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What Color Will My Baby's Eyes Be?

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New parents often ask what color I think the baby's eyes are going to be. I never answer this question until the child is at least 1 year old; I mean, what if the parents believe me and use my answer to make major life decisions? When we talk about eye color, we're really talking about the appearance of the iris, the muscular ring around the pupil that controls how much light enters the eye. After all, the pupil will always be black, except in flash photos, and the whites (sclera) should stay pretty much white, although jaundice (/English/tips-tools/Symptom-Checker/Pages/symptomviewer.aspx?symptom=Jaundiced+Newborn) may turn them yellow and inflammation may make them look pink or red.

Eye color changes over time

Iris color, just like hair and skin color, depends on a protein called melanin. We have specialized cells in our bodies called melanocytes whose job it is to go around secreting melanin. Over time, if melanocytes only secrete a little melanin, your baby will have **blue** eyes. If they secrete a bit more, his eyes will look **green** or **hazel**. When melanocytes get really busy, eyes look **brown** (the most common eye color), and in some cases they may appear very dark indeed.

Because it takes about a year for melanocytes to finish their work it can be a dicey business calling eye color before the baby's first birthday. The color change does slow down some after the first 6 months of life, but there can be plenty of change left at that point.

Eye color is a genetic property, but it's not quite as cut-and-dried as you might have learned in biology class.

- Two blue-eyed parents are very likely to have a blue-eyed child, but it won't happen every single time.
- Two brown-eyed parents are likely (but not guaranteed) to have a child with brown eyes.
- If you notice one of the grandparents has blue eyes, the chances of having a blue-eyed baby go up a bit.
- If one parent has brown eyes and the other has blue eyes, odds are about even on eye color.
- If your child has one brown eye and one blue eye, bring it to your doctor's attention; he probably has a rare genetic condition called Waardenburg syndrome.

Cross-eyed?

Parents also often note that their newborns' eyes appear to cross from time to time. For the first 6 months of life this can be normal. To begin with, to look at something the brain has to know where to point the eyes. For the first 2 to 4 weeks of life vision is not accurate enough for the baby's eyes to find a target a lot of the time. Parents often feel like their newborns are looking past them rather than at them, because they are. By the fourth week of life, however, your baby will focus on your face if you're cradling him.

Most visual development occurs in the brain, not in the eyes themselves. One of the greatest challenges for the developing brain is to coordinate visual signals from one side to the other. Nerve signals from the eyes travel through `erves and split off to both sides of the brain. To make sense of those signals, the 2 sides of the brain have to ıte, comparing information and coordinating eye movement in the desired direction. Until age 2 months you ɔtice your infant will follow your face or a toy a little way, then lose it as it crosses from one side to the other. By 2 months, however, he should be able to track from right to left and back again.

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The next big visual milestone occurs at 6 months of age. By this time the 2 sides of the brain are on good terms with each other. Until this point the eyes track together as long as they both have something to look at, but if one is deprived of input (from being covered by a hat, for example), it might drift off in its own direction. By 6 months of age the eyes should continue looking the same direction even if one of them is covered temporarily. We test this in the clinic by covering 1 eye for 3 seconds, then suddenly uncovering it and looking to see if it's still tracking with the opposite eye. We call this test the cover-uncover test.

Sometimes the shape of a child's face makes it look as though the eyes are crossed even when they are not. A child with a broad nasal bridge may appear to have an inward-looking eye, when in fact he's just looking off to the side. You can check this by watching the light reflection in your child's eyes from a window or lamp; if it falls in the same place on each eye, the eyes are working together.

Lazy eye (amblyophobia)

Even with office screening, however, we don't always catch an eye that tends to deviate. Deviations occur more often when the child is tired. If you ever notice that your 6-month-old or older child has an eye that doesn't always look the same way as its partner, alert his doctor. It's critical that an eye specialist (ophthalmologist) (/English/family-life/health-management/pediatric-specialists/Pages/What-is-a-Pediatric-Ophthalmologist.aspx) examine the child. What some people call a lazy eye (amblyopia) (/English/health-issues/conditions/eyes/Pages/Amblyopia-Lazy-Eye.aspx) may be a sign that one eye doesn't see as clearly as the other. When the brain is forced to make 1 picture from 2 very different inputs, it starts to ignore the signals from the worse eye. Over time this process becomes irreversible, leading to partial blindness in the weaker eye. In most cases, you should address the problem before the child turns 3 to ensure he'll grow up with normal depth perception. Treatments for amblyopia vary based on the cause and severity of the condition. Some children require glasses or patches that force the brain to pay attention to signals from the weaker eye. Other kids need surgery to shorten or lengthen certain muscles that control eye movement.

More information

- How Your Newborn Looks (/English/ages-stages/baby/Pages/How-Your-Newborn-Looks.aspx)
- Vision Screenings (/English/health-issues/conditions/eyes/Pages/Vision-Screenings.aspx)

About Dr. Hill

David Hill, MD, FAAP, is author of *Dad to Dad: Parenting Like a Pro*, published by the American Academy of Pediatrics (AAP). Dr. Hill also is co-host of the AAP's flagship podcast, Pediatrics on Call, and past Chair of the AAP Council on Communications and Media. He practices pediatrics in Wayne County, North Carolina.

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