



DAIRY EVERY DAY:

An Evidence-Based Guide to Nourishing Brains, Bones & Bodies

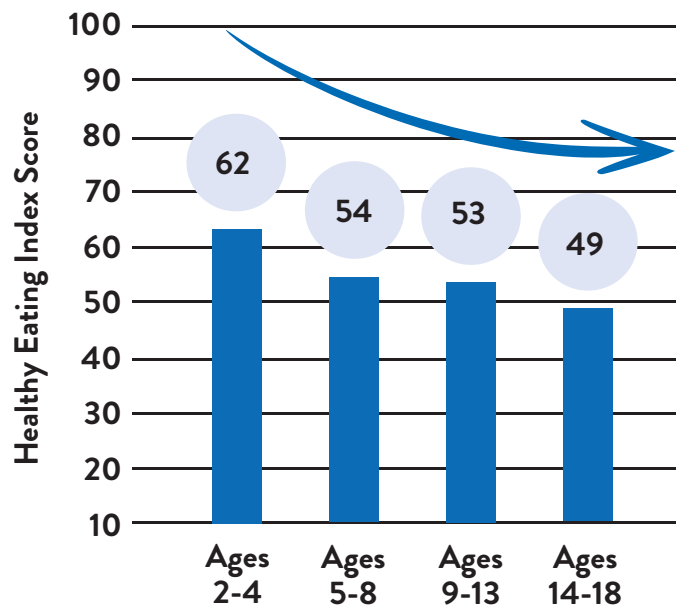
A Backgrounder for Pediatric Care Specialists

Supporting Health & Wellness from Infancy to Adolescence

Nutrition plays a foundational role in how children grow, think, move and thrive from infancy through adolescence. The first 1,000 days between pregnancy and a child's second birthday are a brief but important window of opportunity to nourish early brain development, introduce children to nutrient-dense foods and set the stage for a lifetime of wellness. Throughout early childhood and grade school years, it is critical to solidify these healthy habits to support optimal growth and development. And as children transition into adolescence, good nutrition remains essential to fueling continued growth, learning and physical activity.

National survey data suggest there are opportunities to strengthen diet quality throughout childhood and adolescence. By ages 2-4, the average Healthy Eating Index Score is 62 out of 100 and trends downward through age 18.¹ Furthermore, significant differences in diet quality exist among children from different racial and ethnic groups.²

From Toddlers to Teens: There's Room to Enhance Healthy Eating Patterns



While dairy foods like milk, cheese and yogurt have long been recognized as an important source of calcium for strong bones and teeth, dairy does even more to support pediatric health. Dairy foods provide a unique package of up to 13 essential nutrients that work together within the dairy food matrix to fuel growing brains and support whole-body wellness.³⁻⁶

Dairy foods also offer practical nutrition solutions for families – they are accessible, affordable and adaptable, making them a realistic choice to help close common nutrient gaps. From lactose-free to high-protein, whole-milk to fat-free, dairy foods come in a variety of options to meet multiple taste, cultural and health needs. There's likely something even picky eaters will enjoy.

Dollar for dollar, dairy foods are one of the most economical sources of nutrition.^{7,8}

3 servings of dairy foods can cost less than \$2.00 a day.⁹

Bringing together current science, practical guidance and parent-tested talking points on the benefits of dairy foods, this toolkit is designed to support impactful conversations with patients and their families that help build nourishing and lasting eating patterns that support a lifetime of health.

Brains: Fueling Rapid Growth from Infancy through Adolescence

The pediatric years represent an unparalleled window of brain development. Good nutrition starting in pregnancy and early childhood provides the building blocks for a child's cognitive abilities, motor skills and socio-emotional development, which in turn can impact their future success in school and economic opportunities later in life.¹⁰

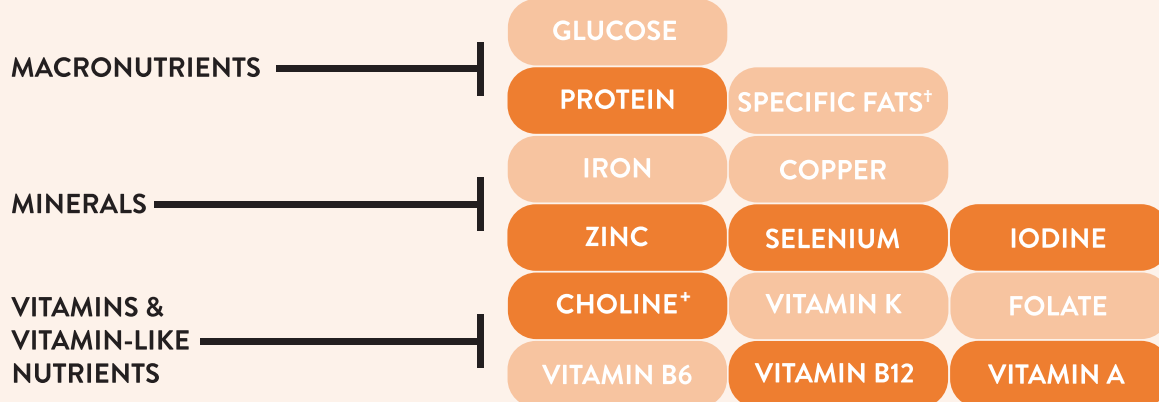
Iodine plays a critical role in brain development, particularly during the first 1,000 days. Needs increase by about 50% during pregnancy.¹¹

Because iodine deficiency is the leading preventable cause of intellectual disability,¹² consuming key sources of this vital nutrient – including dairy foods like milk, yogurt and cheese – can be a simple but powerful step to support a healthy brain.^{13,14}

During the first 1,000 days, the brain grows more quickly than any other time in life, placing high demands on energy and nutrition needs. In fact, a baby's brain will double in size by 12 months and reach about 80% of adult size by 36 months.^{10,15,16} Providing key nutrients during this critical period can lead to lifelong benefits for intellectual ability and neurodevelopment.

In its Policy Statement on Advocacy for Improving Nutrition in the First 1000 Days to Support Childhood Development and Adult Health, the American Academy of Pediatrics (AAP) recognizes 14 nutrients important for early brain development.¹⁷ Dairy foods* like milk, cheese and yogurt can provide up to 7 of those 14 nutrients – including iodine.

14 Nutrients for Early Brain Development



Nutrients provided by dairy foods

[†] Long-chain polyunsaturated fatty acids

⁺One glass of milk provides ~8% DV choline

*Milk: protein, zinc, selenium, iodine, choline, vitamin B12, vitamin A. Yogurt: protein, zinc, selenium, iodine, vitamin B12. Cheese: protein, selenium, iodine, vitamin B12.

Whole milk dairy foods may play an especially important role in early brain development. About 60% of the brain is made up of fat,¹⁸ and dietary fat helps support the brain's rapid growth in infancy.

Dairy fat is the most complex fat found in nature, containing more than 400 distinct fatty acids.



Throughout later childhood and teen years, as language, attention, memory and executive function skills expand, consistent access to essential micronutrients can help support learning and academic engagement, and brain maturation. Nutrients found in dairy foods, including iodine for thyroid hormone regulation and neurodevelopment,^{13,19} vitamin B12 for neurological function,²⁰ and high-quality protein that provides amino acids needed for neurotransmitter synthesis,²¹ can help support this ongoing cognitive development.

Parent-Tested Talking Points

Your baby's brain doubles in size in the first year! Cheese and yogurt are nutrient powerhouses providing essential vitamins and minerals that help fuel growing brains.

Consuming dairy foods like milk, cheese and yogurt every day is a healthy way to benefit brain health.

Dairy foods like milk, cheese and yogurt provide up to 7 of the 14 nutrients that are important for early brain development.

Help nourish baby's brain development with iodine and other important nutrients that can be found in dairy foods.

Bones and Muscles: Building Strength for a Lifetime

Childhood and adolescence are the most important years for building the skeletal foundation that supports lifelong bone health. The AAP's Clinical Report on Optimizing Bone Health in Children and Adolescents acknowledges bone health attained in early childhood is the most modifiable determinant of lifelong skeletal health.²²

During infancy and toddlerhood, bone mineralization accelerates as children rapidly grow. The grade school years offer a key window to accumulate bone mass before the adolescent growth spurt where up to 90% of peak bone mass is achieved by late adolescence. The more bone mass created during these early years, the greater the chance of preventing osteoporosis and related injuries later in life,²² underscoring the importance of building healthy habits from the start.



Dairy foods can provide key nutrients that work together to help build strong bones and teeth.²³ In fact, dairy foods provide more bone-building nutrients than any other food group²³ – and the dairy food matrix can even make these nutrients easier for children's bodies to absorb and use.²⁴

Dairy's Bone Building Nutrients:^{*25}

Protein

Provides the structural matrix of the bone.

Calcium

Plays a structural role in bone.

Vitamin D

Required for calcium absorption.

Phosphorus

Promotes bone strength and the body's acid-base balance.

Potassium

Promotes an alkaline environment helping to preserve calcium in bones.

Zinc

Stimulates collagen production, a key component for strong bones.

**Milk: protein, calcium, vitamin D, phosphorus, potassium, zinc. Yogurt: protein, calcium, phosphorus, zinc. Cheese: protein, calcium, phosphorus.*



Research consistently shows that children and adolescents who consume recommended amounts of dairy have improved bone mineral content and density compared to those who consume less dairy.²⁶⁻²⁹ The AAP, National Institutes of Health and 2025-2030 Dietary Guidelines for Americans recommend eating dairy foods daily to help achieve peak bone mass.^{22,30,31}

And the connection between bone and muscle health cannot be overlooked. Bones and muscles work together as integral parts of the musculoskeletal system, and musculoskeletal health is critical for all aspects of life.

The high-quality protein supplied by dairy foods like milk, cheese and yogurt contain the protein needed to boost recovery and muscle growth following physical activity.^{32,33}

Dairy foods provide complete protein with all nine essential amino acids necessary for muscle synthesis and tissue repair. They can also supply key nutrients like potassium and magnesium that support muscular function and healthy blood pressure.

Parent-Tested Talking Points

Regularly consuming the recommended servings of dairy daily can help kids achieve maximum muscle and bone growth.

Dairy foods provide more bone-building nutrients per calorie than any other food group.

Building your child's "bone bank" is like saving for their education. Investing in good nutrition now will pay off with stronger bones in the future.

Consuming dairy foods like milk, cheese and yogurt every day is a healthy way to support muscle and bone growth.

Bodies: Nourishing Gut and Immune Health

The gut microbiome evolves significantly throughout childhood and plays a role in digestion, immune function and metabolic health. As babies start solids, early dietary exposures can help shape microbial diversity. Throughout the toddler years, digestive health remains key as children expand their food choices, and ongoing development of healthy eating patterns continues to influence overall gut health throughout childhood and adolescence.

Fermented dairy foods like yogurt and kefir, which may contain live and active cultures, can support gut health by helping maintain a healthy gut barrier and promoting microbial balance.³⁴ Fermented dairy foods, including certain cheeses, can also provide unique bioactives formed during fermentation which may further contribute to overall health.³⁵

With about 70% of the body's immune system located in the gut,³⁴ a healthy digestive tract can also support overall immunity. Immune cells require a constant supply of energy and nutrients as they are defending and protecting the body. Consistently consuming nutrients from a variety of foods, including dairy foods, fruits and vegetables, can help keep immune systems in check.

Meeting daily dairy recommendations can help nourish the immune system with these important nutrients:³⁶

- **Protein:** Is the building block of all cells in the body, including immune cells and immune signaling molecules.³⁷
- **Zinc:** Is important for normal immune function and supports healthy growth and development.³⁸
- **Selenium:** Helps protect healthy cells from damage.³⁹
- **Vitamin A:** Helps support healthy immune cells.⁴⁰
- **Vitamin D:** Helps maintain a healthy immune system.⁴¹
- **Vitamin B12:** Helps support immune cell function and activity.^{20,42}

Parent-Tested Talking Points

Yogurt may contain live and active cultures that can help support a healthy gut, helping your baby to transition to table food.

Nourish your child's immune system with the nutrients in dairy foods.

As part of a healthy diet, dairy foods can provide nutrients, important for immune health.

Consuming dairy foods like milk, cheese and yogurt every day is a healthy way to benefit immunity.

Bodies: Supporting Healthy Growth and Performance

Growth in height, weight and lean body mass occurs steadily in childhood and accelerates during puberty. The right balance of nutrients helps children grow as expected for their age and developmental stage in line with growth benchmarks. Early childhood is a period with rapid advances in motor skills and muscle coordination. As children grow, active play and organized sports increase demands on muscle repair and recovery, and puberty drives significant increases in lean body mass alongside higher overall calorie and protein needs.

Milk, yogurt and cheese provide *high-quality protein* to support muscle repair, *carbohydrates* to help replenish energy and *electrolytes* to support rehydration. Including dairy foods after physical activity can support recovery, strength and energy.⁴³

Research consistently shows that dairy consumption is associated with neutral to favorable body weight outcomes in children and adolescents, reinforcing its role as a nutrient-dense option that promotes healthy growth without increasing obesity risk.⁴⁴

How Much Dairy?^{31,45-47}

6-12 months	Introduce up to 1 2⁄3 servings
1-3 years	1 3⁄4 - 2 1⁄2 servings
3-5 years	2 - 2 1⁄2 servings
5-12 years	2 1⁄2 - 3 servings
12-18 years	3 servings

What Counts as a Serving of Dairy?*

	Milk: 1 cup		Kefir: 1 cup
	Lactose-free Milk: 1 cup		Shredded Cheese: 1⁄4 cup
	Yogurt: 3⁄4 cup		Hard Cheese: 1 oz
	Cottage Cheese: 1⁄2 cup		Ricotta Cheese: 1⁄4 cup

*Serving sizes are based on the Daily Servings by Calorie Level supplement to the 2025-2030 Dietary Guidelines for Americans and the Reference Amounts Customarily Consumed as defined by the Food and Drug Administration.

At around six months of age, as nutrient-dense complementary foods are introduced, cheese and yogurt are easy ways to familiarize babies with new tastes and textures. As babies transition from breast milk and/or iron-fortified formula after their first birthday, whole milk and other dairy foods emerge as sources of calories, high-quality protein and other nutrients to build healthy brains, bones and bodies.⁴⁸ This nutrient bundle makes dairy foods an easy safety net for picky eaters.

Research shows that what children drink can have a big impact on their health. Experts at the AAP, Academy of Nutrition and Dietetics, American Academy of Pediatric Dentistry and American Heart Association recommend cow's milk and water as the go-to healthy beverages for children and adolescents from ages 1-18. Plant-based alternatives are not recommended, with the exception of fortified soy beverages, unless medically or culturally necessary due to their wide variability in nutrient content and limited evidence on their nutrient bioavailability.^{49,50}



Parent-Tested Talking Points

Consuming dairy foods like milk, cheese and yogurt every day is a healthy way to support growth and development.

Milk and water are the go-to drinks for 1–18 year olds. Milk for nutrition and water for hydration.

The recommended daily servings of dairy as part of a well-balanced diet can help maximize children's growth potential.

Milk at meals provides a safety net for picky eaters, providing high-quality protein and 12 other essential nutrients.

The high-quality protein in milk, cheese and yogurt can increase satiety, helping kids feel fuller, longer.

The recommended daily servings of dairy provide high-quality protein for sustained energy, which can help busy kids stay motivated.

1. What dairy options should be introduced to infants and children and when?

From birth to 6 months, infants should receive only breast milk and/or iron-fortified formula as their primary source of nutrition. Around 6 months, most infants can begin eating complementary foods, including options like pasteurized soft cheeses and plain, full-fat yogurt. By 12 months, whole milk can be introduced.^{31,45-47}

Milk, cheese and yogurt provide important nutrients, including fat, protein, vitamins and minerals, that support growth and brain development. Offering dairy alongside a variety of foods, flavors and textures can help encourage a balanced, well-rounded diet.

2. Do I need to delay introducing new foods because I think my baby has food allergies?

It's important to understand how food allergies develop and the advice to manage them. The current body of science suggests it may be helpful to introduce potentially allergenic foods in small amounts as part of the complementary feeding process. These foods include yogurt and cheese as well as eggs, nuts, wheat, sesame, soy, fish and shellfish.⁵¹

3. Is toddler milk a recommended beverage to support transitioning from breast milk or formula to cow's milk?

Toddler milks—also known as transition, follow-on or weaning formulas—are beverages supplemented with nutrients that often contain added sugars. Health experts, including the American Academy of Pediatrics, American Heart Association, Academy of Nutrition and Dietetics and American Association of Pediatric Dentistry, agree that toddler milks are not recommended for infants and children because they do not offer nutritional value beyond what can be obtained from a healthy diet and may contribute added sugars to the diet.⁴⁹

4. What are the differences between cow's milk protein allergy and lactose intolerance?

A cow's milk protein allergy (CMPA) is a condition in which the immune system overreacts to the proteins in milk and other dairy foods. Symptoms can include hives, itching, swelling, difficulty breathing, coughing or wheezing, vomiting, bloating, cramps, bloody stool and/or diarrhea. Children with CMPA cannot consume dairy foods. CMPA affects about 2.5% of children under three years old. However, most children (up to 75%) outgrow their CMPA allergy.⁵²

Lactose intolerance is the inability to fully digest lactose, which can result in digestive symptoms when lactose-containing foods are consumed. While it is uncommon in children under age three, symptoms may include abdominal pain, bloating, gas and/or diarrhea. Although some may avoid dairy due to tummy troubles, the American Academy of Pediatrics recommends keeping dairy foods on the menu for most children with lactose intolerance.⁵³ Many options are available, including lactose-free dairy milk and yogurt which do not contain lactose. Additionally, hard cheeses naturally contain very little lactose, and yogurt may be easier to digest if it has live and active cultures which can help break down lactose.

5. What if a child wants to drink more milk than the daily dairy servings recommended?

If toddlers drink more than the recommended amount of milk, it may reduce their appetite for other nutritious foods, including iron-containing foods like meat, lentils, tofu and dark leafy greens. That is why it is important to stick to the recommended servings.

6. What are the healthiest beverages for children and teens?

Research shows what children and adolescents drink makes a difference for their health, both now and in the future. Health experts—including the American Academy of Pediatrics, American Heart Association, Academy of Nutrition and Dietetics and American Association of Pediatric Dentistry—agree that dairy milk and water should be the go-to beverages throughout childhood, from age 1–18.^{49,50} One tip is to encourage children to drink dairy milk with meals and water in between.

7. What about plant-based, non-dairy milk alternatives?

Child health experts agree, with the exception of fortified soy drinks, plant-based beverages are not a recommended replacement for real dairy milk unless medically indicated (e.g., in the case of a milk allergy) or to meet specific dietary preferences (e.g., a vegan diet).^{49,50} That's because most plant-based drinks have inconsistent and incomplete nutrition profiles compared to dairy milk.

In fact, researchers from the University of Minnesota analyzed 219 plant-based beverages (21 brands), including almond, oat, soy, coconut, hemp, rice, pea, flax, cashew, hazelnut, walnut and plant-based blend beverages and found only three fortified soy-based products met all the nutrition standards for dairy milk.⁵⁴ For children and adolescents with lactose intolerance, experts recommend lower-lactose and lactose-free dairy options.^{50,53}

8. Do dairy foods play a role in constipation in early childhood?

Dairy foods do not cause constipation when consumed in recommended amounts as a part of a balanced diet. Constipation can be common among young children; the American Academy of Pediatrics (AAP) notes other factors include:⁵⁵

- Withholding bowel movements due to pain or power struggles (most common)
- Lack of fiber, fluid and physical activity

To help manage constipation, the AAP recommends increasing fiber and water consumption and changing toilet posture and positioning; if lifestyle interventions fail, laxatives may be considered.⁵⁵

Dairy foods do not innately cause constipation, and fermented dairy foods like yogurt and kefir may even help reduce gastrointestinal distress symptoms such as diarrhea and constipation.^{56,57}

9. Can dairy foods help encourage a balanced and nutritious diet?

Yes, dairy foods are versatile in flavor and texture and can help enhance consumption of other foods groups like fruits, vegetables and whole grains, helping to foster healthy habits early on—even among picky eaters. For example:

For younger children:

- Serve plain, unsweetened yogurt with pureed fruits to introduce a variety of tastes and textures at once, like a tart taste balanced with something naturally sweeter like fruit.
- Incorporate cottage cheese to add texture and nutrition to fruit or unsweetened applesauce, veggies or cooked pasta.
- Top cooked veggies like broccoli, cauliflower or carrots with melted cheese.

For school-age children and teens:

- Blend milk into smoothies with fruits and vegetables or use it to replace water when cooking oatmeal or making overnight oats.

- Scramble eggs with shredded cheese and diced vegetables.
- Layer yogurt with fruit and nuts or whole grain cereal for a balanced breakfast or snack.
- Add zucchini or spinach between layers of lasagna noodles and ricotta cheese for a nutritious pasta dish.
- Make quesadillas using shredded cheese, sauteed veggies and whole-grain tortillas.

10. Can full-fat dairy options be part of a healthy diet for children and teens?

Yes, whole milk and other full-fat dairy foods like cheese or yogurt can play an important role in a healthy diet for children. Including dairy foods across a range of fat levels as part of an overall healthy diet gives families the flexibility to choose dairy foods that fit their personal preferences, culture and health goals. Regardless of fat content, dairy foods provide a unique combination of nutrients that help support strong bones and muscles, cardiometabolic health, cognitive health and overall well-being across every life stage.^{9,58-61}

Offering a variety of dairy foods can also make it easier for young children to meet their dairy servings and key nutrient needs.⁶²⁻⁶⁴ Providing foods that are familiar, widely accepted and satisfying for kids means they're more likely to eat enough to get the nutrition their bodies require.

Importantly, evidence shows that dairy consumption in children – including full-fat options – is not associated with an increased risk of obesity.⁶⁵⁻⁶⁸ When enjoyed as part of an overall healthy eating pattern that limits saturated fat to 10% of total calories, whole milk and full-fat dairy foods support developing brains, growing bodies and good nutrition habits that can last well beyond childhood.^{28,65-71}

11. Should children and teens avoid added sugars in dairy milk and other dairy foods?

The 2025-2030 Dietary Guidelines for Americans recommends zero grams of added sugar for children ages 0-10. For older children, it recommends limiting added sugar to no more than 10 grams per meal and choosing dairy foods that do not exceed 2.5 grams of added sugar per $\frac{2}{3}$ cup equivalent.³¹

It is important to note that flavored milk provides the same package of 13 essential nutrients as non-flavored milk to support children's growth, bone health, learning and development.^{72,73} Over the past two decades, added sugars in flavored milk offered in school meal programs have been reduced by nearly 60% through product improvements and reformulation—without using artificial or low-calorie sweeteners.⁷⁴⁻⁷⁷

Additionally, the current body of science does not show that children who drink flavored milk weigh more than those who do not. Research consistently finds no significant differences in body weight, body mass index or body fat between children who consume flavored milk and those who drink only non-flavored milk or no milk at all.⁷⁵ Peer-reviewed evidence also indicates that adolescents who consume flavored milk tend to consume more dairy and related nutrients compared with those who do not consume milk at all, supporting nutrient adequacy during a critical period of growth and development.^{72,73,75,77}

12. Are there health benefits to drinking raw milk? Does pasteurization diminish milk's nutritional value?

The body of science indicates that any potential benefit to consuming raw milk are outweighed by serious health risks. It simply kills harmful bacteria and leaves the essential nutrients intact. Meanwhile, raw milk can harbor dangerous bacteria, so it poses serious safety risks, especially to vulnerable populations like children.⁷⁸ In other words, pasteurized milk offers all the nutrition and the evidence-based health benefits, without the risk. Pasteurization does not drastically change milk's nutrition.⁷⁹

13. Is it true the hormones in milk can cause the early onset of puberty?

No. For grounding, hormones are not added to milk, and there is no evidence that the trace amounts of natural hormones in milk play a role in puberty or overall health. Concern about hormones in milk may be tied to the use of recombinant bovine somatotropin (rbST). Some cows may be given an injection of rbST, which is a growth hormone that has been heavily researched and has been proven safe.⁸⁰ However, 99% of dairy farmers no longer use it so that they can better align with consumer preferences.⁸¹⁻⁸³

The cause of early-onset puberty, also known as “precocious puberty,” is typically hard to discern. Girls are more likely to experience it than boys, and excess weight seems to increase the risk, so there is a potential tie to the rise of childhood obesity,^{84,85} underscoring the importance of an overall healthy, balanced diet. Research suggests there is insufficient evidence to suggest a link between milk consumption and increased risk for early puberty.⁸⁶⁻⁸⁸

14. Does dairy cause acne?

Acne is very common, multifaceted and often influenced by factors outside of one’s control, from hormones and increased oil production to family history and other risk factors. Diet may play a role, but there is insufficient evidence to support avoiding any specific foods. When it comes to acne treatment, dermatologists emphasize the importance of good skin hygiene practices while encouraging a balanced approach to eating that includes all food groups, rather than removing specific foods.^{89,90}

15. What are my dairy milk options?

When it comes to dairy milk, families have a lot of good options to choose from: regular and lactose-free, organic and conventional, plain and flavored, all of which can be found across a range of fat levels. These options allow people to choose what works best for their needs and preferences. The important thing to remember is, no matter which type of dairy milk someone chooses, they all offer the same 13 essential nutrients: high-quality protein, vitamins A, D and B12, niacin, riboflavin, pantothenic acid, calcium, iodine, phosphorus, potassium, selenium and zinc.

16. What is A2 milk?”

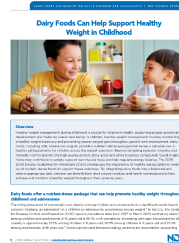
A2 dairy milk has the same overall nutrition profile as regular dairy milk – both of which provide 13 essential nutrients, including high-quality protein, calcium, vitamin D and other vitamins and minerals to support pediatric growth and development. What makes A2 milk different is its beta-casein protein composition. Unlike regular dairy milk which includes a mix of A1 and A2 beta-casein proteins, A2 milk predominantly contains the A2 beta-casein protein. Beta-casein is one of the major casein proteins in milk, and the distinction between A1 and A2 has to do with the difference in the amino acid sequence of the beta-casein molecule.

Some proponents suggest that A2 milk may be easier to digest for certain individuals who experience discomfort with regular milk due to how A1 beta-casein is broken down. However, the science remains limited and inconclusive. Only a small number of controlled studies in adults (across mixed degrees of lactose tolerance) have compared A2 to conventional milk, and results have been inconsistent.

Science Summary: Dairy Foods & Childhood Health



Science Summary: Dairy Foods Can Help Support Healthy Weight in Childhood



Dairy Food Matrix: Childhood Health Video



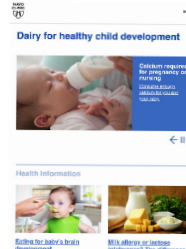
Dairy Food Matrix: Child Health Infographic



American Academy of Pediatrics: Nourish & Flourish Speaker's Kit Request Form



Mayo Clinic Parenting Hub: Dairy for Healthy Child Development



National Hispanic Medical Association: Dairy Foods Support Public Health Among Hispanic/Latino Americans



National Medical Association: The Role of Dairy Food Intake for Improving Health Among Black Americans Across the Life Continuum



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