HEALTH BASICS

Cow's milk - infants

This explains when and how cow's milk can be included in an infant's diet.

WHAT IT IS
Cow's milk use in feeding babies under 12 months

WHERE IT COMES UP
Breastfeeding, formula, weaning foods, drinks, and ingredient labels

WHY IT MATTERS
Timing and form affect nutrition, iron intake, and allergy safety

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Pediatric clinician, family doctor, health visitor, or dietitian

HOW IT IS CHECKED
Feeding history, growth measurements, and allergy testing when indicated

Overview

Cow's milk is used in several different ways during infancy. It may be an ingredient in infant formula, a small part of solid foods, or a drink offered after a child's first birthday. These uses are not nutritionally equivalent.

During the first 12 months, breast milk or properly prepared infant formula should remain a baby's main milk drink. Ordinary cow's milk is not a suitable replacement during this period. It does not provide the balance of iron, fats, vitamins, and other nutrients that infants need.

From about 6 months, pasteurized cow's milk can usually be used in small amounts in foods, such as porridge or a cooked sauce. Yogurt and cheese may also be offered when a baby is ready for complementary foods. "Complementary foods" means foods given alongside breast milk or formula.

After 12 months, pasteurized whole cow's milk can usually be offered as a drink. Whole milk contains fat needed for growth and development. Recommendations about changing to lower-fat milk later may take account of the child's age, growth, overall diet, and family health history.

Cow's milk is also a common food allergen. Introducing it as food is different from replacing breast milk or formula with a bottle of ordinary cow's milk.

How it works

Human breast milk, infant formula, and ordinary cow's milk have different nutrient profiles.

Standard cow's-milk-based infant formula is made from cow's milk, but manufacturers alter its protein, fat, carbohydrate, vitamin, and mineral content. Infant formula is regulated as a food designed to support babies during their first year. Ordinary bottled cow's milk has not been changed in this way.

Cow's milk contains useful nutrients, including protein, calcium, iodine, vitamin B12, and fat. In many countries, some milk is also fortified with vitamin D. Fortification differs by product and location, so the label matters.

However, ordinary cow's milk contains little iron. Young babies have high iron needs because they are growing quickly. If cow's milk replaces breast milk, iron-fortified formula, or iron-rich foods too early, the baby's iron intake may be too low. Large amounts can also fill a child's stomach and reduce interest in other foods.

An infant's kidneys are still developing. The protein and mineral load in ordinary cow's milk is higher than that of breast milk or infant formula. This is another reason it should not be the main drink before 12 months.

Pasteurization uses heat to reduce harmful germs. Raw, or unpasteurized, milk can carry bacteria such as Salmonella , E. coli , and Listeria . Infants should not be given raw milk or foods made with raw milk unless the product has been cooked in a way that makes it safe.

Why it matters for your health

Using the right type of milk helps provide enough energy and nutrients during rapid growth.

Before 12 months, replacing breast milk or infant formula with ordinary cow's milk can contribute to iron deficiency. Iron deficiency means the body does not have enough iron to make healthy red blood cells. In some infants, cow's milk may also irritate the intestine and contribute to small amounts of blood loss.

After the first birthday, the amount of milk still matters. Milk can be part of a balanced diet, but drinking a lot may crowd out iron-rich foods, vegetables, grains, and other sources of nutrition. A child's clinician can review intake if growth, eating, or iron levels are a concern.

Plant-based drinks are not automatically equal to cow's milk. Their protein, energy, fat, iodine, calcium, and vitamin content can differ widely. After 12 months, fortified soy drink is generally the closest common plant-based alternative nutritionally, but products differ. A dietitian or pediatric clinician can help if a child avoids dairy.

Goat's and sheep's milk are also unsuitable as main drinks before 12 months unless they are used in a regulated infant formula. They may not be safe alternatives for a child with cow's milk allergy because the proteins can be similar.

What can go wrong

Cow's milk protein allergy is an immune reaction to milk proteins. Reactions may be immediate, with hives, swelling, vomiting, coughing, wheezing, or breathing difficulty. Other reactions are delayed and may involve repeated vomiting, diarrhea, blood or mucus in stool, eczema, feeding difficulty, or poor growth. These signs can have many causes, so an assessment is needed rather than removing foods based on symptoms alone.

Call emergency services for breathing difficulty, collapse, marked drowsiness, or swelling involving the tongue or throat after milk exposure. Follow an existing allergy emergency plan if the child has one.

Arrange prompt medical advice for repeated vomiting, blood in the stool, persistent diarrhea, worsening eczema linked with feeds, feeding refusal, or concerns about growth. These usually require assessment but are not automatically emergencies.

Lactose intolerance is different from milk allergy. Lactose is the natural sugar in milk. Intolerance happens when the intestine cannot digest enough lactose, causing gas, bloating, or diarrhea. It does not cause hives or breathing problems. Long-term lactose intolerance is uncommon in young infants, although temporary intolerance can occur after a bowel infection.

Iron deficiency anemia may develop when low iron intake continues. Anemia means there are too few healthy red blood cells to carry oxygen. It is checked with blood tests, not by appearance alone.

Foodborne infection can follow raw milk exposure. Seek medical advice for significant diarrhea, repeated vomiting, blood in stool, dehydration, or fever in a young infant. Emergency care is needed if the baby is difficult to wake, has trouble breathing, has a seizure, or shows severe dehydration.

What you can do

Check what role milk is playing in your baby's diet.

Do not switch to homemade formula. Homemade mixtures may contain unsafe amounts of water, salt, protein, or other nutrients. Do not dilute formula to make it last longer, and prepare it according to the product instructions.

If your baby has already had an immediate reaction to milk, ask a pediatric clinician or allergy service before offering it again. Allergy assessment may include a detailed history, skin-prick testing, blood tests for specific allergy antibodies, or a supervised food challenge. Testing is not needed simply because milk is being introduced normally.

If your child needs a dairy-free diet, ask what will replace milk's energy, protein, calcium, iodine, and vitamins. The answer may involve a suitable formula or fortified drink, depending on the child's age and reason for avoiding milk.

- Keep breast milk or infant formula as the main milk drink until 12 months
- Use only pasteurized milk and dairy products
- From about 6 months, use small amounts of cow's milk in suitable foods
- Introduce milk-containing foods one at a time when the baby is well
- Read ingredient labels if milk allergy has been diagnosed or suspected
- Record the food, amount, timing, and reaction if symptoms follow eating
- Ask about iron intake if milk is replacing meals or iron-rich foods

Common questions

Can I put cow's milk in cereal before 12 months?

From about 6 months, a small amount of pasteurized cow's milk can usually be mixed into food. It should not replace breast milk or infant formula as the main drink.

Can my baby have yogurt or cheese?

Pasteurized, age-appropriate yogurt and cheese can generally be introduced with complementary foods from around 6 months. Avoid products with added sugar or excessive salt where possible, and reduce choking risk by choosing suitable textures and sizes.

Does standard formula contain cow's milk?

Most standard infant formulas are based on modified cow's milk. They are nutritionally different from ordinary cow's milk. Specialized formulas may be recommended for certain allergies or medical needs.

Is "toddler milk" needed after 12 months?

Most healthy children do not need a special toddler drink if they eat a balanced diet. Some children have specific nutritional or medical needs, which should be assessed individually.

Should I delay milk because allergies run in the family?

Routine delay of allergenic foods is not generally recommended once a baby is developmentally ready for complementary foods. If the baby has severe eczema, another food allergy, or a previous reaction to milk, ask a pediatric or allergy clinician for tailored advice.

What if my baby drank ordinary cow's milk once?

A single accidental feed does not usually require testing if the baby remains well. Return to breast milk or infant formula. Seek advice if there is an allergic reaction, repeated vomiting, diarrhea, breathing difficulty, or another concerning change.

Sources

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