

# Newborn Physical Condition

## Definition

*Newborn physical condition* is the number and percent of babies who receive a 5-minute Apgar score (a standard for evaluating condition at birth) of 9 or 10.

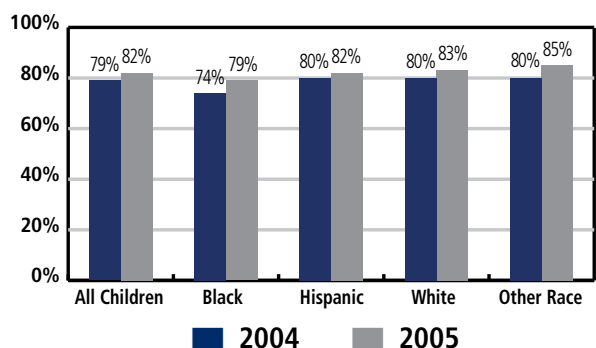
## Data in context

Newborns are assessed at birth according to the Apgar scale, an acronym for: **A**ctivity, **P**ulse, **G**rimace, **A**pppearance, and **R**espiration. For fifty years, this scale has been used to evaluate a newborn's physical condition at 1 minute after birth, 5 minutes later, and at additional 5-minute intervals if needed. Designed to determine if a child needs immediate medical care as they enter the world, Apgar is not an indicator of future health status.

The best score a newborn can receive on each of the five indicators is 2, for a total of 10. If a child's total score is 0-3, the infant needs immediate resuscitation; if the score is 4-6, the child's condition is considered intermediate; and a score of 7 or greater indicates good to excellent physical condition.<sup>1</sup> Low 5-minute Apgar scores are associated with lower birthweight and shorter gestational age.<sup>2</sup> Nationally, the percent of newborns with excellent Apgar scores rose slowly between 1978 and 2003 from 89 to 91 percent.<sup>3</sup> The proportion of births with low scores declined from 1978 to 1993 and has stayed at the same level since then, at 1.4 percent.<sup>4</sup>

In Kentucky, 82 percent of newborns scored a 9 or a 10 on their 5-minute Apgar test in 2005, an increase from 79 percent in 2004. Seventy-seven counties improved on this indicator between 2004 and 2005, with Bracken, Christian, Lee, and Whitley showing the greatest improvement.

**Percent of Babies with Excellent Apgar Score at Birth by Race, 2004 and 2005**



**Source:** Kentucky Cabinet for Health and Family Services, Vital Statistics Branch, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.

However, Carlisle, Crittenden, Henderson, Robertson, and Union Counties saw a decrease greater than 10 percentage points in the percent of newborns scoring a 9 or 10. Counties with the largest percentage of children with excellent scores in 2005 included McCreary County (97 percent), followed by Butler, Daviess, and Ohio Counties (each with 95 percent). Counties with the lowest percentages of babies with an excellent score in 2005 included Barren, Cumberland, Hart, Metcalfe, and Monroe Counties.

Structural barriers prevent families from having equitable access to health care from conception to birth, impacting the outcome of Apgar scores. Unequal opportunities for quality health care affect families of color to a greater extent. From 2004 to 2005 the statewide rate of high Apgar scores improved, yet disparities in the percent of children with a high Apgar score exist by race and ethnicity. In both national and state level data, Black children are most likely to receive an Apgar score that is lower than a 9 or 10.<sup>5</sup> While a lower

Apgar score does not necessarily indicate poor long-term health, it does indicate possible need for immediate medical care.

**Data Source:** Kentucky Cabinet for Health and Family Services, processed by Kentucky Population Research at the University of Louisville Urban Studies Institute.

**Data Note:** Data are reported by mother's place of residence, not infant's place of birth. The annual number of Kentucky resident births which occurred in Tennessee and Ohio during 2005 were estimated based on historical data. For cases where the information for this variable was missing, the case was excluded from the total number of live births.

**Rate Calculation:** (number of babies receiving a 5-minute Apgar score of 9 or 10 in 2004 \* 100) / (total number of live births in 2004)

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1 Martin, J., Hamilton, B., Sutton, P., Ventura, S., Menacker, F., and Kirmeyer, S. (2006). "Births: Final Data for 2004." *National Vital Statistics Reports*, vol. 55, no. 1. Hyattsville, MD: National Center for Health Statistics.

2 Ibid.

3 Ibid.

4 Ibid.

5 Ibid.

## Births with a 5-minute APGAR score of 9 or 10 (number & percent of all live births)

	2004		2005	
	Number	Percent	Number	Percent
Kentucky	42,310	79	43,157	82
Adair	140	71	150	69
Allen	170	84	193	85
Anderson	178	72	168	71
Ballard	88	90	78	81
Barren	274	50	271	50
Bath	114	75	121	72
Bell	242	64	209	63
Boone	1,189	88	1,191	91
Bourbon	199	81	209	87
Boyd	427	85	448	88
Boyle	240	79	271	89
Bracken	97	81	97	92
Breathitt	142	85	145	82
Breckinridge	202	82	194	80
Bullitt	515	74	600	81
Butler	151	87	156	95
Caldwell	99	80	111	83
Calloway	274	87	327	87
Campbell	734	88	735	89
Carlisle	49	82	47	71
Carroll	120	78	87	69
Carter	240	85	283	84
Casey	168	85	157	88
Christian	917	69	663	85
Clark	351	79	362	85
Clay	224	82	215	80
Clinton	102	80	81	83
Crittenden	71	85	70	70
Cumberland	31	44	41	49
Daviess	1,215	94	1,180	95
Edmonson	107	87	105	91
Elliott	63	83	66	93
Estill	170	83	165	86
Fayette	3,133	81	3,283	85
Fleming	152	82	158	86
Floyd	468	84	470	88
Franklin	480	78	470	75
Fulton	72	80	58	79
Gallatin	131	92	114	87
Garrard	140	84	152	90

	2004		2005	
	Number	Percent	Number	Percent
Grant	313	88	353	90
Graves	382	81	349	80
Grayson	264	79	273	84
Green	89	73	100	77
Greenup	288	88	275	86
Hancock	110	94	108	94
Hardin	1,235	84	1,341	83
Harlan	299	86	315	88
Harrison	182	83	177	84
Hart	133	55	143	59
Henderson	388	89	305	73
Henry	150	76	144	75
Hickman	41	82	33	85
Hopkins	478	81	498	83
Jackson	160	84	149	90
Jefferson	6,786	70	7,243	75
Jessamine	462	78	526	83
Johnson	239	87	245	83
Kenton	1,621	87	1,683	89
Knott	150	85	154	87
Knox	379	71	435	81
Larue	114	77	153	85
Laurel	613	84	651	88
Lawrence	120	78	130	78
Lee	64	83	76	94
Leslie	117	78	122	79
Letcher	289	90	265	90
Lewis	69	87	70	82
Lincoln	283	79	302	85
Livingston	68	76	86	80
Logan	309	85	264	93
Lyon	42	78	48	81
McCracken	701	84	631	80
McCreary	236	91	203	97
McLean	102	89	107	94
Madison	855	86	936	89
Magoffin	147	82	153	82
Marion	226	92	235	90
Marshall	276	85	253	79
Martin	112	76	104	77
Mason	172	88	162	86

	2004		2005	
	Number	Percent	Number	Percent
Meade	161	77	214	83
Menifee	53	71	55	74
Mercer	244	87	228	89
Metcalfe	56	45	80	53
Monroe	84	53	77	53
Montgomery	207	59	233	69
Morgan	125	76	126	83
Muhlenberg	307	82	301	80
Nelson	428	74	429	75
Nicholas	81	77	74	80
Ohio	307	92	329	95
Oldham	383	69	397	76
Owen	99	80	114	84
Owsley	52	78	50	83
Pendleton	160	89	146	89
Perry	341	82	315	85
Pike	580	81	622	86
Powell	152	80	167	82
Pulaski	705	93	743	94
Robertson	16	94	24	83
Rockcastle	202	90	176	92
Rowan	182	85	215	83
Russell	192	89	173	90
Scott	540	86	556	86
Shelby	392	74	421	77
Simpson	177	86	165	94
Spencer	146	74	122	76
Taylor	239	87	253	89
Todd	142	72	107	79
Trigg	119	82	107	82
Trimble	69	75	68	69
Union	95	84	93	72
Warren	1,197	89	1,232	93
Washington	120	86	94	83
Wayne	246	92	224	93
Webster	153	84	137	83
Whitley	303	75	271	89
Wolfe	95	79	94	88
Woodford	217	79	224	81