

## Growth Patterns

Visualize an unsteady 24-month-old and a cartwheeling 6-year-old. Size and shape differences are obvious. Weight and height increase (by about 16 pounds and a foot, almost 8 kilograms and 30 centimeters), and the relation between those two measurements changes. The average body mass index (BMI, a ratio of weight to height) is lower at ages 5 and 6 than at any other time of life.

By the end of early childhood, the infant's protruding belly, round face, short limbs, and large head are distant memories. The center of gravity has moved from the breast to the belly, enabling cartwheels, somersaults, and many other motor skills.

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**Catching Up, Slimming Down**  
China has transformed its economy and family life since 1950 with far fewer poor families and malnourished children. Instead, problems and practices of the West are becoming evident, as in these two boys. They are attending a weight-loss camp in Zhengzhou, where the average 8- to 14-year-old child loses 14 pounds in a month.

Mastery of gross and fine motor skills results not only from body growth and maturation but also from extensive, active play. Children take every opportunity to exercise their bodies, and the results are obvious. Many 2-year-olds fall down and bump clumsily into each other. By contrast, some 5-year-olds are skilled and graceful.

Most North American 5-year-olds can ride a tricycle, climb a ladder, and pump a swing, as well as throw, catch, and kick a ball. Some 5-year-olds swim in oceans or climb cliffs. Brain maturation, motivation, and guided practice undergird all these motor skills.

Adults need to make sure children have a safe space to play, with ample time, appropriate equipment, and active playmates. Children learn best

from peers who demonstrate whatever the child is ready to try. Of course, culture and locale influence particulars: Some small children learn to ski, others to sail.

“Safe space to play” cannot be taken for granted. A century ago, children with varied skills played together in empty lots or fields without adult supervision, but now more than half the world's children live in cities, often with crowded streets and no open space nearby. Gone are the days when parents told their children to go out and play, to return when hunger, rain, or nightfall brought them home. Now many parents fear strangers and traffic, keeping their 3- to 5-year-olds inside (Rosin, 2014; R. Taylor et al., 2009).

That worries many childhood educators, who believe that children need space and freedom to play in order to develop well. Indeed, many agree that the environment is the third teacher, “because the environment is viewed as another teacher having the power to enhance children's sense of wonder and capacity for learning” (Stremmel, 2012, p. 136). Nature outdoors allows more wonder than four walls inside.

## Nutrition

Beyond space to play, another prerequisite for healthy development is good nutrition. Children are sometimes malnourished, even in nations with abundant food. The main reason is that small appetites are often satiated by unhealthy foods, crowding out needed vitamins.

Appetite decreases between ages 2 and 6 because young children naturally grow more slowly than they did as infants. Moreover, if children play less outside, they burn fewer calories. Instead of adjusting to this ecological change, many adults cajole, threaten, and bribe (“Eat all your dinner and you can have ice cream”).

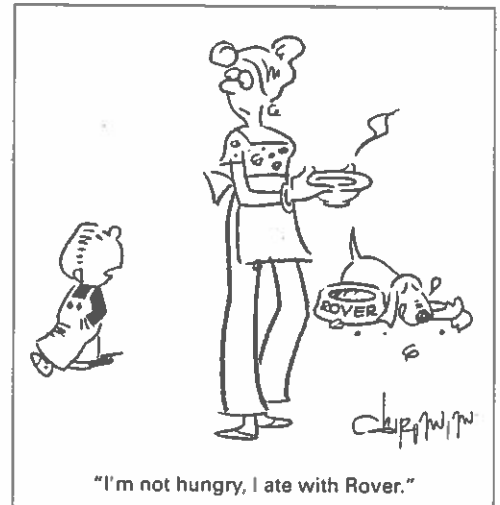
Why do adults do that? Because they are still protecting children against famine. For example, 30 years ago in Brazil the most common nutritional problem was lack of food; now it is too much food (Monteiro et al., 2004). Low-income Brazilians are particularly vulnerable, but wealthy Brazilians also consume fewer nutrients, with more calories, than they once did (Monteiro et al., 2011).

There is good news in the United States, however. Obesity among young children has declined markedly, from 14 percent in 2003–2004 to 8 percent in 2011–2012. Rates have not budged for other age groups, but apparently public education combined with parental action has improved diet for the young (Ogden et al., 2014).

**NUTRITIONAL DEFICIENCIES** Compared with the average child, those who eat more dark-green and orange vegetables and less fried food gain bone mass but not fat. This was demonstrated in a study that controlled for factors that might correlate with body fat, such as gender (girls have more), ethnicity (Chinese children are genetically thinner), and income (poor children have worse diets) (Wosje et al., 2010).

However, it is not easy to get 2- to 6-year-olds to eat well. One complication is that many young children are compulsive about daily routine, which may result in a very limited diet. Fortunately, as a team of experts contends, “Most, if not all, children exhibit normal age-dependent obsessive-compulsive behaviors [that are] usually gone by middle childhood” (March et al., 2004, p. 216). Meanwhile, however, children insist on only certain foods.

Parents need to balance their concern for good nutrition with the child’s demand for sameness. This is another reason why toddlers need to be fed a variety of healthy foods, including some that are not the family’s usual fare, before the child refuses anything new.



Eat Your Veggies On their own, children do not always eat wisely.



**Apples or Oranges?** During early childhood, boys and girls love having a choice, so it is the adults’ task to offer good options. Which book before bed? Which colored shirt before school? Which healthy snack before going out to play?