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The Prevention of Dental Caries.

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In former contributions on the etiology of dental caries and the means of controlling or preventing the disease[1, 2, 3, 4] the hypothesis has been advanced that dental caries is a distinctly infective disease and that an aciduric microorganism corresponding to the type characteristics of the *B. acidophilus* is the specific etiologic agent. No other factor, thus far ascertained, bears such a constant and intimate relationship to dental caries or harmonizes so fully with the known facts concerning the disease.

For the purpose of studying the effects of certain diets and therapeutic procedures on the activity of *B. acidophilus* in the mouth and the progress of dental caries, a rather comprehensive experiment was conducted during the past year on 3 large groups of children in public schools and orphanages. In 2 orphanages, groups of children were put on a well fortified diet in which sugar was eliminated except as it was used in cooking to make foods palatable. The diet was a varied ration fortified by one quart of milk, green vegetables and fruit for each child daily. These children had no sugar on cereals, in beverages, very little sweetened preserves and pastry, and little or no candy. In addition to the dietary control, Hexylresorcinol (S. T. 37) was used daily as a mouth wash, diluted with 3 parts of water.

In one group of 159 children there were 107, or 66%, in whom there was a marked decrease of *B. acidophilus* in the mouth, and not a single vestige of active caries appeared during the year. Caries was active in only 14 children, or 9%, and in them the disease was limited to but 1 to 3 small cavities per child. In the remaining 25% of the children there were only minute dental defects which were questionable caries. Among the 107 children who had no caries, there were 61 who, at the beginning of the experiment, had open cavities and these cavities remained unfilled throughout the year, but *did not increase in size.*

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[1] Bunting, R. W., and Palmerlee, Faith, *J. Am. Dent. Assn.*, 1925, 381.

[2] Bunting, R. W., *Dental Cosmos*, 1926, 931.

[3] Bunting, R. W., Nickerson, Gail, Hard, Dorothy G., and Crowley, Mary, *Dental Cosmos*, 1928, 1.

[4] Bunting, R. W., Crowley, Mary, Hard, Dorothy G., and Keller, Margaret, *Dental Cosmos*, 1928, 1002.

In a second group of 118 children there were 80 who had no new cavities and 22 who showed slight evidences of dental disease consisting of 1 to 3 small cavities, none were extensive. The remaining 16 children had defects recorded as questionable caries only. Among the 80 children that had no new caries there were 57 who, at the first examination, had open cavities which were not filled during the year and which did not increase in size.

A group of children in a public school were given Hexylresorcinol as a mouth wash twice daily during a period of 9 months' school term, 5 days per week. No attempt was made to alter the regular home diet. At the end of 9 months it was found that among 104 children there were but 24 who had no caries. In 67 children, or 65%, there were marked evidences of active caries, some of which were quite extensive, the clinical picture being vastly different from that which was observed in the 2 other institutions in which both diet and Hexylresorcinol were used.

The data show that in 2 groups of children the activity of oral *B. acidophilus* was markedly reduced and that dental caries was almost completely arrested by the dietary and therapeutic measures employed. As far as we know, this is the first successful experiment in which dental caries has been so completely eliminated from so large a group of children. It appears that of the 2 methods employed, diet was by far the most active inhibitive force, but it will require other carefully controlled experiments to determine just what parts diet and therapeutic remedies severally play in the prevention of dental caries.

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Effect of Lutein Feeding on the Oestrus of the Guinea Pig.

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In a previous paper, Macht, Stickels and Seckinger described their experiments with injections of *corpus luteum* extracts on the oestrus cycle of guinea pigs, as studied by the vaginal smear method.[1] It was pointed out that injections of such extracts produced an inhibition of the oestrus and were accompanied by characteristic histo-

[1] Macht, Stickels and Seckinger, *Am. J. Physiol.*, 1929, lxxxviii, 65.