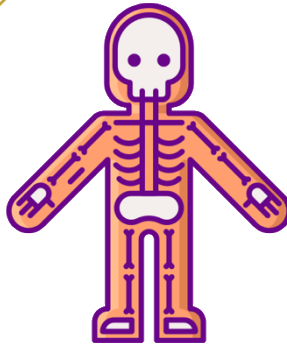




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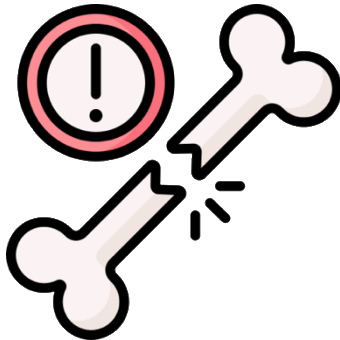
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# Rickets



## What is rickets?

It is a decrease in vitamin D absorption which leads to calcium deficiency and phosphate deficiency. This leads to softness and weakness in the bones and as a result the gland adjacent to the thyroid gland becomes overactive.



## What are the causes of rickets?



Not enough exposure to sunlight, and not eating food containing vitamin D.



Kidney and liver disease, such as: cirrhosis of the liver ( scarring of the liver ).



hereditary reasons.



Usage of some medications such as epilepsy (seizures) phenytoin.



When a lack of absorption occurs in the stomach and intestines for many reasons such as: intestinal resection, chronic pancreatic disease, and cystic fibrosis.



## Who are the most susceptible groups to rickets?

Children are the most vulnerable groups to rickets, specially:

Children who are not exposed to the sun.



Children with lactose intolerance.



Mothers who had vitamin D deficiency during pregnancy



## What are the symptoms of rickets in children?

There are several symptoms to prove rickets in children, the most important symptoms are the softness skull bones and the delay of fontanelles closer. As a result of the body not absorbing vitamin D, a deficiency of calcium and phosphate will occur, which leads to deformation in the bones, especially the legs and knees, deformities in the teeth. Also, symptoms include infection, swelling and pain in the joints, delay or swaying in walking, impaired growth, difficulty in Weight gain and shortness of length.



# What are the risk factors for rickets?



Getting old

Having dark skin



Vegetarian diet

Pregnancy



Obesity

Drinking alcohol



Only breast-feeding after  
the age of (6) months



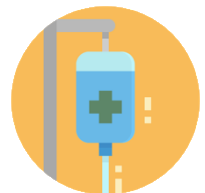
## How can rickets be treated?

Rickets is treated according to the condition:

If the condition is mild, such as a lack of vitamin D due to poor diet or due to insufficient exposure to sunlight. It can be treated by taking vitamin D tablets that are administered according to the doctor's prescription. Also, improving the diet and making sure to eat food that contain vitamin (D), and adequate exposure to sunlight.



In advanced and chronic cases, convulsions that occurred due to the lack of calcium are treated by replacing calcium through intravenous infusion with permanent monitoring and blood tests to monitor the minerals level.





## How can we prevent rickets?

**First:** Exposure to the sun in a moderate and sufficient manner and at appropriate times such as, the beginning of the day and the end of the day.



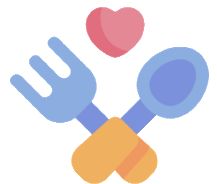
**Second:** Eat food that contain vitamin D in sufficient quantities, such as milk, dairy and fish.



**Third:** To avoid rickets, it is preferable to take vitamins during pregnancy.



**Fourth:** It is preferable to start with supplementary food for a child at the specified age and not depend only on breastfeeding.





Sources and references:

Saudi Ministry of Health

Review and audit:

The content of this booklet has been reviewed by orthopedic consultants  
at King Fahd University Hospital.

# Health Awareness Unit

## IAU-21-146



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