One large blood vessel (truncus) with a single valve leaves the heart. This blood vessel has branches that go to the lungs, body and coronary arteries. There is almost always a large hole between the bottom two chambers of the heart (ventricular septal defect or VSD).

There are several types of truncus arteriosus (TA):

- Type I - 60% of all cases of TA are this type.
- Type II - 20% of all cases of TA are this type.
- Type III - 10% of all cases of TA are this type.

Type I is corrected by closing the VSD so that the blood from the bottom left chamber goes into the truncus. This is closed with a patch. A connection is often made between the bottom right heart chamber and the branch pulmonary arteries going to the lungs. The connection is made with a tube that contains a valve (valved conduit, Rastelli repair).

Surgery is done through a median sternotomy (chest) incision.