

# Know the signs and Symptoms of Xerophthalmia

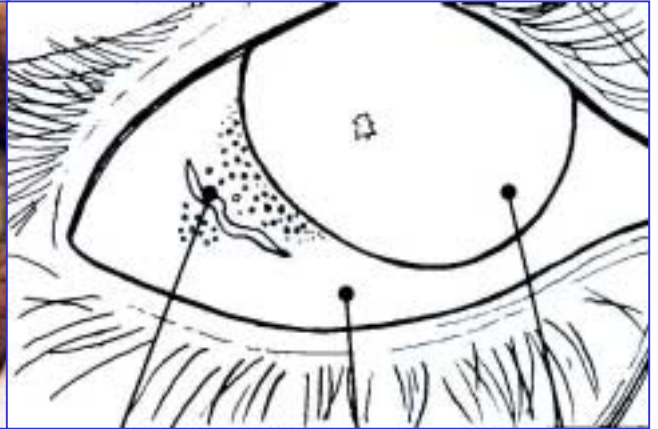
Xerophthalmia is the term used to describe the eye signs of Vitamin A deficiency

This is a childhood blinding disease which is caused by a lack of Vitamin A in the diet

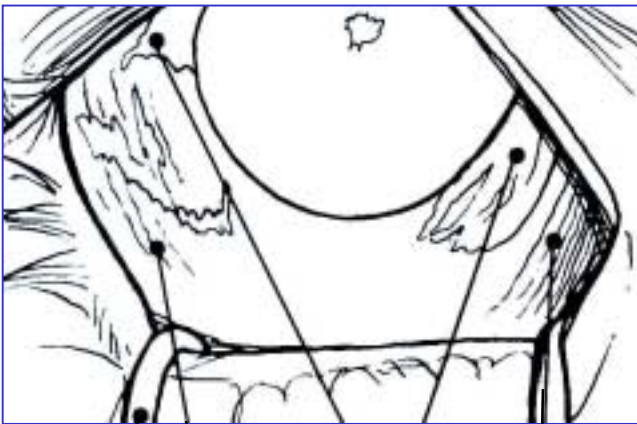
Often the first symptom is night blindness followed by Bitot's spots on the conjunctiva



Fig. 1. Child, 6 years old. Long history of night blindness. Fine Foamy Line of Bitot's spots



Fine line of Bitot's spots      Conjunctiva      Cornea



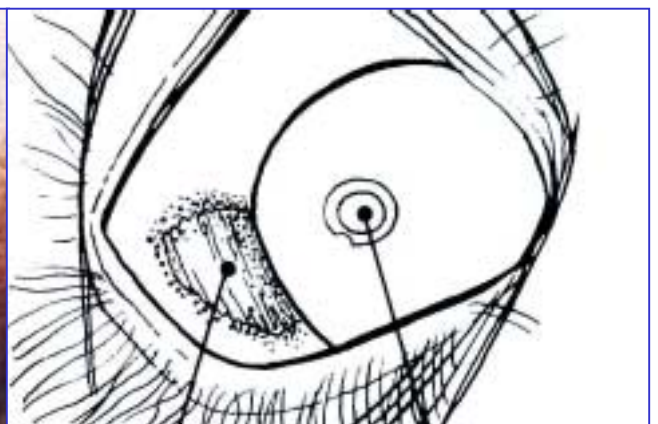
Lid Retractor      Bitot's spots      Wrinkled Conjunctiva      Wrinkled Conjunctiva



Fig. 2. Child, 3 years old. Night blindness and Bitot's spots existing for months. Wrinkled conjunctiva at corners



Fig. 3. Child, 4 years old. Chronic Bitot's spots with localized xerosis and dark coloring of the conjunctiva

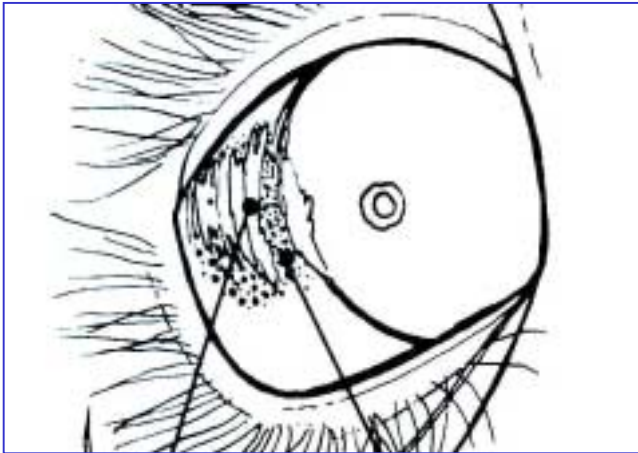


Bitot's spots      Bitot's spots      Reflection from camera flash

Although Bitot's spots differ somewhat in size, location and shape, they have similar appearance.

They are accumulations of foamy, cheesy material on the conjunctiva, often in association with other signs of xerophthalmia

As the disease progresses the cornea becomes dry and rough. This is known as conjunctival xerosis



Bitot's spots      Rough Conjunctiva

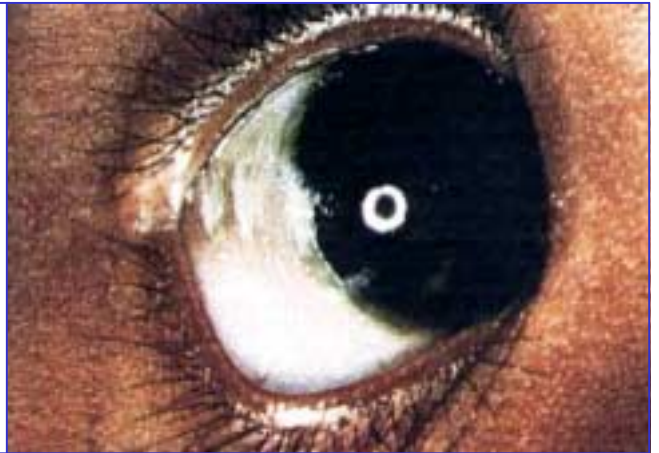
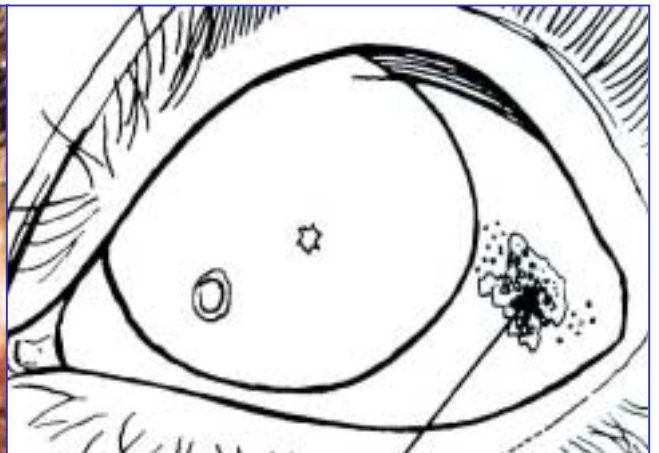


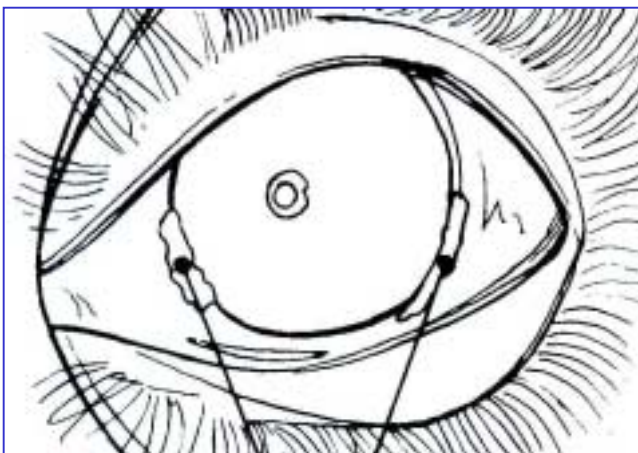
Fig. 4. Child, 10 months old. Cheesy, smooth Bitot's spots with dark coloring



Fig. 5. Child, 6 years old. Isolated Bitot's spots with well defined borders.



Foamy Bitot's spots



Bitot's spots



Fig. 6. Child, 5 years old. Cheesy Bitot's spots on both side of the cornea

Bitot's spots and conjunctival xerosis are characteristic signs of Vitamin A deficiency.

When these two signs are present in children, there should be no mistake in recognizing the disease.

Drying of the cornea (corneal xerosis) may develop if the disease is not treated.

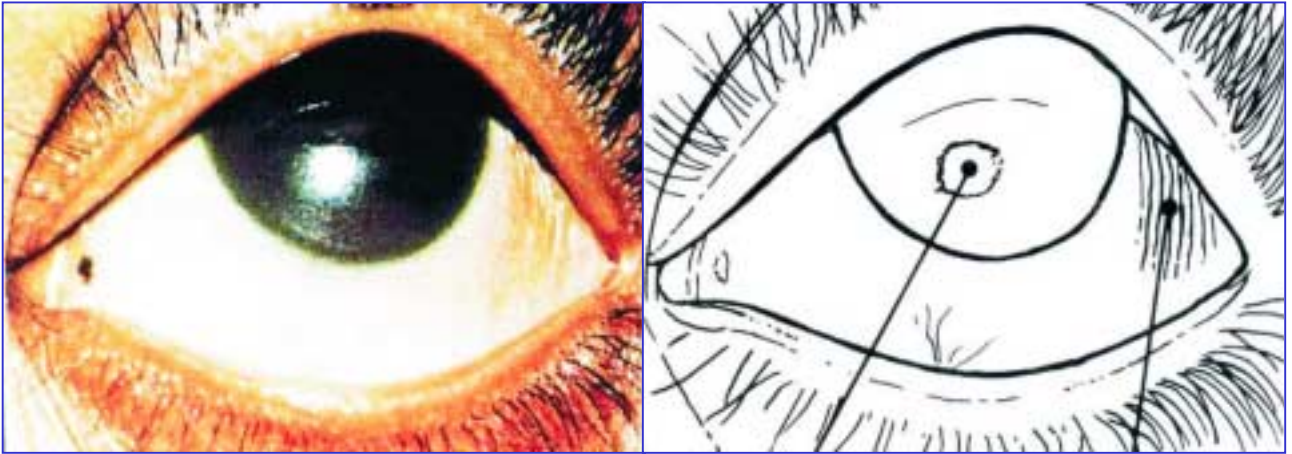


Fig. 7. Child, 2 years old. Xerosis, wrinkling and dark coloring of the conjunctiva on one side. Cornea dry and dull (xerosis).

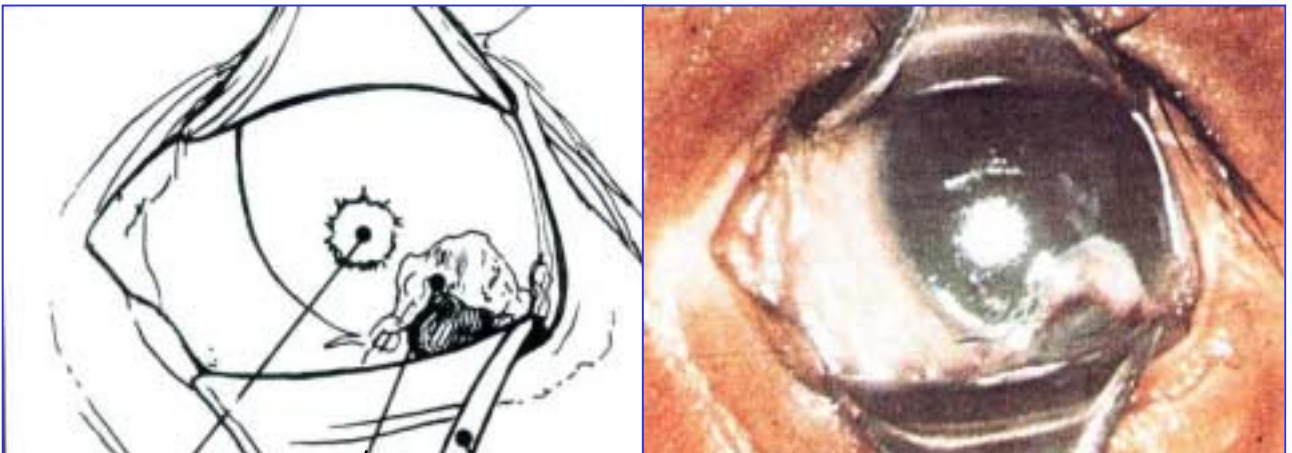


Fig. 8. Child, 1 year old. Rough, dull, opaque cornea with small perforation (hole). A piece of the iris has pushed through the hole.

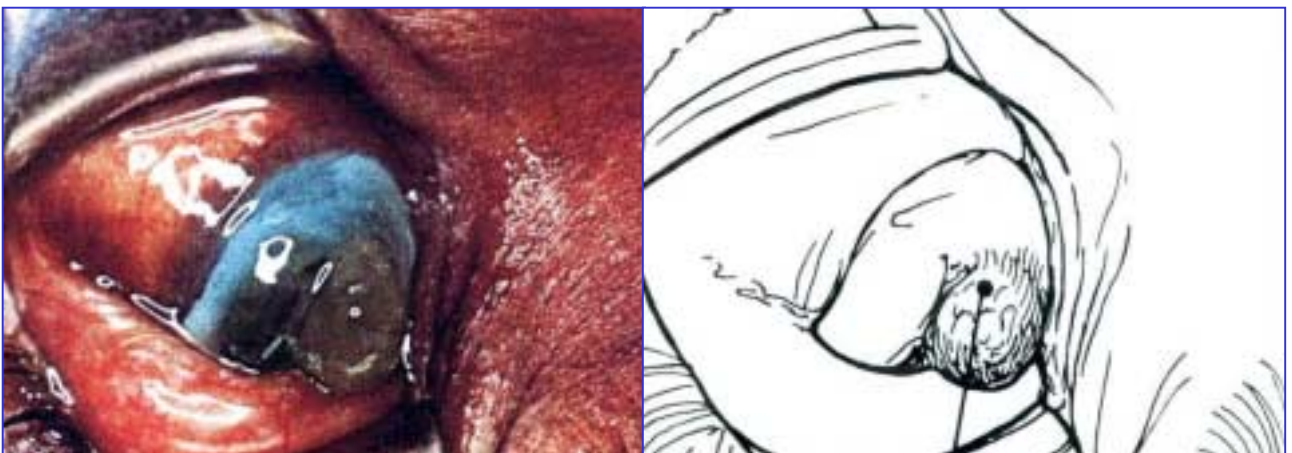


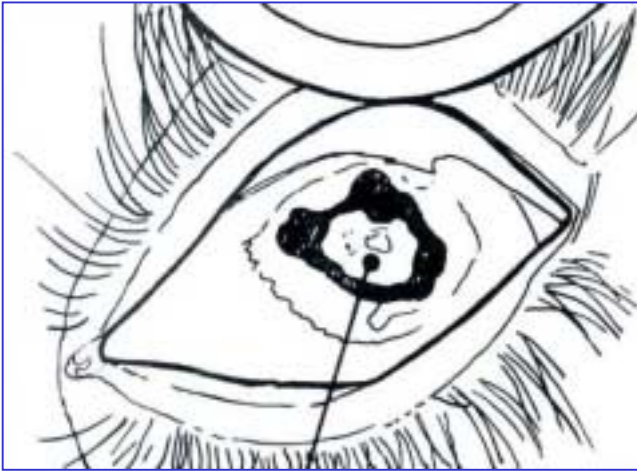
Fig. 9. Child, 3 year old. Keratomalacia with grayish, jelly like bulging cornea. The iris and lens have pushed forward into the cornea.

Bulging Cornea (keratomalacia)

As the nutritional status of the child worsens or if the child develops an infectious disease, the cornea may become increasingly damaged

The dryness may quickly give way to softening of the cornea (keratomalacia). Bulging or rupture of the cornea may follow.

## BLINDNESS – The result of Vitamin A deficiency.



Shrunken eyeball following keratomalacia



Fig. 10. Child, 3 years old. Blind for the last two years. The other eye is also blind.



Fig. 11. Child, 4 years old. The child had measles 1 year ago which caused an eye infection. Now, she is left with a central scar on her cornea.



Central white scar in the cornea



Staphyloma



Fig. 12. Child, 4 years old. The cornea is completely scarred and the eye is blind.

If Vitamin A deficiency is not treated, or is treated too late, it may result in severe damage and permanent blindness.

A scar of the cornea impairs its transparency and interferes with vision. A perforated eye ball shrinks and leads to complete blindness