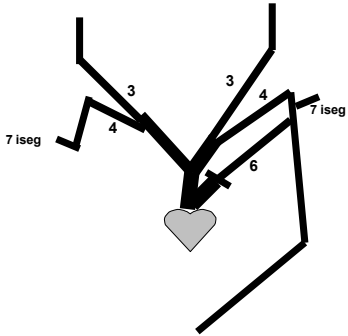
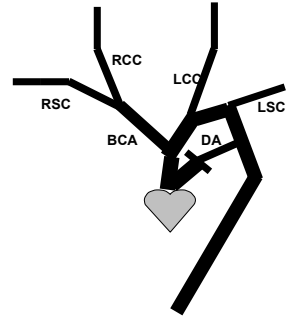


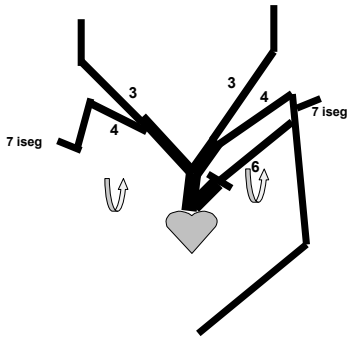
**AORTIC ARCHES AND DERIVATIVES**



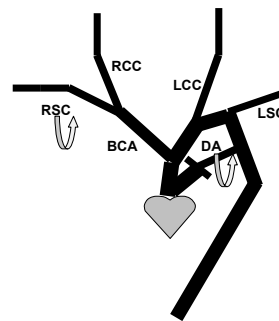
**AORTIC ARCHES AND DERIVATIVES**



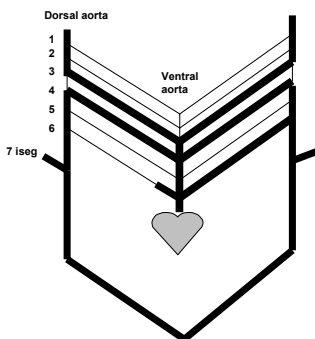
**RECURRENT LARYNGEAL NERVES**



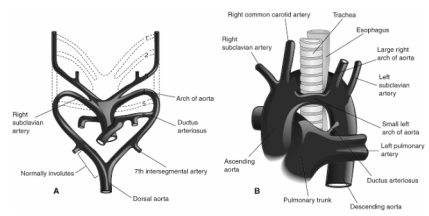
**RECURRENT LARYNGEAL NERVES**



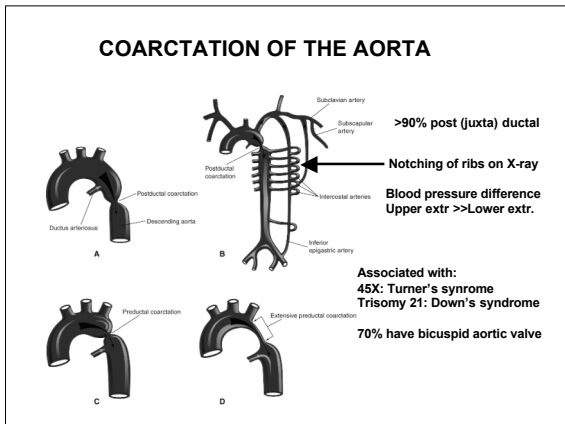
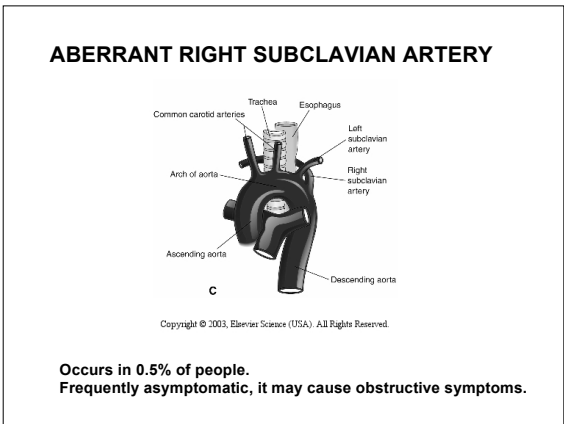
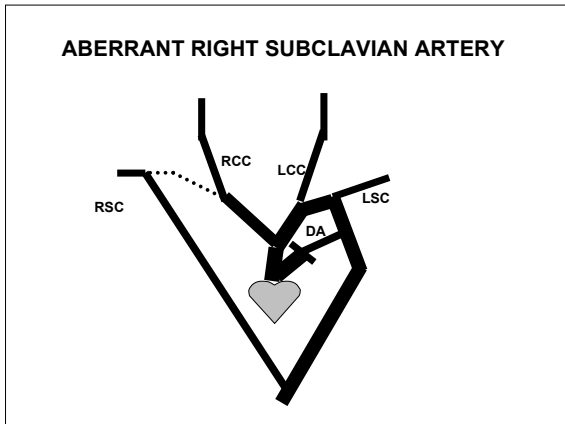
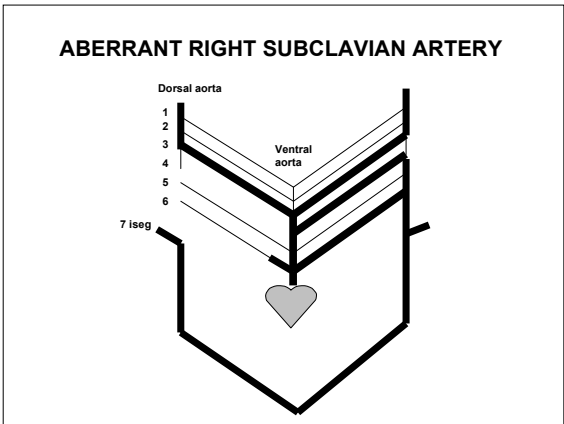
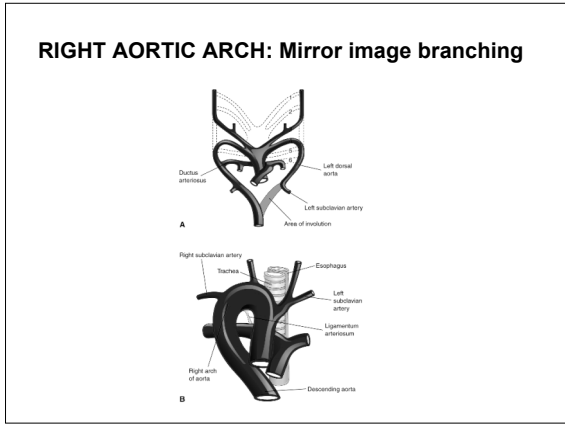
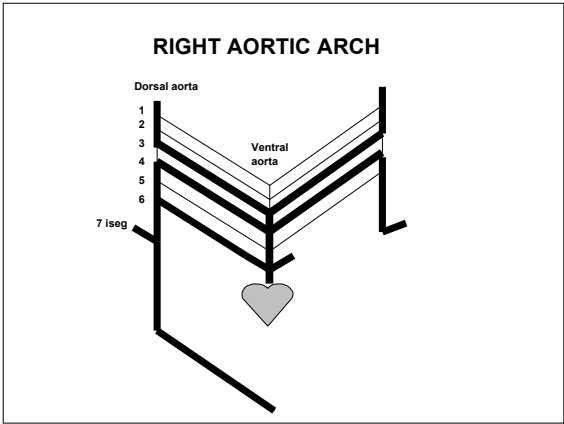
**DOUBLE AORTIC ARCH**



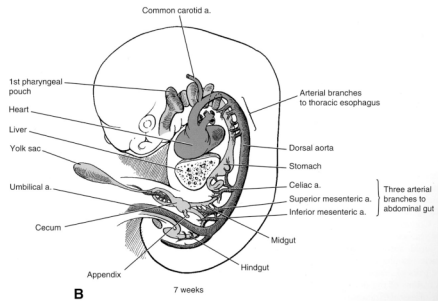
**DOUBLE AORTIC ARCH: "Vascular ring" Causes airway obstruction, stridor in infancy.**



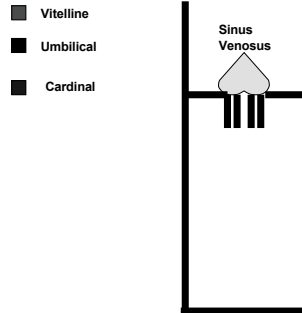
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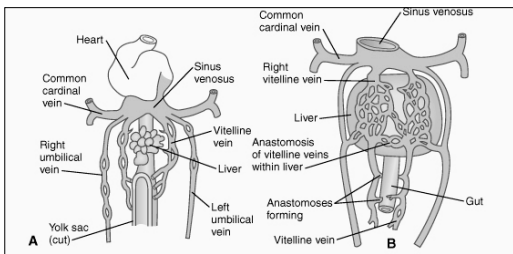
### ABDOMINAL ARTERIES



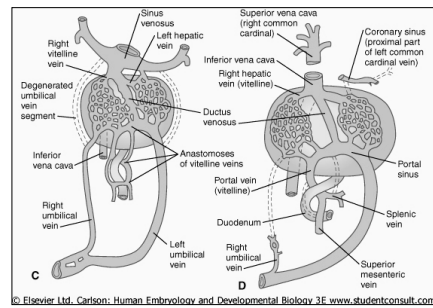
### VENOUS SYSTEM SCHEMATIC



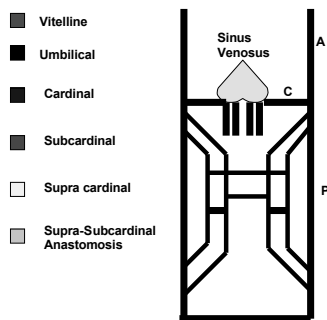
### UMBILICAL AND VITELLINE VEINS- I: Liver, portal vein and ductus venosus.



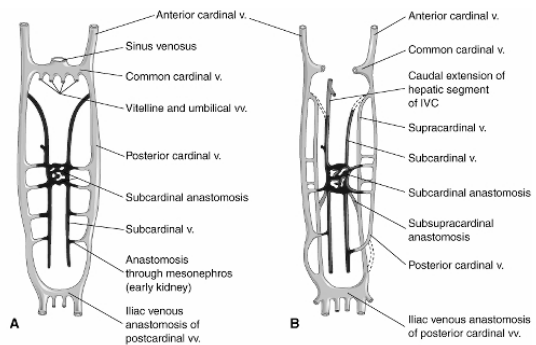
### UMBILICAL AND VITELLINE VEINS- II: Liver, portal vein and ductus venosus.

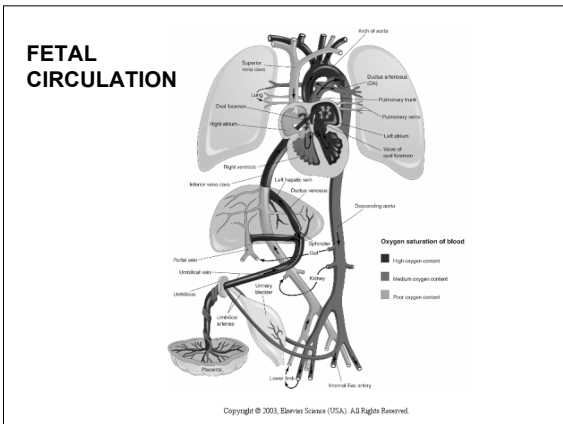
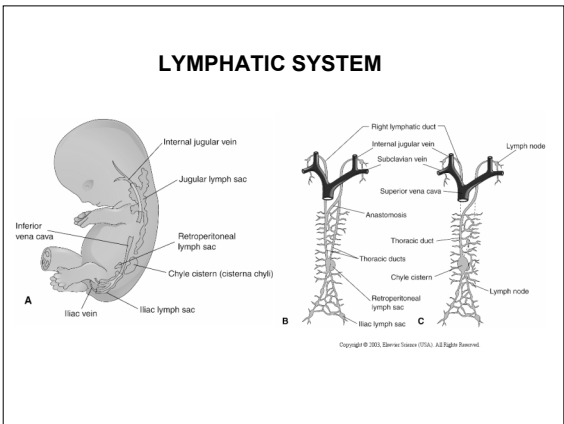
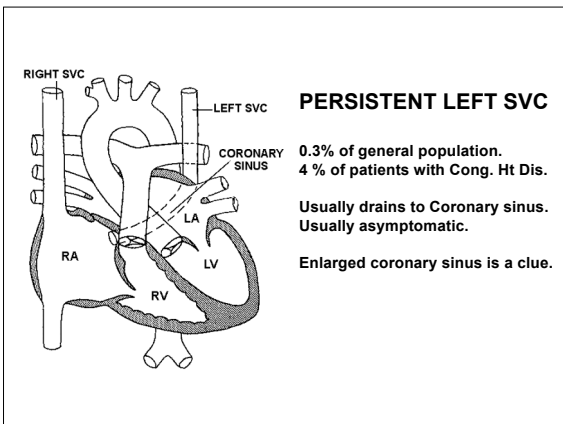
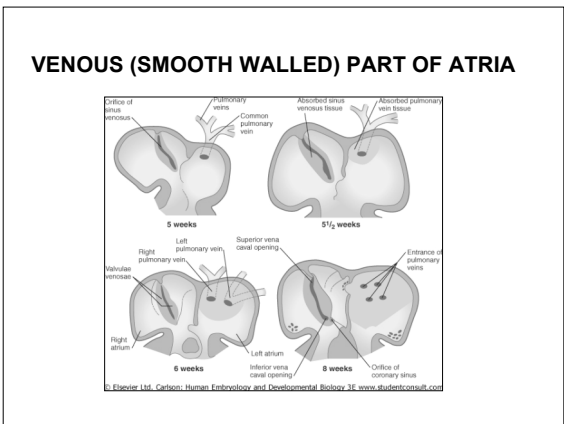
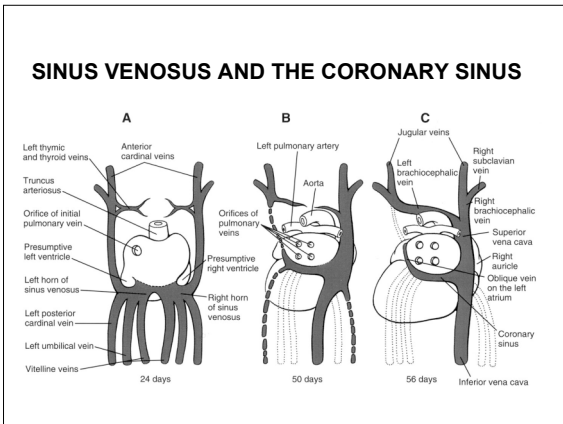
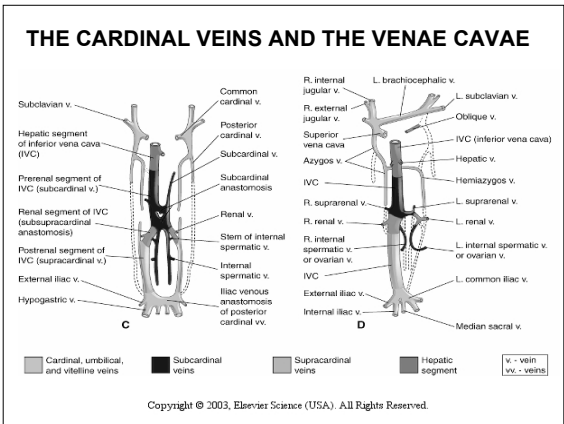


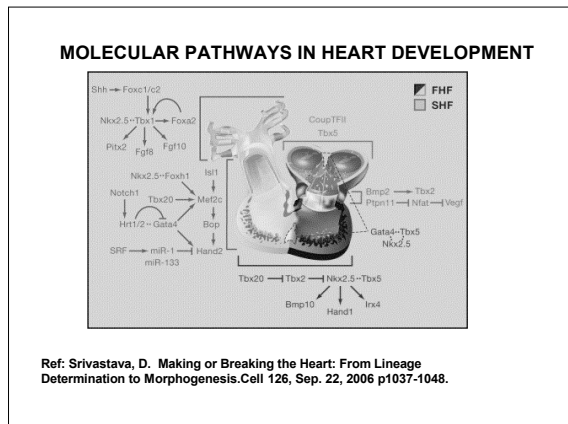
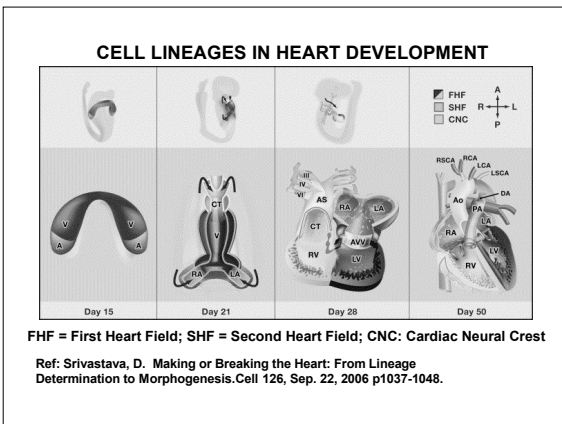
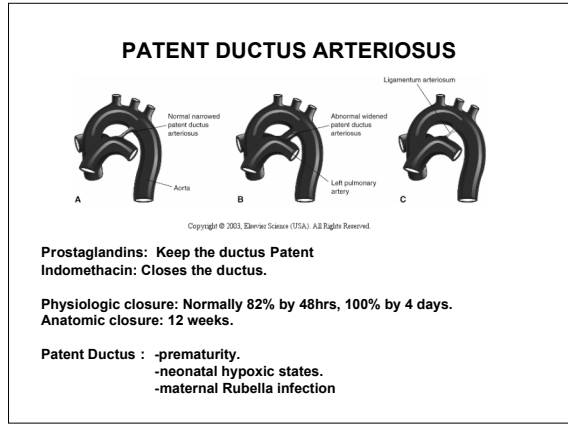
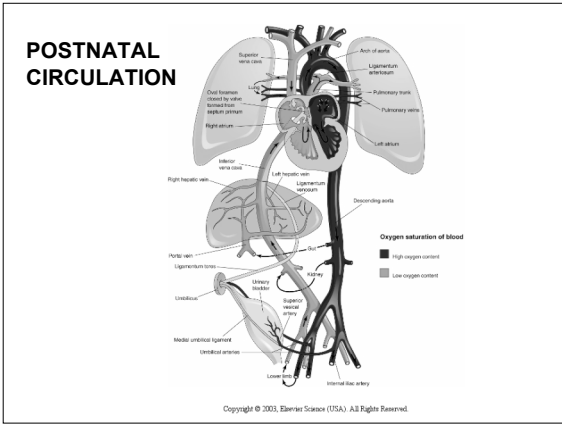
### VENOUS SYSTEM SCHEMATIC



### THE CARDINAL VEINS AND THE VENAE CAVAE







### Genetic Mutations in Congenital Heart Disease

Genetic Mutation	Syndrome Name	Cardiac Disease
<b>Nonsyndromic</b>		
NKX2-5	—	Atrial septal defect, ventricular septal defect, electrical conduction defect
GATA4	—	Atrial septal defect, ventricular septal defect
MYH6	—	Atrial septal defect
NOTCH1	—	Aortic valve disease
<b>Syndromic</b>		
TBX5	Holt-Oram	Atrial septal defect, ventricular septal defect, electrical conduction defect
TBX1	DiGeorge	Cardiac outflow tract defect
TFAP2β	Char	Patent ductus arteriosus
JAG1	Alagille	Pulmonary artery stenosis, tetralogy of Fallot
PTPN11	Noonan	Pulmonary valve stenosis
Elastin	William	Supravalvar aortic stenosis
Fibrillin	Marfan	Aortic aneurysm

Ref: Srivastava, D. Making or Breaking the Heart: From Lineage Determination to Morphogenesis. Cell 126, Sep. 22, 2006 p1037-1048.

