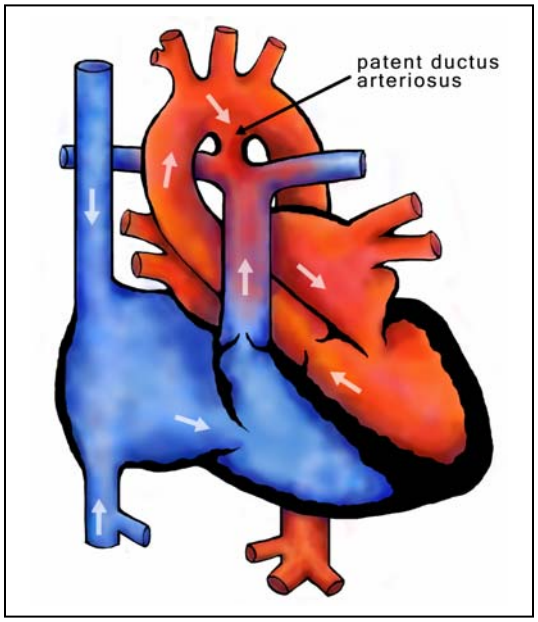
This fact sheet has been provided by the Texas Birth Defects Monitoring Division. Feel free to use it as a template and insert in your state-specific information; for your convenience, we have included all available state data for this defect, which was published in Birth Defects Research, Part A (Reference: NBDPN. 2003. Birth Defects Surveillance Data from Selected States, 1996-2000. Birth Defects Research Part A 67 (9): 729-818). We ask that you acknowledge the Texas Birth Defects Monitoring Division.

Patent Ductus Arteriosus

What is PDA?



Patent Ductus Arteriosus (PDA) is a defect of the heart that occurs when the opening between the aorta and pulmonary artery (that is present in all babies before birth) does not close once the baby is born. Before birth, the opening is simply called the ductus arteriosus. An unborn baby gets oxygen from the mother's placenta. Therefore, very little blood needs to travel to the unborn baby's lungs. The ductus arteriosus keeps most of the oxygenated blood from going to the lungs, and sends it out to the body. Most of the time, the ductus arteriosus closes when the baby is born and his or her lungs expand. However, in some babies the opening does not close leaving a Patent (open) Ductus Arteriosus.

How Common is PDA?

[Insert state-specific rates.]
Patent Ductus Arteriosus accounts for about 5% to 10% of congenital heart diseases. In Texas, PDA occurs at a rate of 43 per 10,000 births. There are significant differences in the rate of PDA when it comes to ethnicity and maternal age. In Texas, Hispanic women have babies with PDA at a rate of 45 per 10,000, while African American mothers and white mothers have babies with PDA at a rate of 30 and 35 per 10,000 respectively. The prevalence of PDA also increases when the maternal age increases. In Texas, mothers who were age 40 and older gave birth to babies with PDA at a rate of 197 per 10,000. The high rates associated with older mothers are influenced by the fact that Down syndrome and other chromosomal abnormalities are more common with greater maternal age. A mother who gives birth over the age of 40 has a high risk of having a child with Down syndrome who also has a congenital heart defect such as Patent Ductus Arteriosus.

Who is at risk?

As previously stated, every unborn baby has a ductus arteriosus. However, most close after the baby is born. Therefore, babies who are born prematurely (before the 37th week of pregnancy) are more likely to have Patent Ductus Arteriosus. Because they were born prematurely, their heart did not have the adequate amount of time to develop in-utero.

Sometimes the opening will close on its own. However, if the PDA is still present beyond the newborn period, it will not likely close on its own.

Rates of PDA

	Race/Ethnicity						
State	**Non-Hispanic White**	**Non-Hispanic Black or African**	**Hispanic**	**Asian or Pacific Islander**	**American Indian or Alaskan Native**	**Other/ Unknown**	**Total**
Alaska							195
							48.88
Arkansas	395	126	32	4	0	2	559
	29.77	32.13	36.14	19.88	0.00		30.36
Colorado	800	56	278	37	9	0	1,180
	39.98	41.78	37.20	43.09	36.75		39.41
Delaware	154	83	14	5	0	9	265
	44.56	65.57	35.34	38.31	0.00		50.30
Georgia	293	239	66	36	1	6	641
	30.05	26.30	26.15	37.27	22.37		28.39
Hawaii	134	19	31	693	8	11	896
	72.37	65.84	169.86	114.68	80.89		101.73
Illinois	1,217	315	263	54	5	22	1,876
	22.92	17.96	14.70	15.44	42.27		20.34
Iowa	457	33	20	3	3	33	549
	27.58	61.77	18.60	7.84	32.68		29.38
Kentucky	583	88	4	4	1	0	680
	40.33	58.91	14.71	25.00	41.84		41.04
Massachusetts	175	23	26	7	0	8	239
	14.53	19.83	14.39	7.95	0.00		14.71
Michigan	1,270	339	69	28	10	11	1,727
	25.52	28.18	23.73	17.98	27.32		25.76
Mississippi	32	47	1	0	1	0	81
	13.94	23.63	16.81	0.00	40.49		18.38
Missouri	1,509	380	49	29	3	4	1,974
Montana	3	0	0	0	0	23	26
New Jersey	1,698	602	456	170	6	21	2,953
New Mexico	60	6	85		25	2	178
New York	276	179	115	36	1	4	611
North Carolina	1,216	662	174	33	29	0	2,114
North Dakota							151
Rhode Island	221	36	38	11	0	12	318
Tennessee	140	57	11	3	0	0	211

Texas	2,032	568	3,151	137	11	6	5,905
Virginia	1,378	701	162	98	6	10	2,355
West Virginia	461	14	0	1	0	7	483
Wisconsin	638						761

What are the symptoms?
Symptoms of PDA vary depending on the severity of the opening between the aorta and pulmonary artery. Because this defect occurs most often in premature babies, the lungs of the baby with PDA are usually underdeveloped. So, a baby with PDA is very likely to have difficulty breathing, or rapid breathing. Also, a baby with PDA will tire easily and may be undersized. If the patent ductus arteriosus is small, there could be no symptoms at all.

What are the treatments?

In newborns showing signs of Patent Ductus Arteriosus, additional time may be allowed to let the opening close on its own. Newborns who are showing severe symptoms are often given medications that will help the muscle in the wall of the patent ductus arteriosus to tighten, therefore closing the opening. If PDA is still present after the newborn period, it is usually corrected surgically.

PDA and Other Heart Defects
Patent Ductus Arteriosus can only be beneficial if the child has other cardiac anomalies that require the ductus arteriosus to remain open. In some cases, the patent ductus arteriosus is the only way an adequate amount of blood gets to the lungs to be oxygenated. Or, if the aorta is underdeveloped, the patent ductus arteriosus is what allows an adequate amount of blood to reach the body. Sometimes, medication is given to keep the ductus arteriosus open. However, the main reason for keeping the ductus arteriosus open is to allow the newborn to stabilize before surgical intervention is performed.

For sources or more information contact [insert in your contact information].