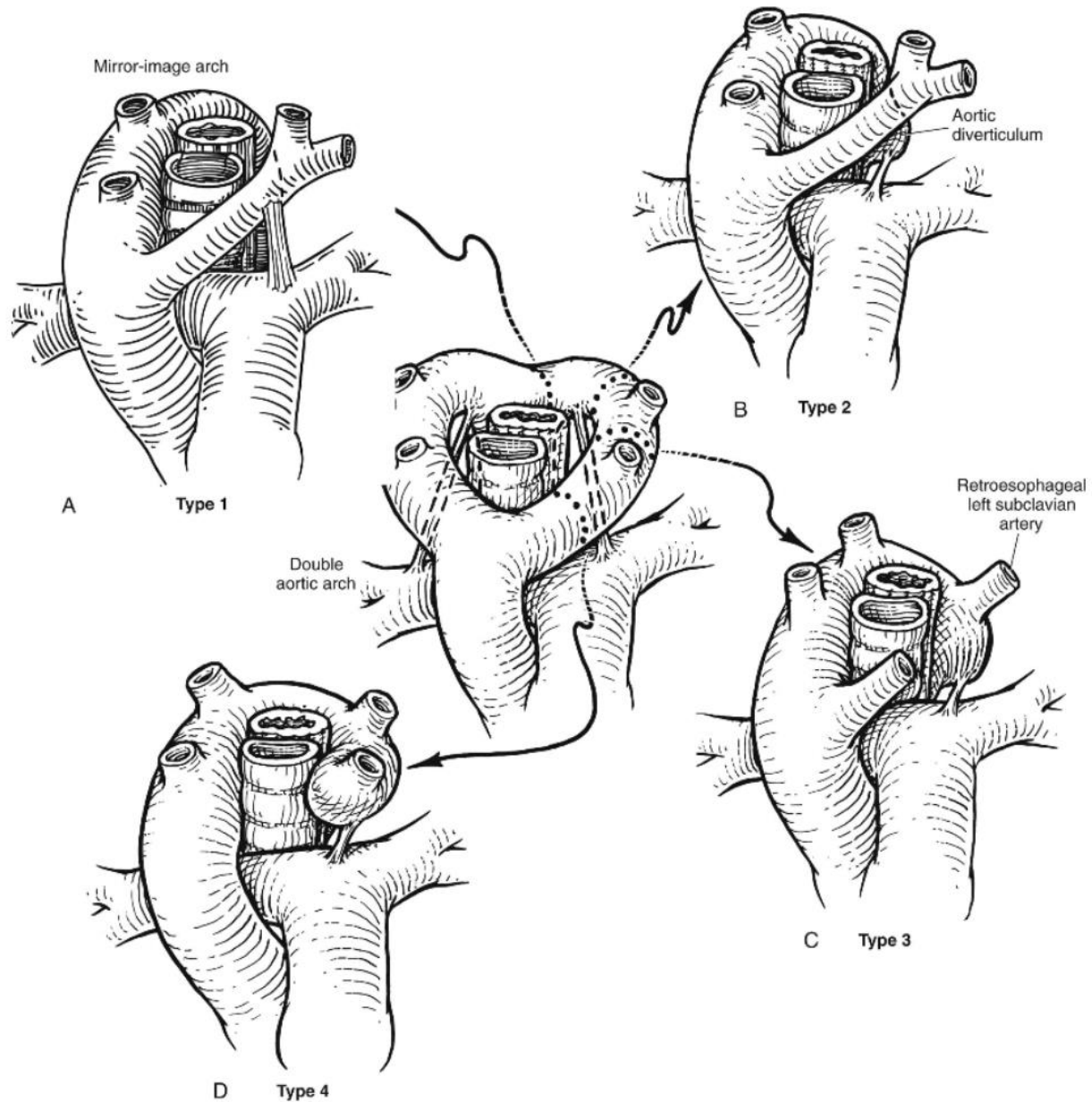




Wilhelmina Kinderziekenhuis

# Chirurgische behandeling vaatringen

# Vaatringen



# Meest voorkomende vaatringen bij klachten

**Table 1**

Lurie Children's Hospital experience 1947–2015.

Vascular ring	No. of patients
Double aortic arch	155
Right aortic arch/left ligamentum	172
Pulmonary artery sling	46
Total	373



## Klachten bij vaatringen

**Table 2**

Symptoms leading to clinical presentation in patients with vascular rings.<sup>a</sup>

	Double aortic arch ( <i>n</i> = 80) <sup>b</sup>	Right aortic arch ( <i>n</i> = 78) <sup>b</sup>
Stridor	46 (57%)	18 (23%)
Recurrent upper respiratory tract infections	22 (27%)	18 (23%)
Cough	17 (21%)	8 (10%)
Dysphagia	12 (15%)	12 (15%)
Respiratory distress	8 (10%)	13 (17%)
Ventilator preoperatively	7 (9%)	3 (4%)

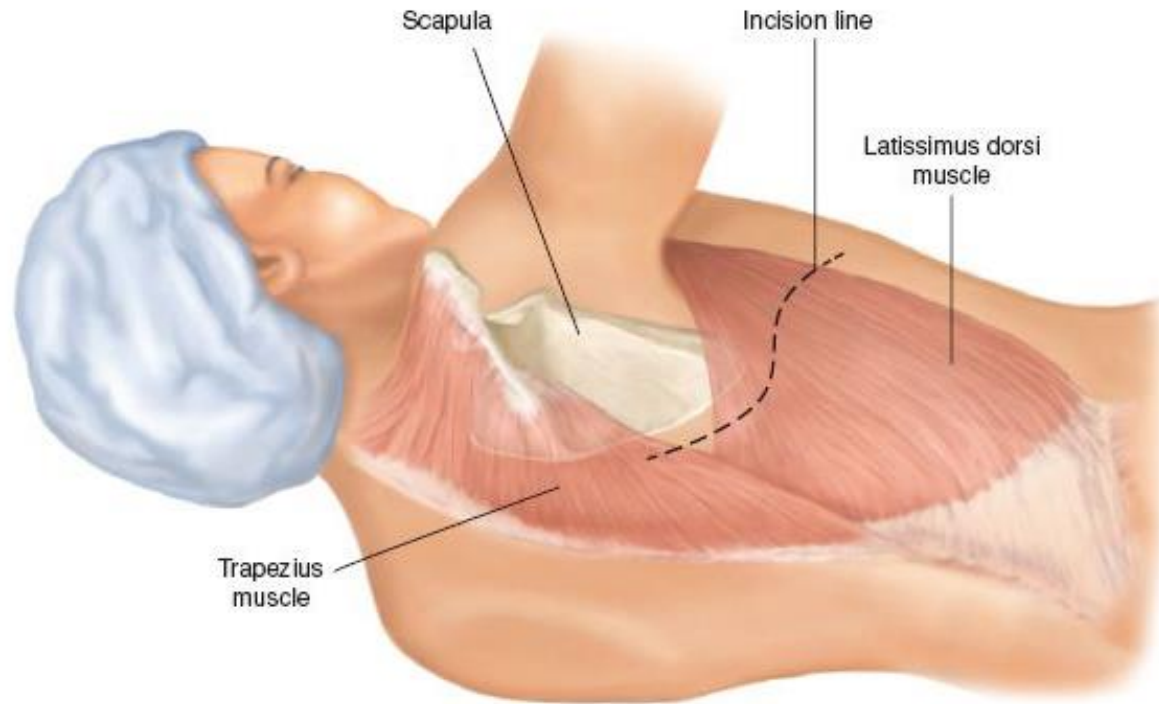
Reproduced with permission from Backer et al<sup>5</sup>.

<sup>a</sup> More than one symptom occurred in many patients.

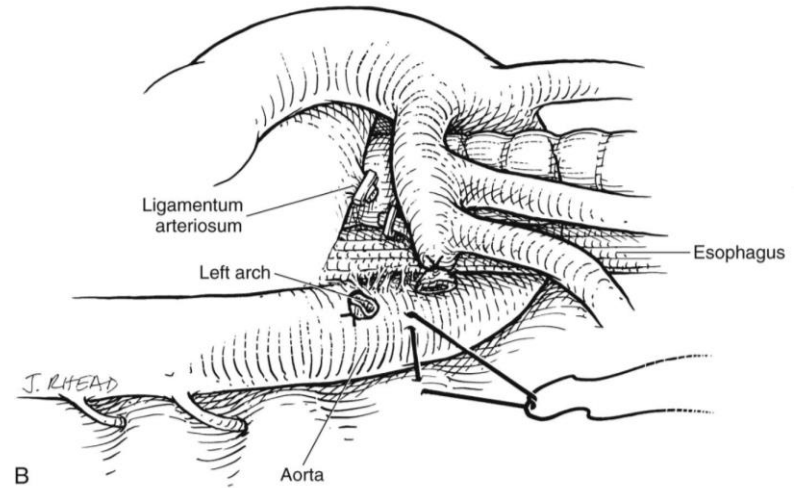
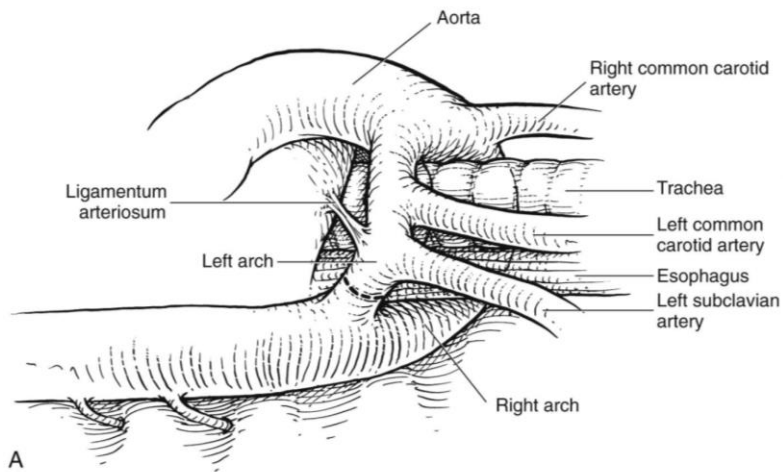
<sup>b</sup> Our records did not provide symptoms for the earlier patients in the series.



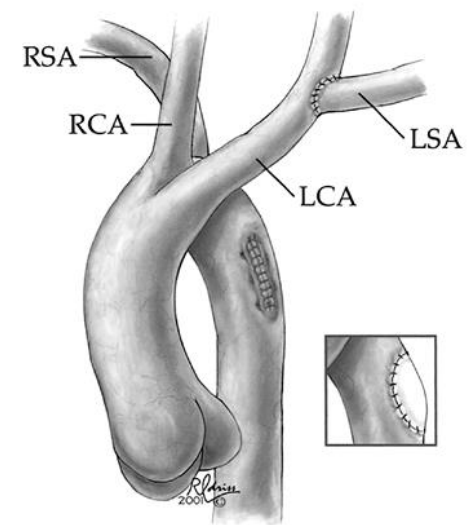
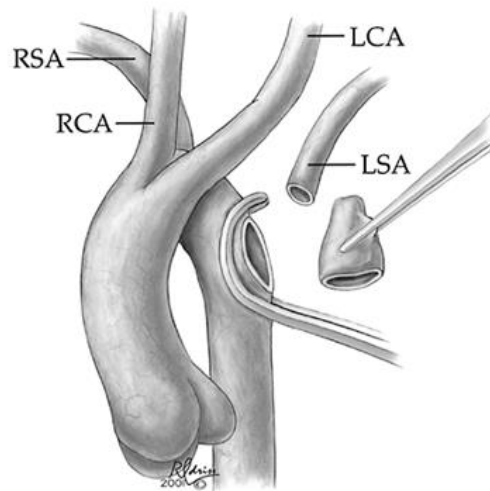
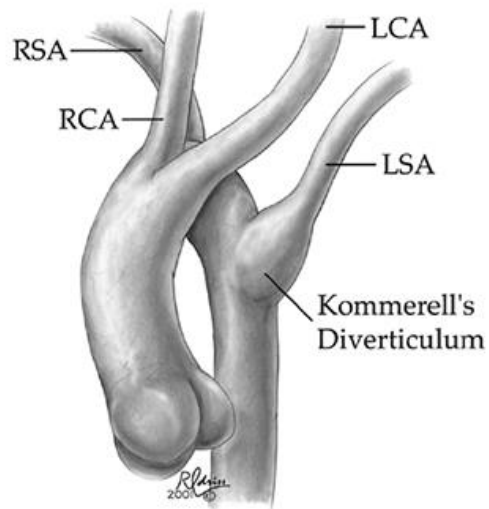
## Laterale thoracotomie links



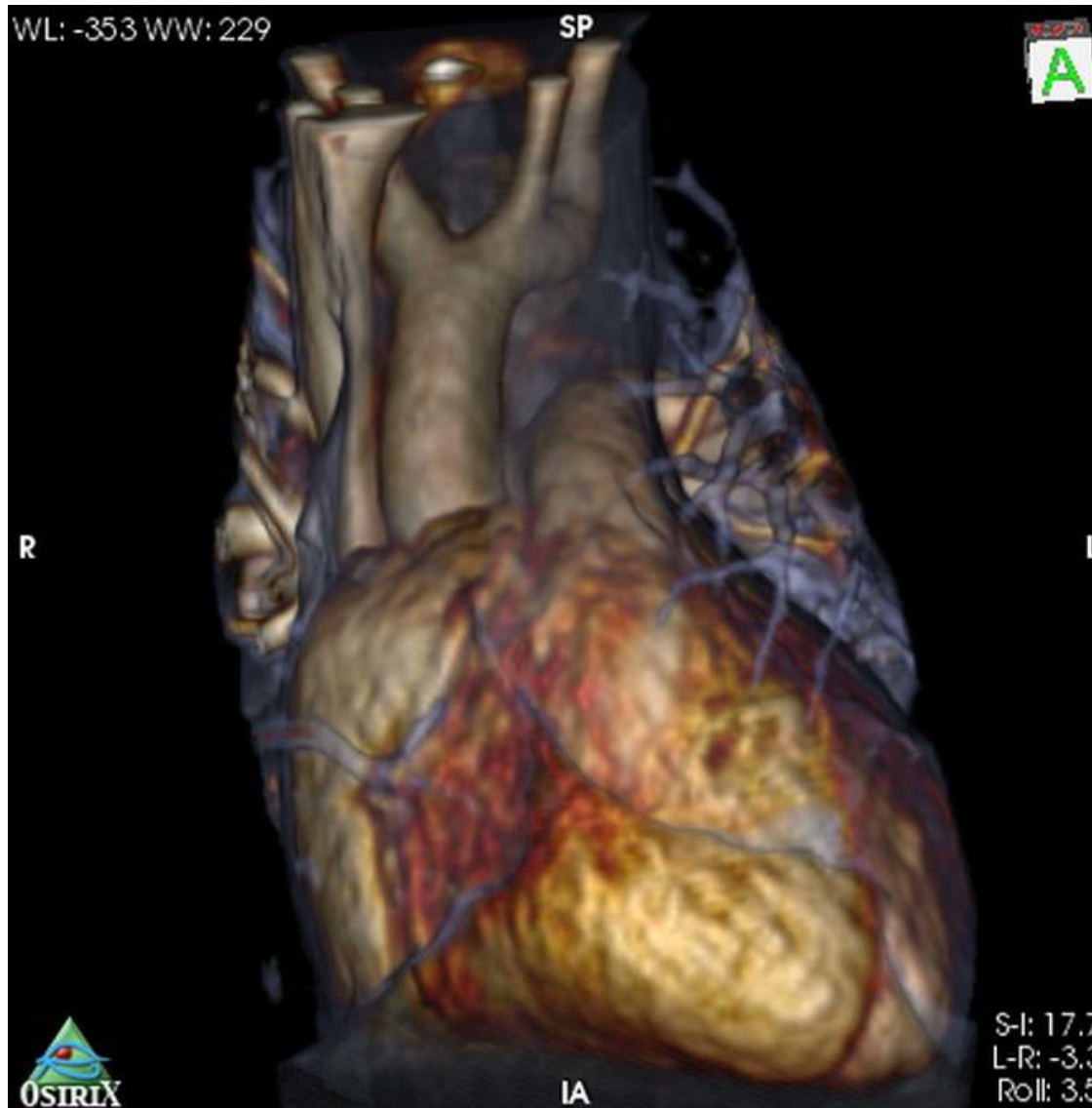
# Klieven van vaatring bij dubbele boog



# Resectie van divertikel van Kommerell bij rechterboog



# Dubbele boog Pre-operatief



3 maanden oud,  
inspiratoire stridor en  
dyspneu waarbij  
beademingsbehoefstig



# Dubbele boog Post-operatief

WL: -552 WW: 132

S

A



L

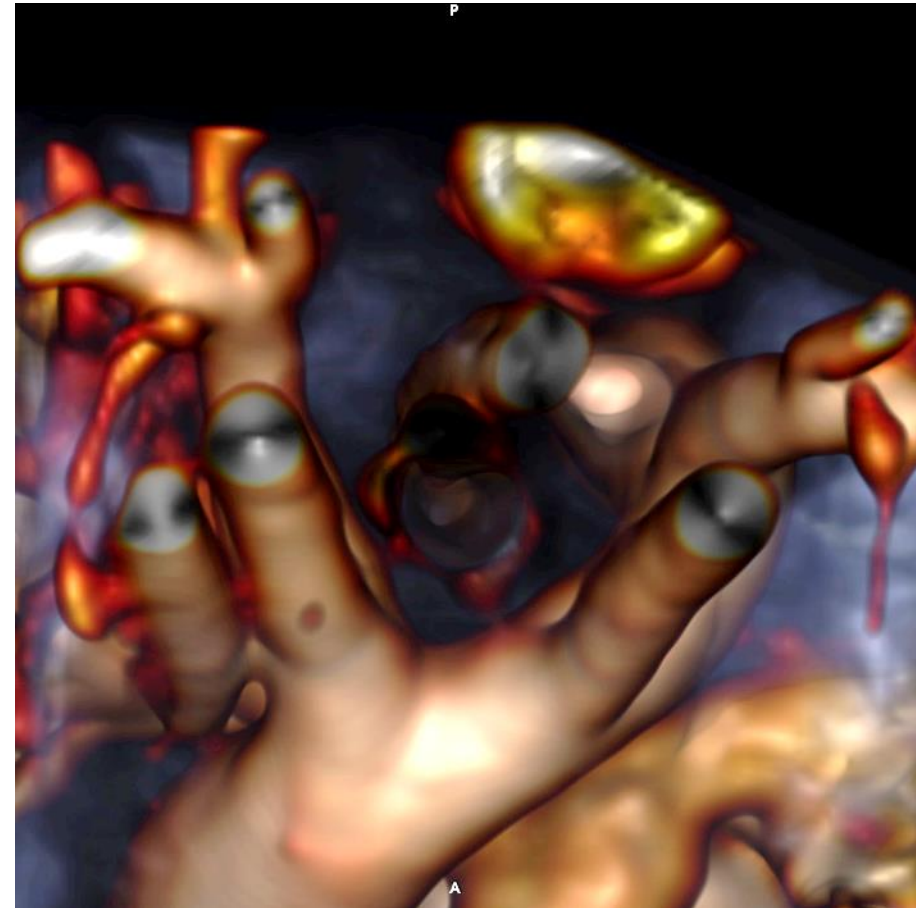
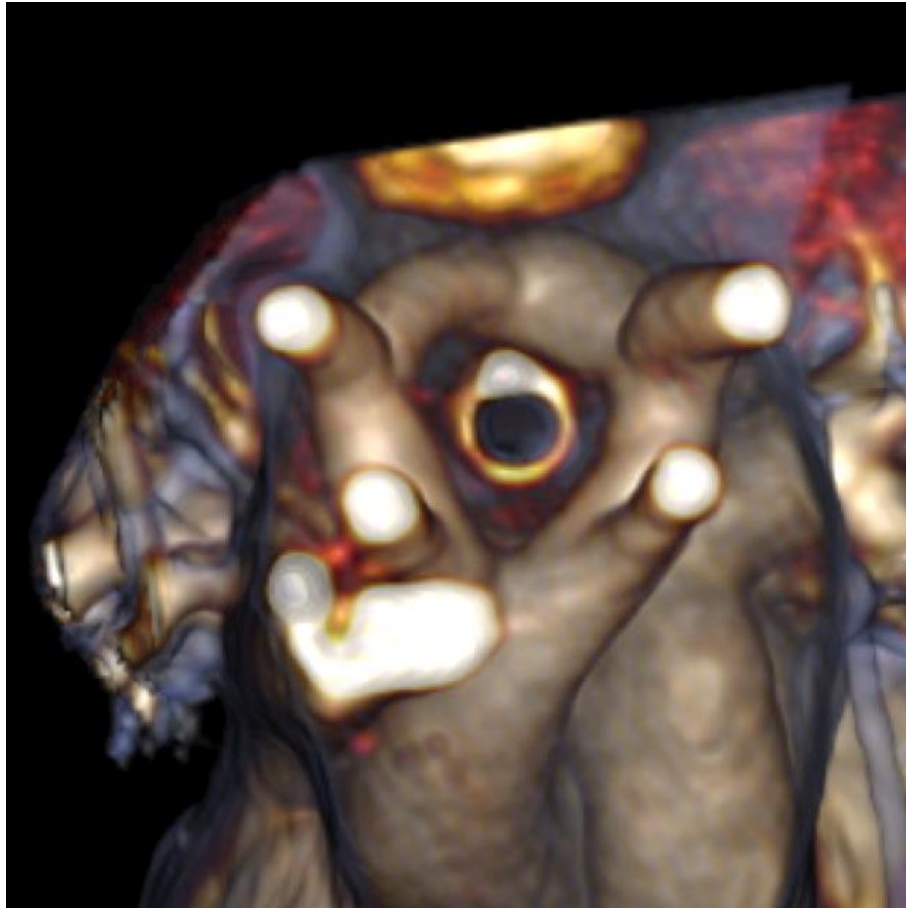
R

I

S-I: 0.8  
L-R: 0.0  
RoK: -0.1



# Dubbele boog Pre- versus Post-operatief



## Conclusie

- Boogafwijkingen kunnen een breed spectrum aan klachten geven
- Beeldvorming met CTA (3d)
- Veel verschillende type vaatringen
- Vaak middels laterale thoracotomie te benaderen om vaatring te klieven

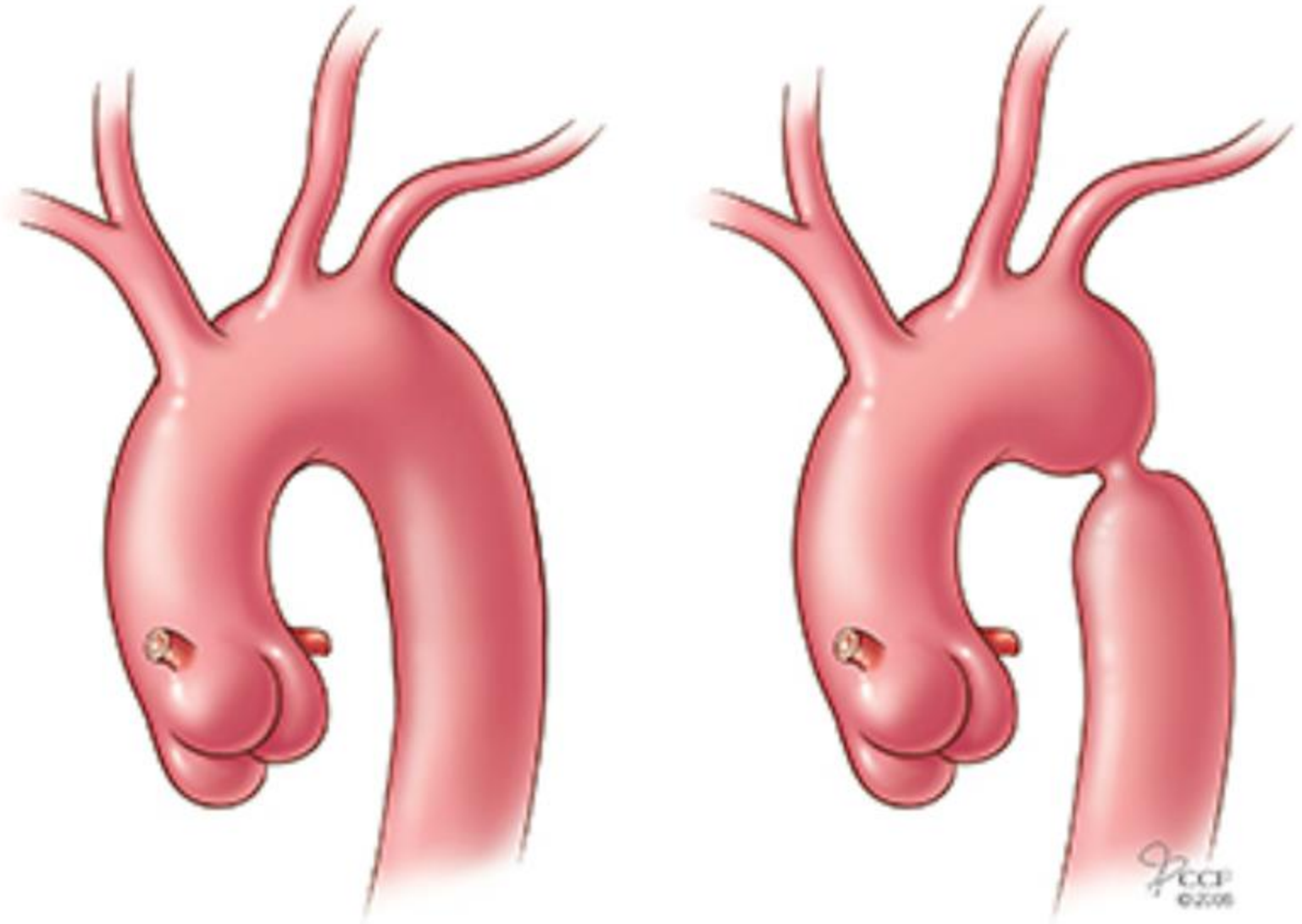




Wilhelmina Kinderziekenhuis

# Chirurgische behandeling coarctatie van de aorta

# Coarctation of the aorta



# 75 jaar coarctatie chirurgie

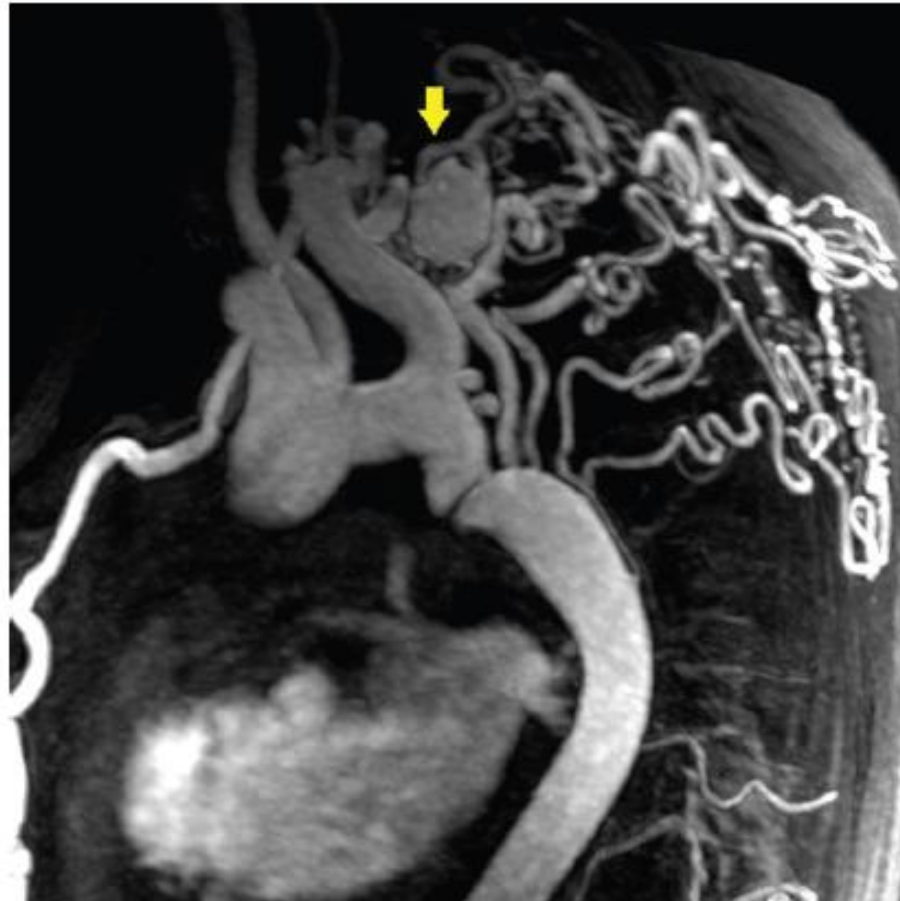


Clarence Crafoord and Ake Senning operating at Sabbatsberg hospital Stockholm (1944)





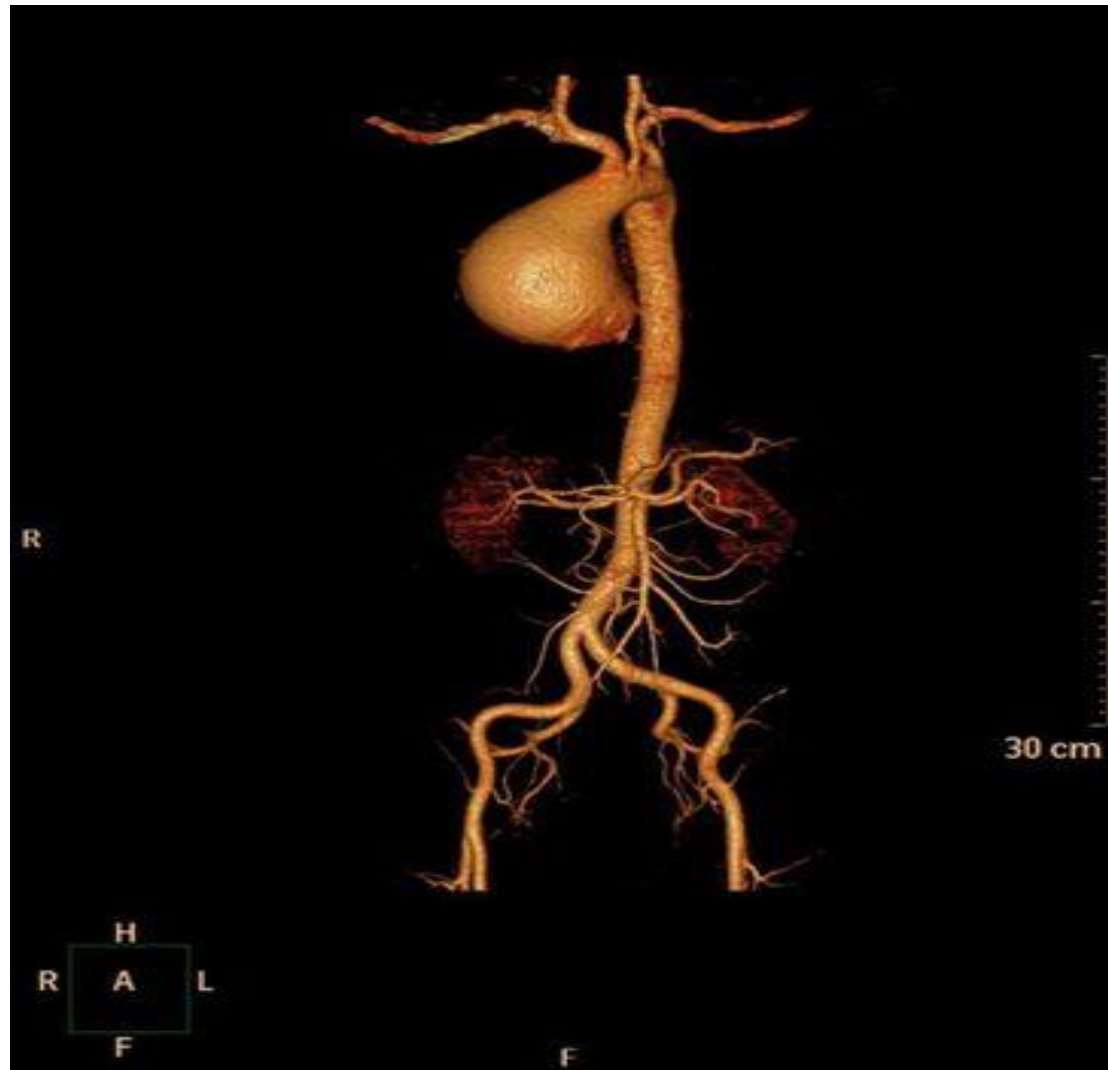
# Collateralalen



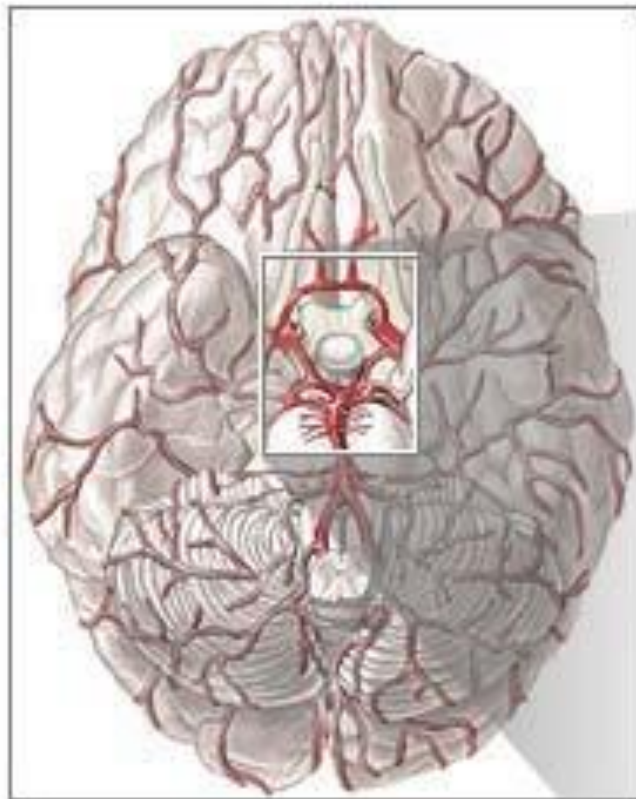
Gabriel C Inaraja Perez et al  
Vascular Medicine 2014, Vol. 19(1) 75–76



# Aneurysma van de aorta

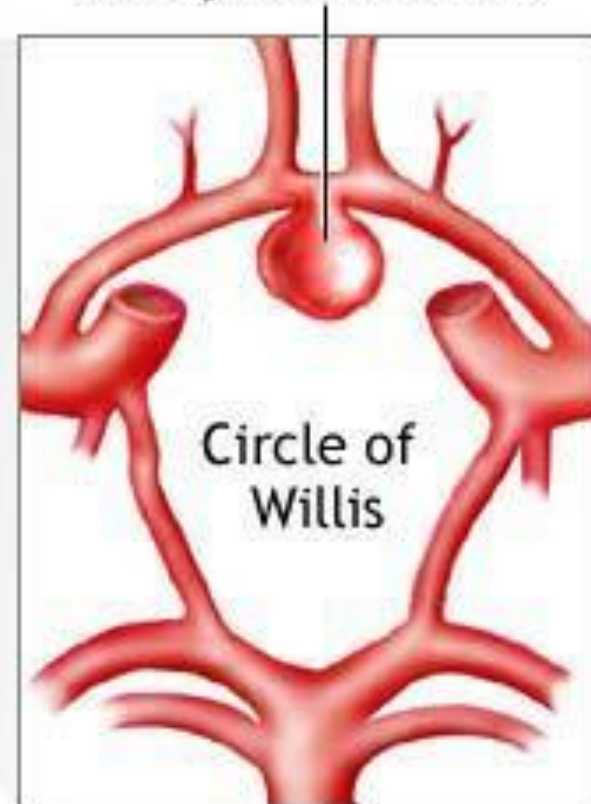


# Aneurysma van bloedvaten in het hoofd

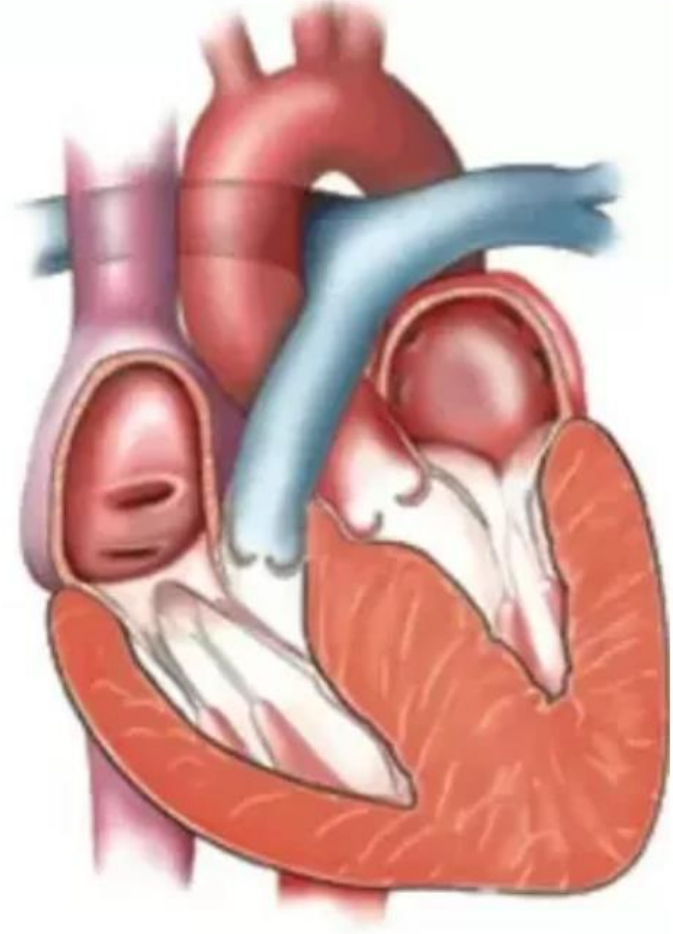
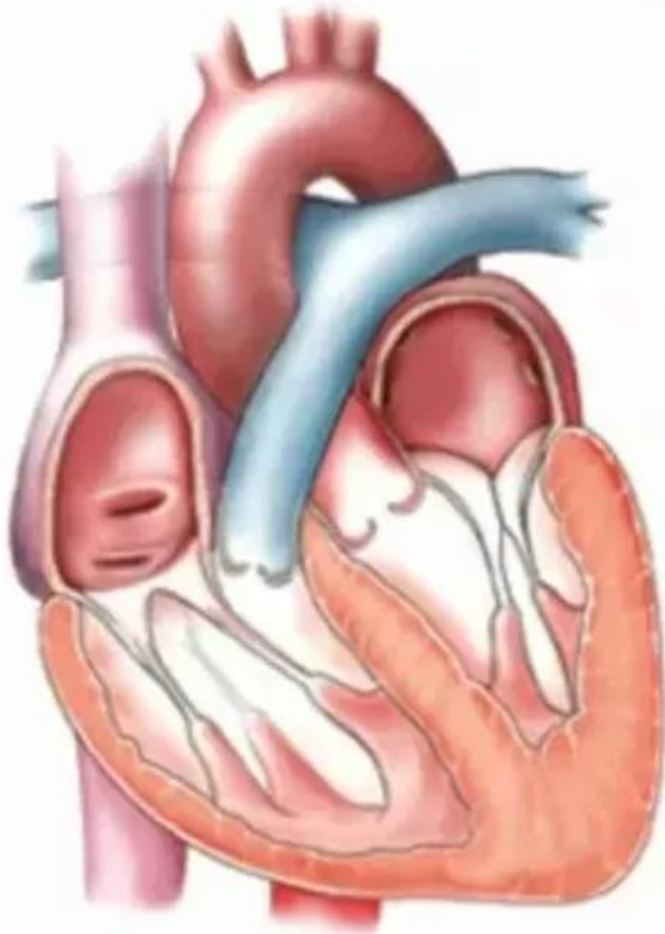


Bottom view of brain  
and major arteries  
of the brain

Berry aneurysm on the  
anterior communicating  
artery of the brain



# Hypertensie



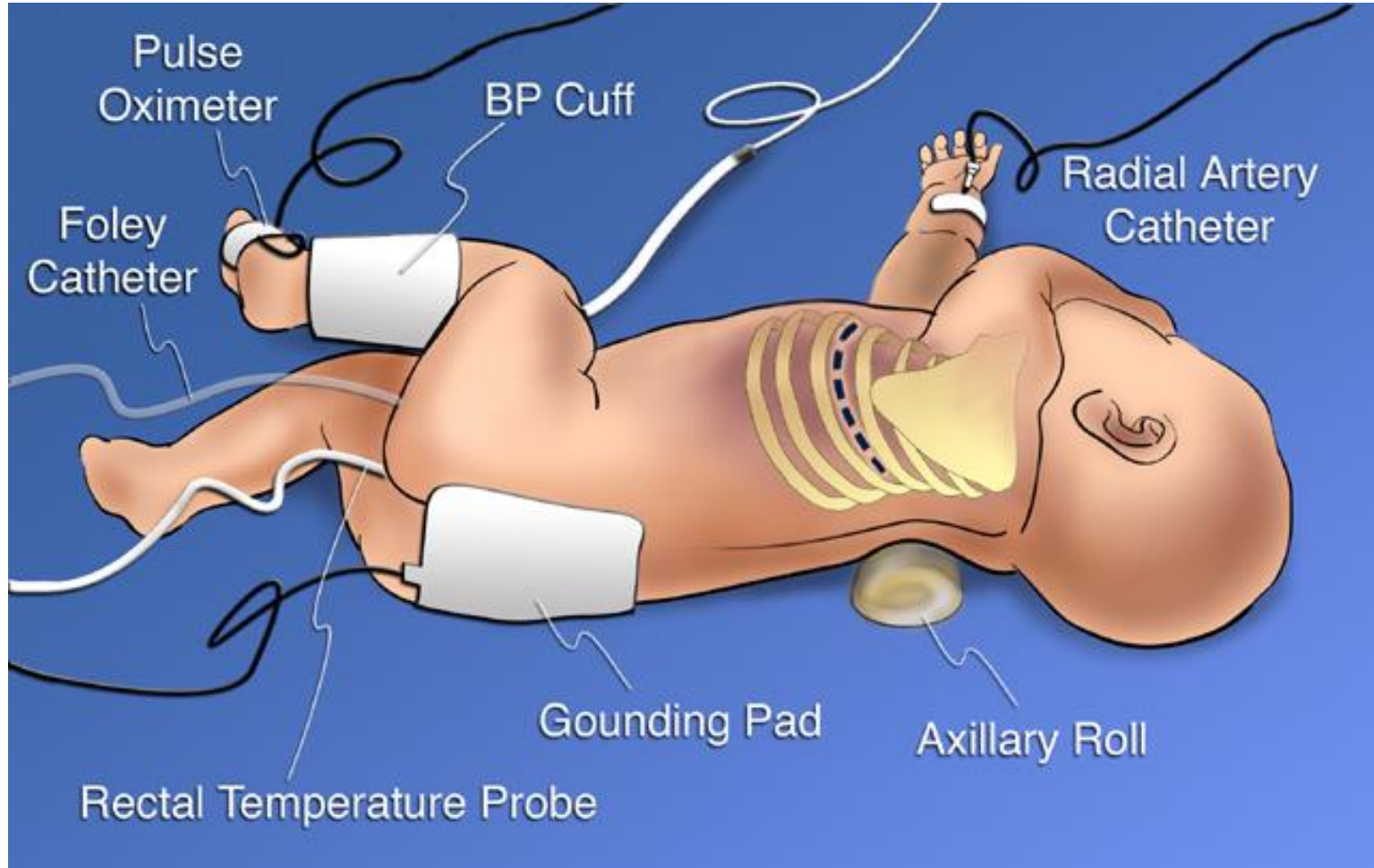
# Operatie bij kind



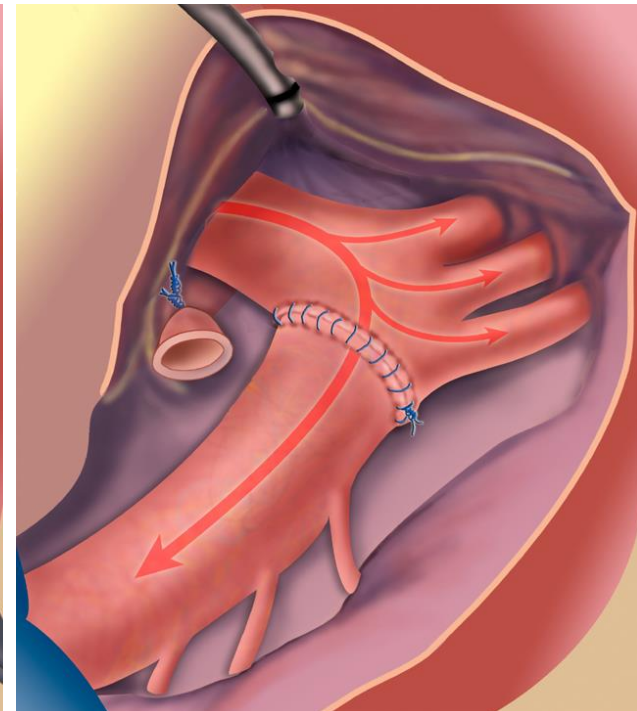
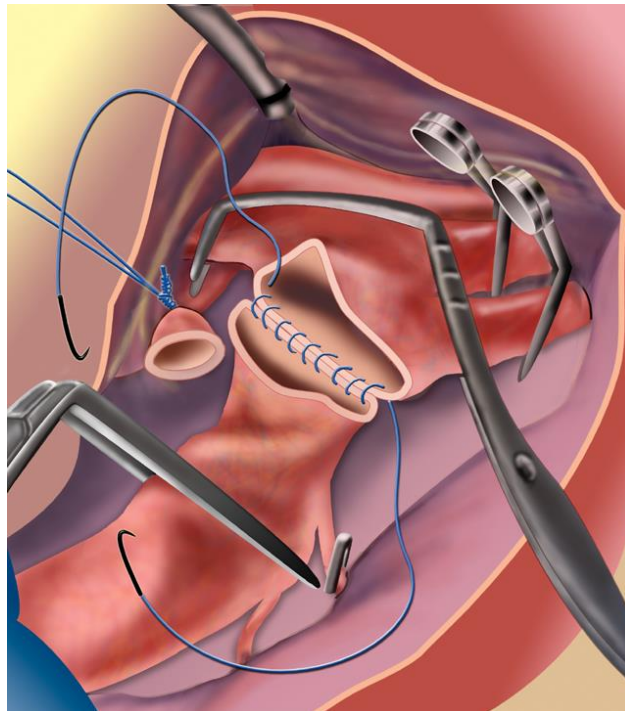
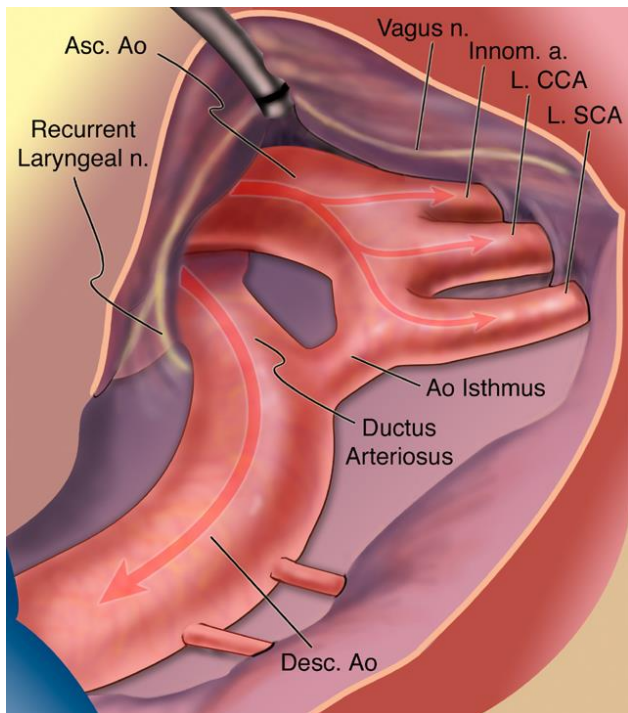
# Operatie bij kind



# Operatie bij kind



# Operatie



<https://www.ctsnet.org/article/repair-infantile-aortic-coarctation-and-transverse-arch-hypoplasia-resection-and-extended>





# Risico's

Mortaliteit: <1%

Paraplegie: 0,3-2,6%

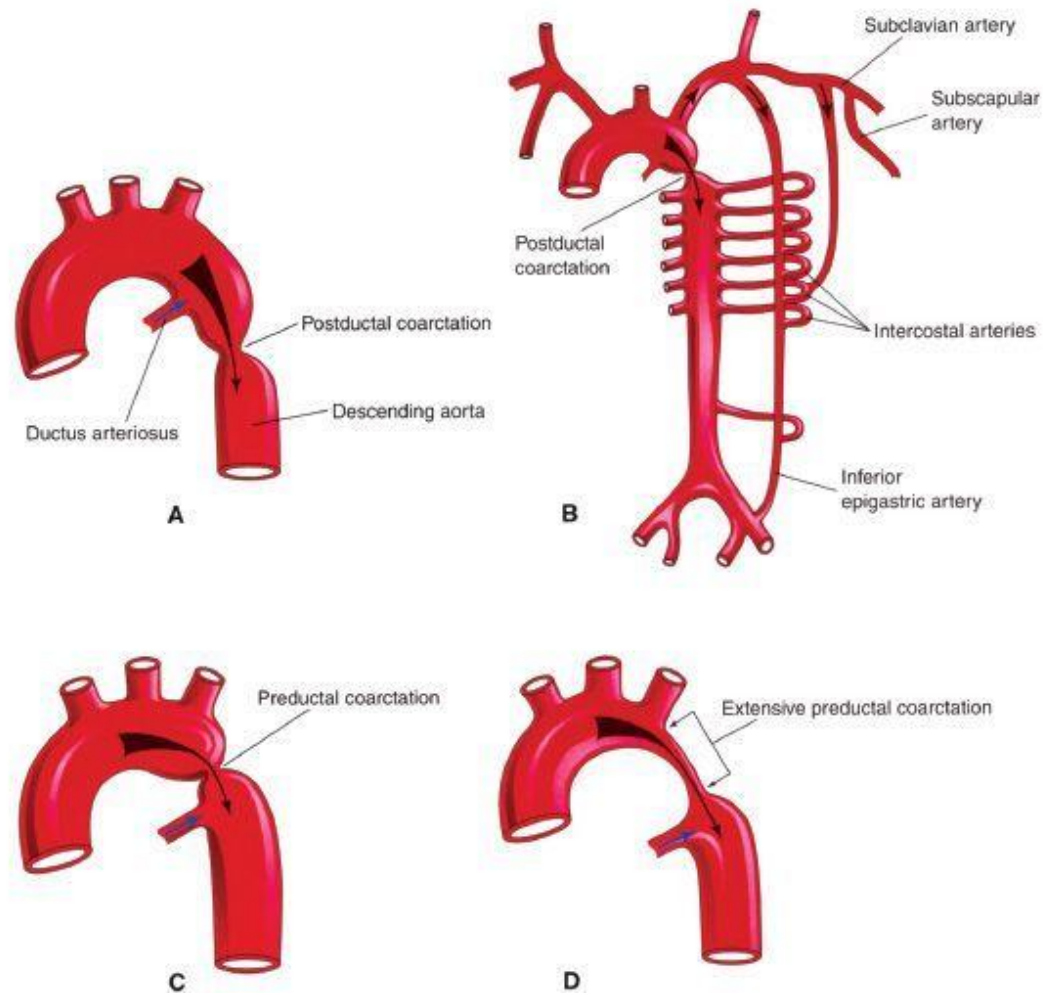
Re-coarctatie: 0-9%

N. recurrens letsel

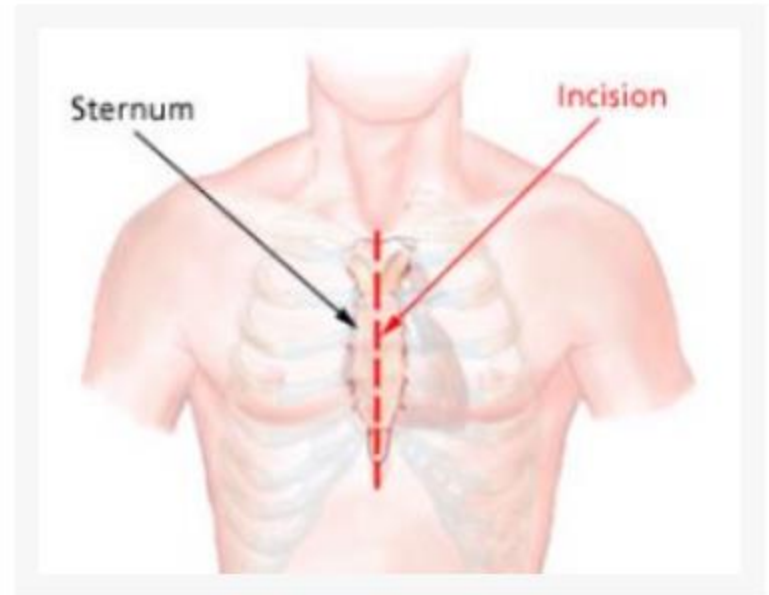
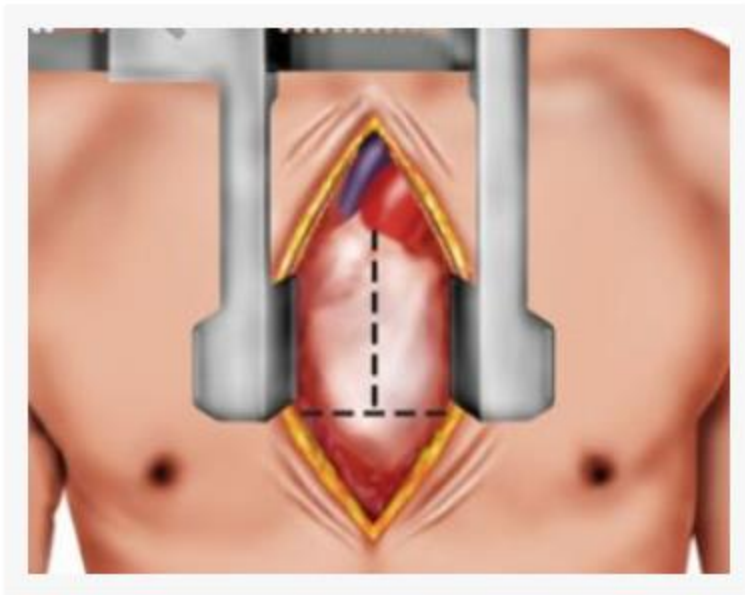
Nierinsufficiëntie



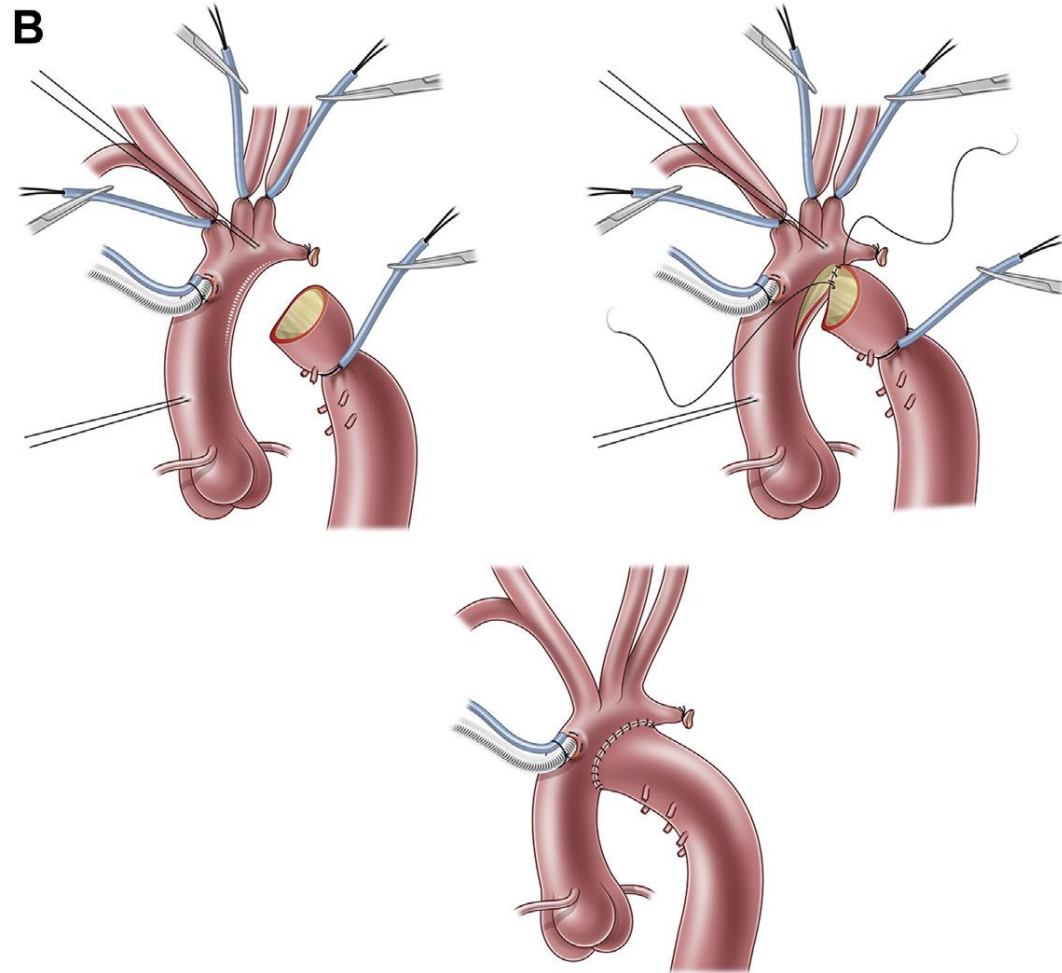
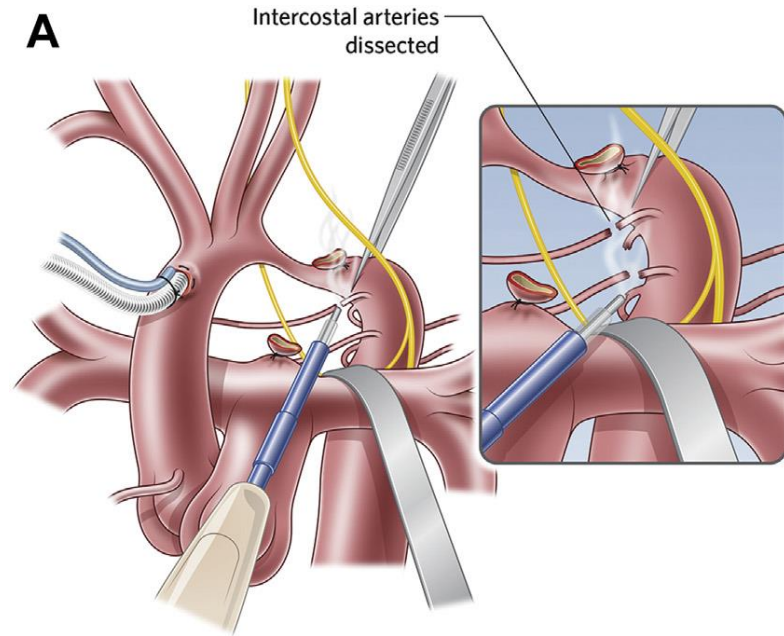
# Hypoplastische boog Coa

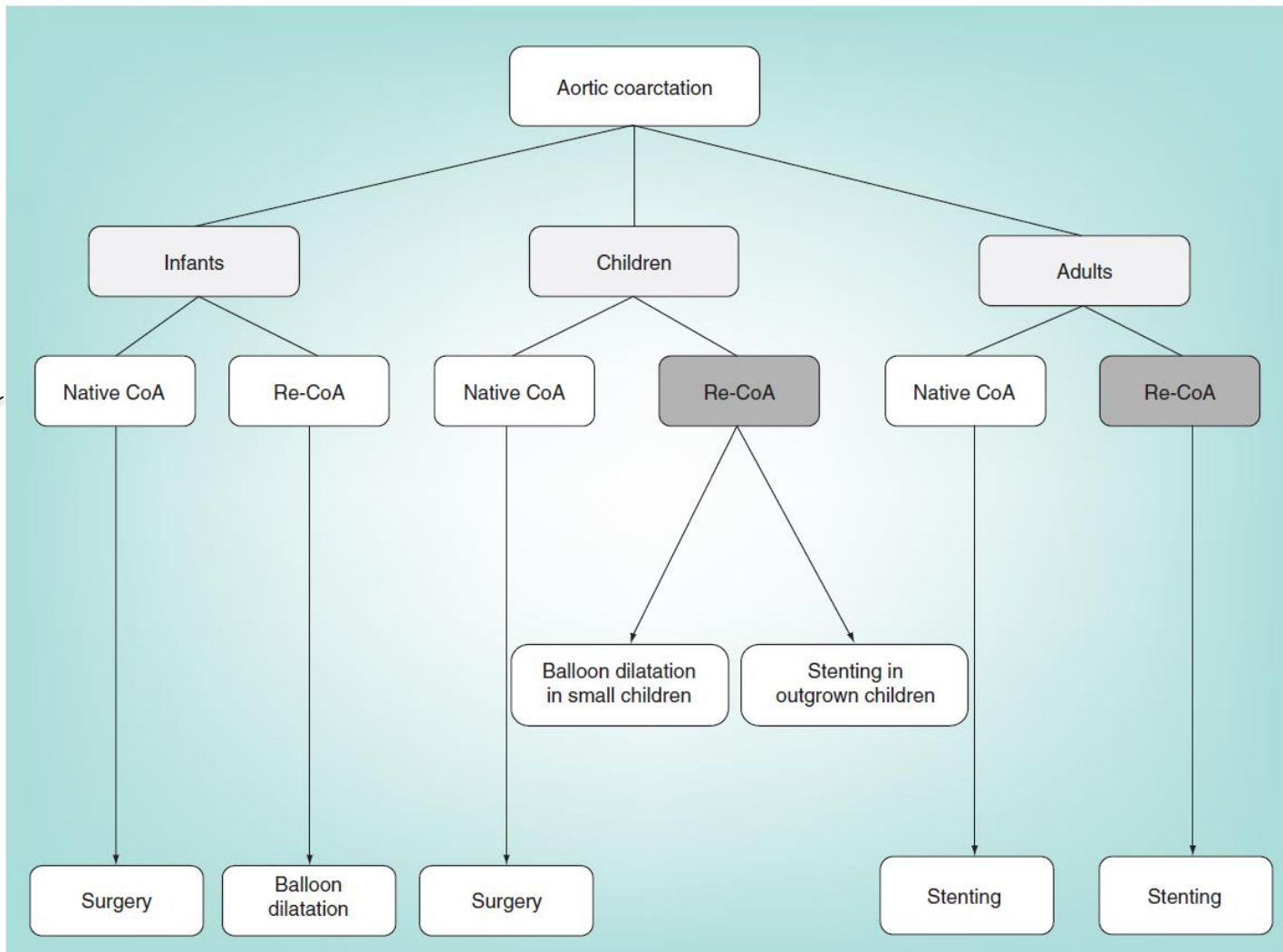


# Midsternale benadering met HLM



# Hypoplastische boog Coa





Luijendijk et al Expert Rev. Cardiovasc. Ther. 10(12), 1517–1531 (2012)



# Conclusie

- Coarctectomie via laterale thoracotomie links bij kind onder 1 jaar zonder boog hypoplasie of intracardiale afwijking.
- Midsternale benadering met behulp van hart-longmachine bij betrokkenheid boog of gecombineerd intracardiaal probleem
- Catheterinterventie eerste keus bij; kinderen met zeer laag gewicht (<1,5Kg), kinderen boven 1 jaar, re-coarctatie en bij volwassenen.



