

# Teeth: Enamel Hypoplasia

Enamel hypoplasia is a defect that occurs when dental enamel doesn't form completely, usually because of malnutrition or disease. Enamel hypoplasia is identified as a horizontal line, a series of pits or grooves along the outer surface of the tooth. These lines mark points at which the bone's growth was resumed after it had stopped. The degree of hypoplasia is proportional to the length of time the growth was arrested. Hypoplasia does not form in individuals who are chronically ill or malnourished; it only occurs in healthy individuals.

Hypoplasia is most common in the permanent, or adult, teeth and represents episodes of arrested growth in infancy or childhood while these teeth were still developing. Once the enamel forms, it can no longer be affected.

Hypoplasia in deciduous or baby teeth is extremely rare since the fetus is usually well nourished in the womb. A case of hypoplasia in the baby teeth is generally a sign that the baby was born prematurely or was nurtured in the womb of a very sick woman. Hypoplasia in young children's teeth is usually an indication that the mother was malnourished while

pregnant or nursing. Table 1 shows the incidence of enamel hypoplasia of baby teeth, denoting episodes of growth arrest before birth and in early infancy. Table 2 shows the incidence and severity of enamel hypoplasia in permanent teeth of adults.

**Procedure**

- 1 Review and graph the data.
- 2 Analyze the data for what it reveals about the health of each community.
- 3 Use the information on this page and what you have learned from the data to answer the questions listed.

**See tables below**

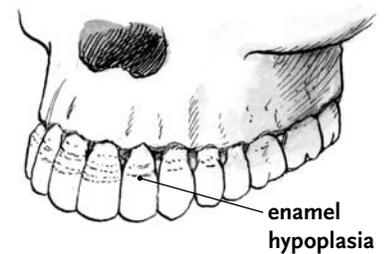
**Questions**

*Write your answers on a separate sheet of paper.*

- 1 How do the percentages of children with enamel hypoplasia compare between the two communities?
- 2 What do you notice about the occurrence of hypoplasia among the youths and adults in the two communities?
- 3 What conclusions could you draw from this data and the information you have been given?
- 4 Write down any other observations you have about this data set.

**Table 1: Enamel Hypoplasia in Children\***

Indian Knoll			Hardin Village								
Children 6–11 months 0			Children 1–5 years 0			Children 6–11 months 16			Children 1–5 years 50		
#w	#w/o	% with	#w	#w/o	% with	#w	#w/o	% with	#w	#w/o	% with
0	0	0	0	0	0	3	13	18.8	9	41	18.0



**Table 2: Enamel Hypoplasia in Adults\*\***

Degree of Hypoplasia	Indian Knoll						Hardin Village					
	Adult Males 47		Adult Females 43		Youths* 16		Adult Males 37		Adult Females 37		Youths* 23	
	N	%N	N	%N	N	%N	N	%N	N	%N	N	%N
Mild	28	59.6	23	53.5	5	31.3	14	37.8	13	35.1	12	52.2
Moderate	18	38.3	13	30.2	7	43.8	15	40.5	13	35.1	9	39.1
Severe	1	2.1	1	2.3	3	18.8	5	13.5	3	8.1	1	4.3
None	5	10.6	6	13.9	1	6.3	3	8.1	8	21.6	1	4.3

\* Sexes are combined.

\*\* %N represents what proportion of the each group (males, females, youths) exhibited each level of severity of enamel hypoplasia. For example, of all the Indian Knoll adult males who exhibited hypoplasia (47), 59.6 percent of them (28) had mild hypoplasia.