

Indian Academy of Pediatrics (IAP)



GUIDELINES FOR PARENTS

Which Nutritional Supplements are Needed for My Child?

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10 FAQs on WHICH NUTRITIONAL SUPPLEMENTS ARE NEEDED FOR MY CHILD?

1. Doctor, as we both parents are short, we are worried about our child's height. Please recommend some supplement (Protein powder to be mixed with milk) to increase his height.
2. Can we give some supplement to our child for increasing the mental ability and intelligence?
3. What nutritional supplements are required by teenagers?
4. Does a newborn baby need any vitamin supplements? Is only breast milk adequate?
5. Do we need to give Swarnaprash/Chyawanprash, learnt from a camp at nearby clinic, for providing good health and immunity?
6. Can we give any supplements to increase child's immunity?
7. Do children need protein diskettes/biscuits for their growth?
8. What supplements are good for children's eyes (vision)?
9. Doctor, my adolescent daughter with pronature ideology decided to become strict vegan and dropped, all dairy and non-vegetarian foods including milk, egg, meat. What are the likely health consequences? Are any supplements required? Could you please suggest a diet chart for her?
10. My teenaged son has joined the gym. He wants to take some protein supplements for muscle building. Are they safe?

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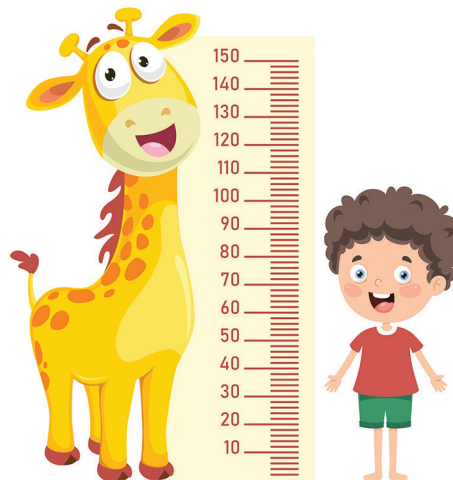
Which Nutritional Supplements are Needed for My Child?

Q1

Doctor, as we both parents are short, we are worried about our child's height. Please recommend some supplement (Protein powder to be mixed with milk) to increase his height.

Height of a child depends on genetic make-up; therefore, it depends on parent's height. If both parents are short, then child is likely to be short. This is called as *familial short stature*. In such a situation, growth rate, i.e., height achieved per year would eventually be comparable to a normal child. If parental height is normal, then growth rate of the child is tracked with the help of standard growth charts. There are various environmental factors which help in growth, one of them is consuming adequate nutrition. Others being good emotional support and fewer incidences/absence of recurrent or chronic diseases, etc.

No protein powder can increase the height beyond the genetic potential of an individual. On the contrary, such commercial protein supplements contain excessive sugar to increase the palatability.





These add to free calories and thus lead to obesity rather than gain in height. Children should consume proteins from natural sources such as dairy products, pulses, tree nuts, legumes—groundnut and soyabean, egg, and meat.

Q2

Can we give some supplement to our child for increasing the mental ability and intelligence?

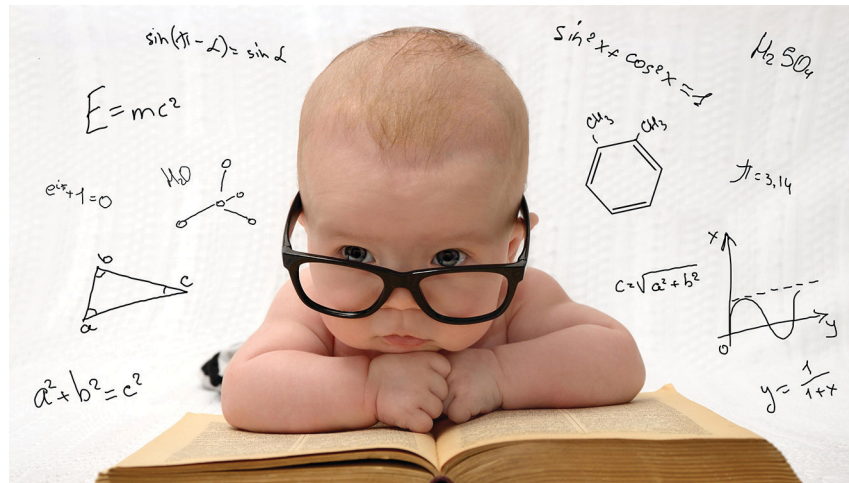
It is important to know that the brain development is maximum in the first 2 years of life. Most importantly, breast milk plays a key role in a child's brain development. It is rich in omega-3 and omega-6 fatty acids [docosahexenoic acid (DHA) and arachidonic acid (AA)], taurine, choline, zinc, and many other nutrients that support this process. Breast milk has a positive impact on various domains of brain development such as intelligence quotient (IQ), cognitive function, and academic performance. Therefore, it is





advisable to give breastfeeding exclusively in the first 6 months of age and should be continued for 2 years of corrected age along with appropriately added complementary foods.

It has been found that iron deficiency during this period has negative impact on cognitive function of brain. *Anemia Mukta Bharat* is recommending biweekly iron supplements for all children between 6 months – 5 years and thereafter weekly iron. Consult your pediatrician. For babies born prematurely, iron should be added before discharge from hospital.



Which Nutritional Supplements are Needed for My Child?

Q3

What nutritional supplements are required by teenagers?

In adolescent girls, menstrual cycle is irregular at the onset, sometimes there may be heavy bleeding. Teenage girls should consume adequate dietary iron, calcium, and vitamin D₃; and may sometimes even need their supplements. As per *Anemia Mukh Bharat*, adolescent boys and girls, starting from 10 years are beneficiaries for weekly iron. Consult your pediatrician regarding the same.



In all adolescents, during puberty, there is a growth spurt leading to fast gain in height of approximately 8–10 cm per year for 2–3 years. Vitamin D helps in growth by calcium absorption from the gastrointestinal tract and its deposition in bones. Thus, adolescents should ensure adequate vitamin D from sunlight and diet. And it must be ensured that they receive a diet rich in proteins and calcium.



Q4

Does a newborn baby need any vitamin supplements? Is only breast milk adequate?

Breast milk is a complete and the best food for the newborn baby. Exclusive breastfeeding in the first 6 months of life promotes emotional and psychological bonding, confers lifelong immunity by providing antibodies for immunity, apart from containing the iron carrier protein, lactoferrin. Babies also need vitamin D for healthy bones. Breast milk is the best source of nutrients for babies, but may not provide sufficient vitamin D (which helps to



absorb calcium and phosphorus). Low vitamin D can cause rickets, a softening and weakening of bones. Sun exposure of infants is an important source of vitamin D but may not always be practical, and supplements may be needed.

A full-term normal baby needs vitamin D₃ 400 IU/day in the first year.

A premature baby has low stores so additionally calcium, phosphorous, and iron are supplemented at the time of discharge from hospital.

Q5

Do we need to give Swarnaprash/Chyawanprash, learnt from a camp at nearby clinic, for providing good health and immunity?

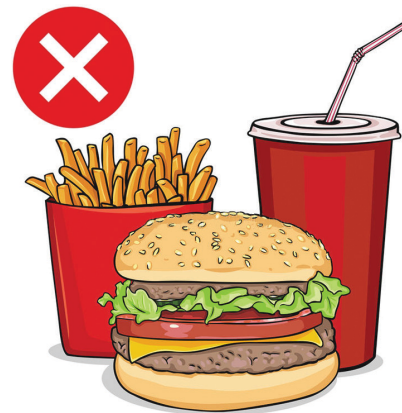
“Swarnaprash” is being promoted for brain development and “chyawanprash” for immunity. But, there is no scientific evidence for these claims. In fact, they contain gold and other heavy metals, which on overuse can cause kidney injury leading to kidney failure. Therefore, these are *strictly* not recommended by pediatricians.



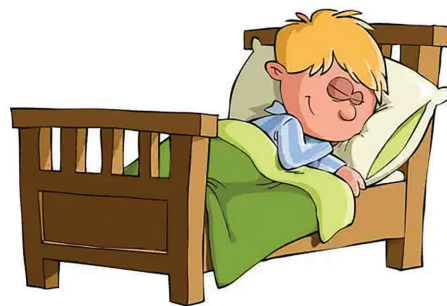
Q6

Can we give any supplements to increase child's immunity?

Robust immunity is needed to fight against infections, and it depends on various factors. Exclusive breastfeeding in the first 6 months of life and continuation of breastfeeding till at least 2 years of age and beyond, as per BFHI, helps to build good immunity. Immunity can be enhanced by having proper balanced consumption of vegetarian/nonvegetarian food items. Child should consume nuts, fresh vegetables and fruits, milk, and milk products. Adequate sleep helps in improving immunity. A good sleep hygiene should be followed by the entire family. The recommended rest time for kids aged 12–18 years is around 8–9 hours a day, 7–12 years should rest for 10–11 hours. Whereas, children aged 3–6 years should rest for around 10–12 hours and those aged 1–3 years should rest for 12–14 hours a day. Regular exercise and physical activities have been found effective in maintaining good health and immunity. Maintaining hygiene at personal, family, and community levels protects from acquiring infections.



Certain factors such as stress and faulty diet can lead to decrease in immunity. As far as possible, children should stay away from fast foods and aerated drinks.



Q7

Do children need protein diskettes/biscuits for their growth?

Protein is essential for optimum growth of children. Rich and easy source of proteins must be ensured from homemade foods. Parents must be aware about balanced diet. Natural and good source of proteins are milk and dairy products, cheese, paneer, tree nuts, legumes, pulses, eggs, and meat. Commercial protein diskettes and biscuits are ultraprocessed, are costly and are best avoided.



Which Nutritional Supplements are Needed for My Child?

Q8

What supplements are good for children's eyes (vision)?

Vitamin A is essential for healthy eyes and vision. Natural sources of vitamin A are green leafy vegetables, carrots, dairy products, eggs, and cod liver oil. Vitamin A is also check available at government health centers for



supplementation to those children who need extra. Excessive screen viewing is detrimental for their eyes, therefore, it should be discouraged.

Regular eye check-up for refractory errors is advisable in order to detect them early and prevent vision loss.

Q9

Doctor, my adolescent daughter with pronature ideology decided to become strict vegan and dropped, all dairy and non-vegetarian foods including milk, egg, meat. What are the likely health consequences? Are any supplements required? Could you please suggest a diet chart for her?

Which Nutritional Supplements are Needed for My Child?

- *Strict vegans* are at high risk for deficiency of vitamin B₁₂, iron, calcium, vitamin D, zinc, and complete proteins of high biological value. *Fruitarians* are at additional high risk for "protein" and "sodium" deficiencies.
- The options for them are adding tree nuts, groundnuts, bran of grains, and germinated sprouts. Nutritional yeast present in fermented and pickled foods can be sources for vitamin B₁₂.
- Vegans should eat at least five portions of a variety fruits and vegetables, beans, and pulses. Base meals on potatoes, bread, and rice or other starchy carbohydrates (choose wholegrains where possible).
- They can have some dairy alternatives, such as soya drinks and yogurt (choose lower-fat and lower-sugar options). Consume unsaturated oils and spreads and eat in small amounts.
- Food fortification, especially fortified cereals and oral supplementation are the other options. This can be done in consultation with the pediatrician and nutritionist.
- Drinking plenty of fluids and water everyday is recommended.

Today's Forecast

Happiness



Good Morning



Q10

My teenaged son has joined the gym. He wants to take some protein supplements for muscle building. Are they safe?

Sports supplements have become increasingly popular among gym-goers. Millions of people take sports supplements hoping for a range of health benefits, from weight loss to muscle building. But, some supplements being sold illegally claiming to be “fat burning” or “slimming” can actually be very harmful and have been linked to a small number of deaths. Protein powders, available as shakes, bars, and capsules are the most popular muscle-building supplements. Protein powders are considered to have an unbalanced nutrient composition as compared to natural sources of protein such as meat, milk, and eggs.

Body-building and sports supplements are not suitable to be used as a meal replacement because they do not have all the vitamins and nutrients that a balanced meal would contain. This means that bodybuilders who turn to protein supplements, instead of simply eating protein rich foods, could be wasting their money. There is also evidence that in the long-run consuming too much protein can lead to an increased risk of osteoporosis and can also worsen existing kidney problem. Caffeine and creatine present in sports drinks along with high protein is not suitable for growing children.

High doses can cause side effects such as increased bowel movements, nausea, thirst, bloating, cramps, reduced appetite, tiredness, headache, and acne. Serious side effects can occur due to toxic metals added by some companies and increase postprandial insulin-like growth factor-I plasma levels.

The Department of Health advises adults to avoid consuming more than twice the recommended daily intake of protein (55.5 g for men and 45 g for women).

Building strength takes years, not weeks or months. It is an act of discipline and must be earned through commitment to hard training and a good diet.

