



Back to School

Provide Your Child With Optimal Health for Learning.

Prepare your children for the year ahead with the right nutrition, exercise, sleep and after-school activities. | BY C.M. SILVER

As summer fades to a close, Emma Taylor is getting ready to embark on a new journey called kindergarten. The Boulder, Colorado-based 5-year-old has her class supplies ready to go and an outfit already picked out for her first day of school. While Emma looks

well-prepared on the outside, her mother is focused on getting her daughter ready on the inside, so that her little one's equally well pre-

pared to tackle the academic and other demands of school.

"Kindergarten is an important time for children," Amanda Taylor says. "I want Emma to be as healthy as possible as she starts this new phase of her life."

Fortunately, parents like Taylor have a wealth of tools available to help ensure that their children—whether they're

just starting their academic career or getting ready to graduate—are equipped physically, intellectually and emotionally for the year ahead.

"Parents have a big influence on their children's overall health and wellness," says Dr. Christine Wood, a pediatrician in Encinitas, California, and author of *How to Get Kids to Eat Great & Love It!* (Griffin Publishing, 2001). "As parents, we have a service to do for our kids if we want them to perform well academically."

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The Right Start

Nutrition serves as the cornerstone of a child's health, and a basic thing parents can do to boost their child's ability to concentrate and learn is to start each day with a nutritious, well-balanced breakfast. "Study after study has shown that children do

better in school if they've eaten breakfast," says Dr. David Perlmutter, a board-certified neurologist in Naples, Florida, and author of *Raise a Smarter Child by Kindergarten* (Morgan Road, 2006).

A 1998 study published in the *Archives of Pediatric & Adolescent Medicine* found that elementary and middle-school students who regularly ate breakfast experienced less



tardiness and school absence, higher math grades, and fewer incidences of depression, anxiety and hyperactivity. A 1999 State of Minnesota Breakfast Study found that breakfast helped boost children's reading and math scores. In fact, on average the math grades of children who ate breakfast came in nearly a whole letter-grade higher than those of kids who rarely ate breakfast.

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Eating a sugary cereal or muffin is better than skipping breakfast altogether, which the American Dietetic Association estimates some 40 percent of school-age girls and 32 percent of school-age boys regularly do. What a child consumes in the morning can have a profound effect on his or her performance throughout the day, says Dr. Keri Marshall, a doctor of naturopathy in Dover, New Hampshire. A morning meal consisting mainly of sugar and simple carbohydrates will send a child's blood glucose and insulin levels on a rollercoaster of spikes and drops, says Marshall, “leaving her feeling jittery, anxious and hungry.”

Simply adding a nutritious protein such as eggs, tofu or nut butter can help balance the body's blood sugar and provide a more sustainable source of energy. “A piece of whole wheat toast, an egg and a piece of fruit is a perfect breakfast for any adult or child,” notes Marshall. “The idea is to eat a balanced meal that includes about 40 percent carbohydrates, 40 percent protein and 20 percent healthy fats.”

Brain Food

Food selection is crucial to youthful learning because the brain requires proper nutrition to work optimally. “A child's brain is very much influenced by nutrition,” says Dr. Leo Galland, a New York City physician and author of *Superimmunity for Kids* (Dell, 1989). “The brain consumes a tremendous amount of energy and must be fed.” Again, what families feed a child's brain

makes a huge difference. One nutrient particularly beneficial to brain and eye development is docosahexaenoic (DHA), an omega-3 essential fatty acid found in algae and coldwater fish like salmon, sardines and tuna. “The brain and nervous system are still developing at a rapid pace between birth and age seven,” observes Marshall. “That's a critical time to get in DHA.”

Omega-3 fats, particularly DHA, are just as important for older children and teens. “DHA is fundamental throughout our lifetime—from conception to death,” says Perlmutter. “Research has demonstrated that older children with the highest levels of DHA have the least risk for depression and bipolar issues and a dramatic reduction in risk for ADHD,” also known as Attention Deficit Hyperactivity Disorder. According to a 1995 study in the *American Journal of Clinical Nutrition*, supplementing a child's diet with omega-3 fats, including DHA, may reduce a child's risk of developing symptoms associated with ADHD.

Perlmutter recommends giving children ages 2 and older 200 milligrams (mg) of DHA daily. “If a child is having any issues with hyperactivity or difficulty concentrating, I'll increase his or her intake to 300 mg or 400 mg without any reservation,” he says. Although DHA can be obtained from eating fish, concerns about mercury, polychlorinated biphenyls (PCBs) and other toxic contamination of seafood have prompted many physicians like Perlmutter to recommend giving children DHA supplements derived either from algae or purified fish oil. When choosing a fish oil supplement, he advises that parents carefully read the label to be sure the product has been tested for mercury and other contamination. Numerous fish-oil supplements now come in fruit flavors to please the most finicky palates. And a growing number of foods, including

eggs, milk and cereal, now come fortified with a vegetarian form of DHA.

Iron and zinc are cited as two other nutrients important to brain development. Galland suggests key sources like egg yolk, green leafy vegetables, poultry (particularly the dark meat), beef and shellfish. Magnesium—a nutrient found in seafood, broccoli and almonds—proves beneficial for its “relaxing effect and a protective effect on the brain and nervous system,” he says. “Some hyperactive children benefit from increasing their magnesium intake through supplementation or eating foods rich in magnesium.”

Overall Wellness

Kids who must stay at home with a cough or runny nose instead of heading off to school with a healthy glow are automatically at a disadvantage when it comes to learning. Yet another reason for parents to arm kids with a strong immune system able to fight off even the hardiest of germs.

Nutrition provides the foundation for immunity. “We know that eating fruits and vegetables rich in antioxidants is helpful in boosting the immune sys-





tem," says Dr. Tara Skye Goldin, a Boulder-based doctor of naturopathy. She recommends feeding children foods packed with beta-carotene (such as cantaloupe, peaches and apricots), vitamin C (citrus, broccoli and strawberries) and vitamin E (wheat germ, nuts and green leafy vegetables). Avoiding sugar and saturated fats undergirds a healthy constitution as these foods have been shown to hinder the body's ability to ward off illness.

Supplementing a child's diet with a good-quality multivitamin will provide an extra line of defense against germs. Children need an array of vitamins and minerals including zinc, iron and vitamin A for optimal immune function, Marshall says. Galland recommends also ingesting 500 mg of vitamin C and 400 IUs of vitamin D daily, especially during cold and flu season. "Vitamin D is particularly important to immune function," he says. In addition to key supplements and eating salmon and other foods rich in vitamin D, a reasonable amount of daily sun exposure will increase a child's vitamin D levels.

Research has shown that omega-3 fats work to strengthen the immune system and protect against many types of disease, including heart disease and stroke. According to Galland, an Italian study found that children daily given ½ teaspoon of flaxseed oil (a rich source of omega-3s) experienced fewer respiratory infections and shorter and less severe infections, as well as fewer missed school days than children in the control group.

Probiotics, which supply the digestive tract with healthy bacteria, help strengthen immunity as well according to a 2005 study published in *Clinical*

Nutrition. Study authors found that people who took daily probiotics supplements for at least three months experienced shorter and less severe colds.

It's been found that exercise and sleep, too, help boost immune function.

And it's well-known that frequent hand washing with soap and warm water or a hand sanitizer is an easy way to stop the spread of germs.

Sleep to Learn

Whether a child is 5 or 15 years old, sleep is crucial to his or her ability to perform in school. "Sleep deprivation definitely impairs brain function," says Galland.

Although the amount of sleep needed varies by child, on average school-age kids need at least nine to 11 hours of sleep a night. This requires a

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regular bedtime—which Marshall recommends be around 8 p.m. for children in kindergarten through fourth grade—plus a schedule with built-in time for homework and other responsibilities during day and evening hours, rather than at night. "It's more important for a child to get the sleep he or she needs than to stay up late to get a school assignment done," Perlmutter says.

Adequate sleep is equally vital to a teenager's health as a toddler's. However, research has shown that because teens have a different circadian rhythm, their bodies naturally prefer to stay up late and then sleep late in the morning. The problem is that school schedules require teens to be in class by 7:30 or 8 a.m., conflicting with this natural sleep cycle. "This is why it's normal for teens to sleep until noon or 1 p.m. on weekends," Goldin says. "They need this extra sleep time to make up for the

sleep deficit they experience during the school week."

Social pressures and heavy academic loads are other factors that can prevent older children and teens from getting sufficient sleep. Parents can help by talking with their children regularly and knowing what's going on in their kids' daily lives, so that they can help alleviate stress and identify and solve problems earlier rather than later.

Creating a comfortable sleep environment helps. Studies show that people snooze best when their rooms are cool, dark and quiet. Regular exercise and avoiding caffeine after 4 p.m. support children in getting the shuteye they need.

Other sleep problems like chronic snoring and sleep apnea also negatively affect learning and must be dealt with as soon as possible, Wood says. According to a study published in the October 2004 *Journal of Pediatrics*, children with sleep-disordered breathing, including everything from mild snoring to obstructive sleep apnea, scored significantly lower on tests of memory and intelligence than other children their

age. Snoring problems affect about 10 percent of children, and have been linked to behavioral problems. Snoring appears to be most harmful to development between ages three and six. Again, best results come with early treatment.

Fit to Learn

Regular exercise benefits children on multiple levels. In addition to improving sleep and overall wellness, exercising decreases the risk of obesity, which can lead to numerous health issues, including cardiovascular disease and type 2 diabetes.

Wood notes that increased fitness is even linked to higher academic achievement. A 2002 study conducted by the California Department of Education compared the fitness levels of nearly one million fifth, seventh and ninth graders with their standardized