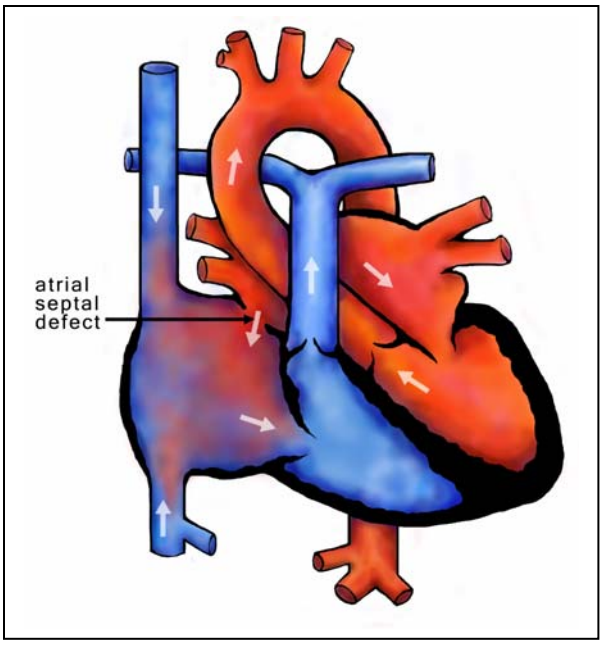
This fact sheet has been provided by the Texas Birth Defects Monitoring Division. Feel free to use it as a template and insert in your state-specific information; for your convenience, we have included all available state data for this defect, which was published in Birth Defects Research, Part A (Reference: 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.

Atrial Septal Defect

What is an atrial septal defect?



In all fetuses, there is an opening in the wall (septum) between the upper left and upper right chambers (atriums) of the heart. The fetus receives oxygen from its mother, and therefore does not need blood to go through its lungs. The opening assists with allowing the blood to bypass the lungs. This opening usually closes by the time a baby is born. However, if the opening between the two atriums does not close, it is called an Atrial Septal Defect (ASD). ASDs are one of the most common types of birth defects. An ASD allows blood from the left side of the heart to flow back into the right side of the heart. This increases the workload of the right side of the heart and of the lungs. If the defect is small, an ASD can often go unnoticed until adulthood, or cause no problems at all. However, if left untreated, an ASD can increase the risk of congestive heart failure, high blood pressure in the lungs, arrhythmias, and stroke.

Primum and Secundum ASD

There are two types of Atrial Septal Defect. If the opening is in the lower part of the septum, the defect is called Primum ASD. A person with Primum ASD is more likely to show symptoms during early childhood. Also, Primum ASD often co-exists with defects of one or more valves of the heart. If the opening between the atriums is located in the central part of the septum, it is called Secundum ASD. Secundum is the most common type of ASD. The symptoms of this type of ASD may not appear until school age or even later. No matter which type, a person has an ASD should receive treatment.

Rates of ASD

	Race/Ethnicity						
State	**Non-Hispanic White**	**Non-Hispanic Black or African**	**Hispanic**	**Asian or Pacific Islander**	**American Indian or Alaskan Native**	**Other/ Unknown**	**Total**
Alabama	36	15	0	1	0	0	52
	23.86	17.62	0.00	50.51	0.00		21.44
Alaska							319
							79.96
Arizona	81	8	54	3	25	1	172
	10.61	16.59	9.76	9.90	23.59	19.69	11.42
Arkansas	472	139	29	3	1	8	652
	35.58	35.45	32.75	14.91	9.43		35.42
California	183	27	293	5	26	21	555
	19.20	20.29	19.54	21.75	21.00		19.74
Colorado	967	58	337	38	15	7	1,422
	48.32	43.27	45.10	44.25	61.25		47.49
Delaware	140	62	13	7	0	7	229
	40.51	48.98	32.81	53.64	0.00		43.47
Florida	2,329	1,070	1,230	81	7	8	4,725
	54.37	71.02	70.49	49.86	31.73		61.11
Georgia	227	264	51	18	1	6	567
	23.28	29.05	20.21	18.63	22.37		25.11
Hawaii	45	4	7	157	1	1	215
	24.30	13.86	38.36	25.98	10.11		24.41
Illinois	1,322	383	315	51	3	54	2,128
	24.89	21.83	17.61	14.58	25.36		23.08
Iowa	384	23	15	5	4	21	452
	23.18	43.06	13.95	13.06	43.57		24.19
Kentucky	860	174	9	8	2	0	1,053
	59.50	116.49	33.10	50.00	83.68		63.55
Massachusetts	175	20	32	9	0	11	247
	14.53	17.24	17.72	10.22	0.00		15.20
Michigan	2,580	700	135	54	22	60	3,551
	51.85	58.20	46.42	34.68	60.11		52.96
Mississippi	41	59	1	1	2	0	104
	17.86	29.66	16.81	25.58	80.97		23.60
Missouri	1,890	561	78	32	9	7	2,577
	62.98	100.59	73.63	52.19	65.55		68.79
Montana	11	0	0	0	2	27	40
	12.03	0.00	0.00	0.00	15.29		36.54
New Jersey	2,351	1,067	813	264	10	43	4,548
	71.90	112.02	79.26	68.58	130.55		79.99
New Mexico	108	2	125		44	3	282
	22.90	8.10	18.56		33.16		20.79
New York	1,584	1,149	653	201	5	25	3,617
	22.86	47.48	25.01	23.95	16.11		28.00
North Carolina	1,211	647	197	33	37	1	2,126

	34.18	46.22	46.39	28.37	44.67		38.17
North Dakota							141
							35.45
Oklahoma	797	100	58	6	118	10	1,089
	46.33	43.29	32.32	14.01	50.06		45.04
Rhode Island	232	43	47	11	1	14	348
	55.03	99.91	66.08	67.48	227.27		59.11
Tennessee	175	56	3	2	0	16	252
	31.52	30.89	7.23	14.10	0.00		31.68
Texas	1,926	526	2,608	110	13	8	5,191
	38.30	37.49	42.09	29.36	45.39		39.77
Utah	139	3	24	2	3	3	174
	18.04	52.72	20.99	7.22	23.73		18.59
Virginia	820	246	108	66	3	7	1,250
	26.81	23.02	35.82	31.02	37.64		26.74
West Virginia	483	16	0	1	0	10	510
	48.90	42.60	0.00	17.30			49.10
Wisconsin	613						713
	22.37						21.06

Numbers in Texas (Example)

In 1996 and 1997, there were 1,419 live births of children with an Atrial Septal Defect. Spontaneous fetal death of a fetus with an ASD occurred at a rate of only 0.1%. (That does not imply that the ASD caused the fetal death.) Atrial Septal Defects occur in about 39 per 10,000 live births in Texas. In 1999, two counties (Cameron County and Dallas County) in Texas had rates of 55 or higher per 10,000 births. ASD does not appear to differ by ethnicity. However, when compared by maternal age, the rates are very different. Mothers in Texas ages 35 to 39 have babies with ASD at a rate of 54 per 10,000; and mothers age 40 and over have babies with ASD at a rate of 86 per 10,000. This is more than two times higher than the state rate of ASD births! However, as with Ventricular Septal Defect and Patent Ductus Arteriosus, ASD is often found in children with chromosomal abnormalities such as Down syndrome. This may account for the high numbers of women over 40 who have babies with ASD. Often those babies have other abnormalities or syndromes along with ASD.

Symptoms & Treatments

Sometimes an atrial septal defect is diagnosed using sonography when the baby is still in the womb. A sonogram uses sound waves to produce images of an unborn baby. If a baby is showing symptoms of ASD after it is born, a doctor may order an electrocardiogram (EKG), which is an electrical recording of the heart, to determine if there is an actual ASD. If the defect is large, children could show signs of congestive heart failure at a very young age. These signs include: shortness of breath, fatiguing easily, and delayed growth. However, if the atrial septal defect is small, most people who have the defect will show no symptoms. They will only be diagnosed when a doctor hears it upon listening to the heart sounds in a physical examination.

Most ASDs will close on their own before a child reaches age one. If the defect has not closed on its own after the child has reached age two, it will probably never close on its own. Depending on the severity of the defect, a doctor may simply prescribe a diuretic, which decreases blood volume and in turn decreases the workload on the heart. In some cases open-heart surgery may be required. Doctors may be able to close the hole using sutures, or may have to cover the hole with a patch. After an ASD has been surgically corrected, children can lead normal lives with no restrictions on physical activity.

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