HEALTH BASICS

Cow's milk and children

Cow's milk is a food and drink whose role in a child's diet changes with age

WHAT IT IS
Cow's milk used as food or drink during childhood

WHERE IT COMES UP
Infant feeding, family meals, food labels and allergy discussions

WHY IT MATTERS
Provides nutrients but can displace iron-rich foods

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Pediatrician, primary care clinician or pediatric dietitian

HOW IT IS CHECKED
Diet review; allergy testing when clinically indicated

Overview

Cow's milk is a common food made up of water, protein, milk sugar called lactose, fat, vitamins and minerals. It can be part of a balanced diet, but it is not essential if a child gets the same nutrients from other suitable foods.

Age matters. Ordinary cow's milk should not replace breast milk or infant formula as the main drink before 12 months. It does not have the right nutrient balance for an infant and contains little iron. Standard infant formulas made from cow's milk are different: their nutrients have been adjusted for babies.

Small amounts of pasteurized cow's milk may be used in food after a baby starts solid foods, usually at about 6 months. Age-appropriate foods such as plain yogurt and cheese may also be introduced. Follow local infant-feeding advice, especially if your child was born early or has a medical or feeding condition.

From about 12 months, pasteurized cow's milk can usually be offered as a drink alongside a varied diet. Guidance about whole, reduced-fat and low-fat milk differs by age and country. Young children commonly receive whole milk because fat supports energy intake and development. Ask your child's clinician if growth, heart health or another medical concern may affect the choice.

How it works

Milk provides protein for growth and tissue repair. It also contains calcium and phosphorus, which support bones and teeth, and vitamin B12 and iodine. Vitamin D is present in meaningful amounts only when the milk is fortified or naturally enriched, so check the label.

Milk fat supplies energy. The amount depends on whether the milk is whole, reduced-fat or fat-free. Children need dietary fat, but milk is only one possible source.

Lactose is the natural sugar in milk. An enzyme called lactase breaks lactose down in the small intestine so it can be absorbed. If there is not enough lactase, undigested lactose reaches the bowel and may cause gas, bloating or diarrhea. This is called lactose intolerance.

Milk also contains proteins, mainly casein and whey. In cow's milk allergy, the immune system reacts to one or more of these proteins. This is different from lactose intolerance, which does not involve the immune system.

Pasteurization heats milk to reduce harmful germs. It does not remove milk proteins or lactose. Pasteurized milk can therefore still cause a reaction in someone with milk allergy or lactose intolerance.

Why it matters for your health

After infancy, milk can be a convenient source of several nutrients. However, drinking a large amount can reduce a child's appetite for iron-rich foods such as meat, beans, lentils, eggs and iron-fortified cereals. Because cow's milk itself contains little iron, this pattern can contribute to iron deficiency.

Serving milk in a bottle for long periods, especially at bedtime, also exposes teeth to milk sugar. Once teeth appear, regular brushing and moving from bottles to open or training cups help protect dental health.

Children who avoid dairy need other sources of protein, calcium, vitamin D, vitamin B12 and iodine. The nutrients in plant-based drinks differ greatly. Many are lower in protein or energy than cow's milk, and organic versions may not be fortified. For infants under 12 months, plant drinks are not substitutes for breast milk or an appropriate infant formula.

Milk choices should fit the child's whole diet rather than being considered alone. Growth, food variety, cultural eating patterns and any medically required exclusions all matter.

What can go wrong

Cow's milk protein allergy is an immune reaction to milk protein. Immediate reactions may cause hives, swelling, vomiting, coughing, wheezing or breathing difficulty. Delayed reactions can be harder to identify because digestive or skin problems may have several possible causes.

Trouble breathing, swelling of the tongue or throat, collapse, or a child becoming pale, limp or difficult to wake can be signs of anaphylaxis, a severe allergic reaction. Use prescribed epinephrine if available and call emergency services immediately.

Less urgent concerns, such as repeated symptoms after milk, ongoing feeding difficulty or poor growth, need routine clinical assessment. Do not remove major foods for long periods without advice, particularly in a young child.

Lactose intolerance can cause bloating, gas, abdominal discomfort or loose stools after lactose-containing foods. It is uncommon as a permanent problem in young infants, although temporary lactose intolerance can occur after an intestinal infection. Lactose-free cow's milk still contains milk protein, so it is not safe for cow's milk protein allergy.

Iron deficiency can develop when milk replaces too much varied food. A clinician may review the child's diet and growth and, when appropriate, order blood tests such as a full blood count and ferritin, which reflects stored iron.

Foodborne infection can follow drinking raw, unpasteurized milk. Raw milk may contain bacteria such as Salmonella , Campylobacter , Shiga toxin-producing E. coli or Listeria . Children are more likely than healthy adults to become seriously unwell from these infections. Pasteurization is the key safety step; organic or farm-fresh labels do not replace it.

What you can do

Check whether the milk is pasteurized and appropriate for your child's age. Before 12 months, use breast milk or a suitable infant formula as the main milk drink unless a qualified clinician has advised otherwise.

For an older child, look at the whole eating pattern. Keep milk alongside meals and snacks rather than allowing it to replace meals throughout the day. Ask your child's clinician or dietitian how much dairy is appropriate under guidance where you live.

If you are concerned about a possible reaction, record:

A clinician may use the history, examination, skin-prick testing or a blood test for specific IgE antibodies when an immediate allergy is suspected. These tests must be interpreted with the

history because a positive result alone does not prove allergy. Delayed reactions may require a planned period without milk followed by supervised reintroduction. Commercial food IgG tests are not recommended for diagnosing milk allergy.

Read ingredient labels if milk avoidance has been advised. Terms such as casein, whey and milk powder indicate milk protein. "Lactose-free" does not mean "milk-free."

If your child tolerates cow's milk, is growing as expected and eats a varied diet, there may be nothing special you need to do.

- The exact food and approximate amount
- How quickly the problem started
- What happened and how long it lasted
- Any treatment given
- Whether the same food was previously tolerated

Common questions

Does cow's milk increase mucus?

Milk can leave a temporary coating in the mouth and throat, which may feel like thicker mucus. Evidence does not show that milk causes the body to produce more mucus.

Is goat's milk a safe alternative for milk allergy?

Usually not. Goat's and sheep's milk proteins are similar to cow's milk proteins and may trigger reactions. Their ordinary milk is also not a suitable main drink for infants under 12 months.

Can a plant-based drink replace cow's milk after age 1?

Sometimes, but products are not nutritionally equal. Unsweetened, fortified soy drinks are generally closer to cow's milk in protein than many oat, almond, coconut or rice drinks. Check protein, calcium, vitamin D, vitamin B12 and iodine on the label, and ask a pediatric dietitian if dairy is being fully excluded.

Does heating milk remove the allergy risk?

Not reliably. Some children with milk allergy can tolerate milk protein baked into foods, while others cannot. This should not be tested at home after a serious reaction unless an allergy specialist has provided a plan.

Is organic milk safer for children?

Organic production describes farming methods. It does not make milk free from allergens or lactose. Whether the milk is pasteurized is more important for preventing infection.

Sources

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