

Supplementary Appendix

Appendix A

Table S1. Examples of pathologies measured on chest radiographs and corresponding changes in electrocardiograms

Congenital heart disease	Findings from chest radiographs	Findings from electrocardiograms
<i>Left to right shunts</i>		
Atrial septal defect	<ul style="list-style-type: none"> • Cardiomegaly • RA/RV enlargement • Increased pulmonary vascular markings • Enlarged MPA/RPA 	<ul style="list-style-type: none"> • Right axis deviation (RAD) • Right ventricular hypertrophy (RVH) • Right bundle branch block (RBBB) with an rsR' pattern in V1 • Sinus venosus atrial septal defect- P axis is less than +30 degrees
Ventricular septal defect	<ul style="list-style-type: none"> • Cardiomegaly • LA/LV enlargement • Increased pulmonary vascular markings 	<ul style="list-style-type: none"> • Left axis deviation • Widened P waves • Left ventricular hypertrophy (LVH) • Large ventricular septal defect- biventricular hypertrophy
Patent ductus arteriosus	<ul style="list-style-type: none"> • Cardiomegaly • LA/LV enlargement • Ascending aorta enlargement • Increased pulmonary vascular markings 	<ul style="list-style-type: none"> • Left axis deviation • Widened P waves • LVH
Atrioventricular septal defect	<ul style="list-style-type: none"> • Cardiomegaly • RA/RV/LA/LV enlargement • Prominent MPA • Increased pulmonary vascular markings 	<ul style="list-style-type: none"> • Superior QRS axis • Prolonged PR interval • RVH • RBBB
<i>Obstructive lesions</i>		
Pulmonary stenosis	<ul style="list-style-type: none"> • Prominent MPA • Post stenotic dilatation of PA 	<ul style="list-style-type: none"> • RAD • RA dilatation

	<ul style="list-style-type: none"> Decreased pulmonary vascular markings 	<ul style="list-style-type: none"> RVH
Aortic stenosis	<ul style="list-style-type: none"> Dilated ascending aorta Prominent aortic knuckle Critical aortic stenosis (cardiomegaly with pulmonary venous hypertension) 	<ul style="list-style-type: none"> LVH
Coarctation of aorta	<ul style="list-style-type: none"> Cardiomegaly Pulmonary oedema Pulmonary venous hypertension 	<ul style="list-style-type: none"> Infants- RVH/RBBB Older children- LVH
<i>Cyanotic heart disease</i>		
Ebstein anomaly	<ul style="list-style-type: none"> Cardiomegaly RA enlargement Decreased vascular markings 	<ul style="list-style-type: none"> RA enlargement RBBB PR prolongation
Pulmonary atresia with intact septum	<ul style="list-style-type: none"> Normal cardiac silhouette/enlarged RA enlargement Decreased vascular markings 	<ul style="list-style-type: none"> Normal QRS axis LVH RA dilatation ST-T segment changes
Tetralogy of Fallot	<ul style="list-style-type: none"> Normal cardiac silhouette Decreased pulmonary vascular markings Concave PA segment Right sided aortic arch 	<ul style="list-style-type: none"> RAD RVH
Transposition of great vessels	<ul style="list-style-type: none"> Cardiomegaly Increased pulmonary vascularity Egg shaped cardiac silhouette Narrow mediastinum 	<ul style="list-style-type: none"> Normal P wave Q wave in V6 RVH RA dilatation
Tricuspid atresia	<ul style="list-style-type: none"> Normal cardiac silhouette RA/LV enlargement Decreased pulmonary vascularity Concave PA segment 	<ul style="list-style-type: none"> Superior QRS axis LVH RAH Biatrial hypertrophy
Total anomalous venous return	<ul style="list-style-type: none"> Without obstruction-increased pulmonary blood flow RA/RV enlargement MPA prominent With obstruction- PVH 	<ul style="list-style-type: none"> RA enlargement RAD RVH Incomplete RBBB

Hypoplastic left heart syndrome	<ul style="list-style-type: none"> • Cardiomegaly • Pulmonary oedema • PVH 	<ul style="list-style-type: none"> • RVH
Truncus arteriosus	<ul style="list-style-type: none"> • Cardiomegaly • Increased pulmonary vascularity • Right aortic arch 	<ul style="list-style-type: none"> • Normal QRS axis • Biventricular hypertrophy • LA enlargement

LA: left atrium; LV: left ventricle; RA: right atrium; RV: right ventricle; MPA: main pulmonary artery; RPA: right pulmonary artery; PA: pulmonary artery; PVH: pulmonary venous hypertension; RAD: right axis deviation; LVH: left ventricular hypertrophy; RVH: right ventricular hypertrophy; RAH: right atrial hypertrophy; RBBB: right bundle branch block.