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ARLINGTON PUBLIC SCHOOLS

Arlington, Massachusetts 02174

PILOT PROGRAM - DENTAL HEALTH

BRACKETT ELEMENTARY SCHOOL

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## TABLE OF CONTENTS

### INTRODUCTION

Page	4 - Part one:	Staff Evaluation
Page	9 - Part two:	Student Evaluation
Page	13 - Part three:	Dental Consultants' Evaluation
Page	16 - Part four:	Screening Procedures and Clinical Evaluation
Page	25 - Part five:	References
Page	27 - Part six:	Biographical Data

## INTRODUCTION

According to United States Public Health Services statistics, 95% of the population have dental disease, even in this age of advanced medicine, and 8 out of 10 young people will have dental disease by the time they reach age nine. What is being done about it? Up to now, progress has been slow. In the past, dental health education has been left to the school nurse and the classroom teacher, as time and materials permitted. Even though an obvious source of dental health information is the dentist, he is often not comfortable in the classroom; is used to working on a one-to-one basis with patients; and is generally trained in treatment rather than prevention. The classroom is the most logical place for dental health education, and it is here that children can effectively learn the necessary habits and skills.<sup>2</sup>

Most parents are concerned about dental problems, especially when they are faced with bills to repair damage that never should have been allowed to occur. But most are not involved in teaching prevention to their children. Simply demanding they "brush after meals", or "eat an apple every day" does not get to the heart of the problem. Believing that toothpastes are really effective in preventing decay is equally hazardous. Because little is known of how the decay process really works, and how gingival disease can be prevented, little or no meaningful care is given, and the processes of decay and dental disease take their staggering toll.

Following the example of Master's School Project,<sup>2</sup> and Green's Program of Teaching Personal Mouth Care in the elementary schools by trained and inspired teachers,<sup>3</sup> a pilot study was set up at the Brackett Elementary School in Arlington, Massachusetts to determine if good dental care habits could be effectively taught in this way. We believe this was the first program in Massachusetts utilizing materials developed by the Educational Communications Company (ECCO), which is now called "The Toothkeeper Program," and distributed through the Den-Tal-Ez Manufacturing Company.<sup>4</sup>

To begin with, a preliminary meeting established that the town's dentists were interested. Several school nurses and an elementary principal were excited by the project. A dental consultant team was formed and two workshops were scheduled at which the elementary school teachers became acquainted with not only the theory of plaque control as a preventive dental technique, but the great need of such efforts. Anatomy and physiology of the teeth were covered briefly, and the teachers viewed microscope slides of plaque and learned techniques of brushing and flossing. The effectiveness of programs elsewhere in which teachers had been trained as dental health educators<sup>2,5,6</sup> was also described.

Our feeling was that in practicing preventive skills at school, and by having the new habits reinforced through the use of audio-visual materials, the students would achieve improvement of gum conditions and reduction in caries, as well as a feeling of personal satisfaction in return for their efforts.

After the workshop, parent's guides were sent home, and commercial films, flip charts, and tooth brush kits supplied by the Den-Tal-Ez Company,<sup>4</sup> were distributed to each classroom.

The objective of the program, reduction of dental diseases and plaque scores, has been established by the resulting statistics. In addition, the youngsters became more aware of the importance of their teeth and gained some understanding of the nature of dental disease. Skills and habits for effective oral hygiene were developed which are expected to last beyond the developmental years and lead into good adult dental health habits. The teachers, through the training experience, personally benefitted from the program, and were instrumental in motivating the students by their own enthusiastic endeavors. Without good teacher support, this program would have been impossible. The dentists were pleased at being involved in a community action and were pleasantly surprised by teacher and student response to the program. They gained both staff and pupil admiration, and influenced the future dental health of hundreds of youngsters.

D.E.K.  
J.L.C.

PART ONE: STAFF EVALUATION

19 responses to evaluation questionnaires - 17 staff

1 principal

1 school nurse

1. What were your first impressions of the Dental Health Education Curriculum Program?

Favorable-----13

"Wait and See" attitude----- 6

2. What is your impression of the Dental Health Education Program now?

Favorable-----14

Unfavorable----- 3

"Wait and See"----- 1

No Answer----- 1

3. What is your opinion of the teacher dental health orientation workshop?

It was informative and beneficial  
in classroom use-----17

It was not of any benefit in  
actual classroom use----- 1

No Answer----- 1

\*4. What is your opinion of the classroom kit provided for class participation?

Satisfactory----- 7

Needs more material----- 3

Storage space not adequate----- 5

Kit unsatisfactory for classroom use----- 3

No Answer----- 1

5. Do you feel the films, teacher guides, and overhead transparencies were beneficial in assisting you in your classroom instructions?

Yes----- 18

No----- 0

No Answer----- 1

\* A revised kit has since been developed, regarding durability and construction and as a result, minor problems have been eliminated.

6. What was the response of the children you instructed in this program?

Eager to participate-----15  
Did not like to participate----- 2  
No Answer----- 2

7. Did you find this program:

Easy to work into classroom schedule-----11  
\*Disruptive to the classroom schedule----- 7  
No Answer----- 1

8. During the course of classroom participation, have you noticed a marked change in the attitude and habits of your children toward dental health?

Yes-----14  
No----- 3  
No Answer----- 2

9. Do you think the Dental Health Program and you as a dental health educator can beneficially change the usual course of dental disease among our youth?

Yes-----12  
No----- 3  
No Answer----- 4

10. Have you personally benefitted from the skills you have learned in this program?

Yes-----18  
No----- 1

11. How do you feel about being asked to become a dental health educator and assisting in improving dental health?

I feel my role is an important one-----17  
I feel that this is a parental responsibility and I should not get involved.----- 1  
No Answer----- 1

\*Two of the seven responses were from kindergarten teachers whose classroom time is limited to sessions of only two hours daily.

12. Should this program be continued?

Yes-----17

No----- 1

No Answer----- 1

ADDITIONAL COMMENTS AND CRITICISMS

Referring to question number:

2. "Extended for too long a period."

"Transparencies used at primary level could be simplified or animated."

"Jumbo books would be better in kindergarten." (than transparencies)

4. "More solid design and construction." (of classroom kits)

"Brushes fall through holes in kit."

5. "Parents should be brought in to it and become more involved."

"In upper grades it is not necessary to show the long film as many times as suggested."

"There was not enough material to sustain the interest. You cannot repeat the same movie and keep interest."

"More parent involvement --- maybe two weeks classroom use --- (do the) rest at home."

"Parents should view films at beginning of program and participate in learning techniques."

6. "Kindergarten, 1, and 2 had great difficulty in using dental floss. Many unable to do it. Grades 3, 4, and 5 were eager to learn and participate."

7. "Difficult but useful."

"Disruptive because of time element in kindergarten."

"Kindergarten has only two hour period. Program took up 1/4 of that."

"Five days a week seems difficult to accommodate."

8. "About half the class."  
"Yes, for six weeks when everyone is enthusiastic."
9. "Not as it is now."  
"No, not unless there is parental involvement."  
"Yes, with long term usage."  
"Maybe."  
"I do not know."
11. "Everyone should be involved."  
"Parental responsibility, and I should get involved on a limited basis."  
"Parent orientation sessions -- P.T.A. involvement -- parent follow up."  
"Parent responsibility, and I should not get too deeply involved because of the time element."
12. "Program should be continued if agreeable to the teachers."  
"Yes, in a revised form."  
"No, not as organized this year."  
"Lower grades, perhaps -- because the novelty seems to wear off" and it becomes a routine chore."  
"But maybe every year after year might cause it to lose its value. Every other year?"  
"Yes, but it is unrealistic to think that the program could be continued for a two month period at kindergarten level. There are simply too many other units that need teaching too."

FURTHER COMMENTS

"More encouragement is needed on a school basis. Once we began, not one word was mentioned by anyone, except the classroom teacher, to encourage participation. How about a P.T.A. program to encourage and teach the parents?"

"Only criticism is the time involved. Perhaps more follow-up, too. That is, have students use kit at least once a week through the end of the school year."

PART TWO: STUDENT EVALUATION

The following responses were received from 185 pupils, grades three through six. Two subjective questions were also asked, and the response to these will be discussed at the end of this report.

DENTAL HEALTH EDUCATION PILOT PROJECT

"TOOTHKEEPER"

Part Two

Student Evaluation

The following responses were received from 185 pupils, grades 3-6. Two subjective questions were also asked, and the response to these will be discussed at the end of this report.

1. Do you feel that you have better dental health habits because of the Toothkeeper Program?  
Yes - 134  
No - 51
2. Should the Toothkeeper Program be continued again next year?  
Yes - 131  
No - 54
3. Will you continue to learn the dental health skills that you learned this year?  
Yes - 139  
No - 46
4. Did your father or mother know all about the Toothkeeper Program?  
Yes - 129  
No - 56
5. Did either your father or mother practice any of the Toothkeeper skills at home with your?  
Yes - 47  
No - 138
6. Would you like to teach others about the dental health skills that you have learned this year?  
Yes - 77  
No - 108
7. Do you think your teacher showed a lot of interest in the Toothkeeper Program?  
Yes - 144  
No - 41

COMMENTS ON ANSWERS TO THE OBJECTIVE AND SUBJECTIVE QUESTIONS

In analyzing the results of the previous responses, it is quite apparent that the main objectives have been reached. Pupils are responsive to the program; they feel better as a result of the program; they do want it to continue; and they will continue to use the skills taught. Most parents were aware of the program. But in seeing the negative responses to question five, one can realistically see that parents, for the most part, are not very responsive to actual practice sessions with pupils. Parents knew about the program, but for a variety of reasons did not involve themselves in home practice sessions. A recommendation therefore, would be to have parent workshops at the beginning of the program. This was also strongly recommended by the staff in their responses.

Question six asked pupils whether or not they would want to teach others about this program. Those who chose the negative may have interpreted the question to mean that they would have to take over as a teacher. This interpretation would logically produce negative responses.

Question seven indicates that most teachers took an interest in the program. In the compilation of responses, it was noted that where there were more negative responses to all questions, number seven was also marked "No". This obviously indicates that the program is only as good as the support and enthusiasm it gets from the teacher.

Two subjective questions asked at the end of this survey were:

- A. What part of the program did you like the most?
- B. What part of the program did you like the least?

Some responses included a dislike for brushing and flossing, as it made the gums bleed. It should be noted that some slight bleeding is quite normal, when beginning the program, if the gums are already inflamed. Reduction of the gum irritation from plaque accumulation which results in bleeding, is one of the primary goals of this program. Positive responses were given for the films, disclosing tablets, and brushing techniques. Where enthusiasm was high from a teacher, interest was high among pupils.

In order to alleviate the problem of boredom from constant repetition of the techniques, it is recommended that practice sessions and film viewing be reduced considerably, and that the time be supplemented with visits from the dental consultant team for "rap" sessions. Thus, the dentist becomes aware of any problems with the program; he establishes a good rapport with the pupils and teacher; he becomes known as a valuable resource person; and he is then able to establish a means of evaluating the program.

Because of the time scheduling factor in the kindergarten, it is recommended that less emphasis be placed on adherence to a fixed schedule, thus permitting the teacher to plan her time, using the films and visuals to correlate these concepts with units on dental health and nutrition.

PART THREE: DENTAL CONSULTANTS' EVALUATION

EVALUATION BY DENTAL CONSULTANTS

1. What was the response of the people you worked with at the teacher training workshops?

"Very cooperative, interested, and enthused."

"Very good to excellent."

"Very enthusiastic about the program."

"The younger teachers seemed more interested."

2. Have you had any comment on the program either positive or negative from students, teachers, parents, or patients?

"Positive reactions were received from a few teachers and some parent-patients."

"No."

"Teachers were most cooperative and seemed to have a positive attitude towards the program."

"Several teachers had tried to do dental things before on their own--they were delighted with this program."

3. How would you modify the program if we were to present it this Fall at another school?

"I would keep the program as is."

"Not significantly."

"I would have a parent-teacher meeting before inaugurating the program."

"It seems important to get the parents into it more, if it can be done."

4. Are you willing to help us with it again?

"Yes, I will help."

"Of course."

"I am willing to help again."

"Certainly."

Dr. Cusato talked with many of the teachers directly after the program. His general impressions were as follows: As with other programs, the success of this one depended to a large measure on the teachers' feelings about it. If she was "for" it, the children followed enthusiastically.

The program seems best suited to grades 2, 3 and 4. At these levels, the children delight in it, and are most interested, and get good results. The continuity of the program was at times interrupted by such things as substitute teachers (unacquainted with the program), pressure from competition with other subjects, etc.


Overall, it seemed to do well, and certainly accomplished the original goal. Inevitably, for real gains in this area, a nutritional program needs to be done in conjunction with the plaque control.

**PART FOUR: SCREENING PROCEDURES  
CLINICAL EVALUATION**

CLINICAL EVALUATION

The following form was utilized among a random sampling of fifty-five pupils, grades kindergarten through sixth. Results of initial examinations by the dental consultant team were recorded prior to the beginning of the project. A comparable study was done after eighteen weeks, at the end of the project, on an unannounced visit to avoid "preparation" by the students thereby invalidating final scores.

1. Have child fill out top portion of form while waiting in line for his evaluation.
2. Evaluate gingiva and check condition: healthy, inflamed, etc.
3. Dispense three drops of plaque disclosing solution on child's tongue and have child swish it around and swallow.
4. Score plaque accumulation as shown by solution, using number system below. (If tooth indicated is not present, use next available tooth.) Disregard isolated plaque areas, scoring general accumulation.
5. Total of tooth scores will be between 0 and 18. Convert this to the Modified Green's Index using the following scale:

NAME _____	DATE _____
SCHOOL _____	
GRADE _____	TEACHER _____
<p>1. Condition of gum tissue (gingiva):</p> <p>Healthy <input type="checkbox"/></p> <p>Inflamed <input type="checkbox"/></p> <p>Bleeding <input type="checkbox"/></p>	
<p>2. Plaque scoring: Amount of decay causing bacteria growth on teeth as shown by disclosing tablet.</p> <p>a. Front teeth (centrals):</p> <p>Upper right buccal _____</p> <p>Lower left lingual _____</p> <p>b. Molar tooth (first molar):</p> <p>Upper right buccal _____</p> <p>Upper left lingual _____</p> <p>Lower left buccal _____</p> <p>Lower right lingual _____</p>	
TOTAL SCORE <input style="width: 50px;" type="text"/>	
Equivalent Mod. Green's Index <input style="width: 50px;" type="text"/>	
<p>KEY: </p>	

# 6 Teeth per Child Examined

measurement :

MODIFIED GREEN'S INDEX	
no plaque .....	0
$\frac{1}{3}$ .....	1
$\frac{2}{3}$ .....	2
whole tooth .....	3

																		index	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	%
00	94	88	83	77	72	66	61	55	50	44	39	33	28	22	17	11	6	0	
																		of perfect	

In this study, a commercial disclosing solution<sup>7</sup> was used along  
with an illuminating device<sup>8</sup> to make plaque scoring easier.

The school nurse assisted the smaller children with their forms,  
and actual scoring was done by a team of four dentists doing direct  
observations in the mouth.

Green's Index<sup>3</sup> for plaque scoring originally involved all of the  
teeth. When "simplified," it is based on only six, so that it is more  
workable with children. Dr. Jack Anderson "modified" this index<sup>9</sup> so  
that it can be read as per cent of "perfect" (which is "plaque-free").



GRADE III

4	H	7	H	+3	77	61
17	I	10	I	-7	6	44
10	I	6	I	-4	44	66
1	I	2	H	+1	94	88
12	I	12	H	NC	33	33
8	I	4	H	-4	55	77

GRADE IV

7	H	7	H	NC	61	61
12	I	8	I	-4	33	55
10	I	4	I	-2	44	77
6	H	0	H	-6	66	100
16	I	8	I	-8	11	55
12	I	9	I	-3	33	50
15	I	4	H	-12	17	77
3	I	4	I	+1	83	77

GRADE V

6	I	2	I	-4	66	88
9	H	5	I	-4	50	72
8	H	4	H	-4	55	77
12	I	6	I	-6	33	66
3	H	5	H	+2	83	72
13	H	1	I	-12	28	94
16	I	5	H	-11	11	72
9	I	7	I	-2	50	61
12	H	9	I	-3	33	50

GRADE VI

11	I	1	H	-10	39	94
8	I	3	I	-5	55	83
12	I	7	I	-5	33	61

AVERAGES BY GRADE

K	11.00	9.66	38.66	16.00
I	8.25	4.25	47.00	78.12
II	13.83	4.33	23.16	75.50
III	8.65	6.83	51.50	61.50
IV	10.12	5.50	43.50	69.00
V	9.77	4.88	45.44	72.44
VI	10.33	3.66	42.33	79.33
	Raw Plaque Score* (BEFORE)	Raw Plaque Score (AFTER)	% of Perfect Plaque Score (BEFORE), Using Green's Modified Index	% of Perfect Plaque Score (AFTER), Using Green's Modified Index
	10.28	5.59	17.66	68.81
	<u>OVERALL AVERAGES</u>			

TYPICAL      CLASS

GRADE      V

BEFORE		AFTER		CHANGE
raw Plaque	gum health	raw Plaque	gum health	
6	I	2	I	-4
9	H	5	I	-4
8	H	4	H	-4
12	I	6	I	-6
3	H	5	H	+2
13	H	1	I	-12
16	I	5	H	-11
9	I	7	I	-2
12	H	9	I	-3

KEY

H HEALTHY  
I INFLAMED

+ INCREASE  
- DECREASE

# TOTAL RESULTS

STUDENTS IN STUDY: 43

35 IMPROVED

2 NO CHANGE

6 WORSE



AVERAGE DECREASE IN PLAQUE IN

IMPROVED CASES: 36.3%

(RANGE: 77% ← → 11%)

PART FIVE: REFERENCES

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PART SIX: BIOGRAPHICAL DATA

David E. Kaplan - Ed.M. from Boston University; currently a doctoral candidate in health education at Boston University School of Education; Health Coordinator for the Arlington Public Schools; President of the Massachusetts School Health Association; Fellow, American Public Health Association; Fellow, American School Health Association.

James L. Cusato - D.D.S. from University of Pennsylvania, (former instructor in Restorative Dentistry at Tufts University School of Dentistry); practices general dentistry in Arlington, Massachusetts; member of Special Fluoridation Committee of the Massachusetts Dental Society, Greater Boston Dental Society, West Suburban Dental Study Club, American Dental Association, American Society for Preventive Dentistry; Delegate to Massachusetts Dental Society.

Lewis Klapper - M.Sc.D. from Boston University; Certificate of Orthodontics from Boston University, currently a Doctor of Science Candidate, is a National Institute of Health Special Fellow; Boston University School of Graduate Dentistry; practices orthodontics in Arlington, Massachusetts; member of Clinical Research Center.

Robert O. Murphy - D.M.D. from Tufts University School of Dentistry; practices general dentistry in Arlington, Massachusetts; member of American Analgesic Society, Massachusetts Dental Society, American Dental Association.

Alan J. Wright - D.M.D. from Tufts University School of Dentistry; Certificate in Public Health from Harvard University School of Dental Medicine; practices general dentistry in Arlington, Massachusetts; member of Massachusetts Dental Society, American Dental Association, American Academy of General Dentistry, Greater Boston Health Planning Council, Board of Health in Arlington, Massachusetts.

EDUCATORS COMMENTS AND SUGGESTIONS ON WORKING WITH THE  
EDUCATION COMMUNITY

1. "Start at the top in the school system" (Superintendent)
2. "Match people from one organization to people in other organization - realize educators feel insecure in dealing with a dentist" (Administration)
3. "Pick an appropriate time", e.g.: January is not so busy so this would be a good month! (Administration) (Budgets are prepared in the Spring and funding is on a fiscal basis)
4. "Give school system time to study, rather than just ratify" (Superintendent)
5. "If you have materials and program approved at State Department of Education level, will make discussion with Superintendent and Curriculum Director easier" (Administration)
6. "Try to fit program into going programs instead of trying to start a new program" (Correlated areas) (Superintendent)
7. "Recognize that teachers deal with time compression" (Principal)
8. "After program gets going, the principal is all important" (Administration)
9. "Be careful what you call the program - avoid things like "brush-ins" etc., which have the connotation of disruptive activities" - (school systems are 50 years behind in sex education because it was called "sex" education) (Superintendent)
10. "Include parental education where possible" (Teacher)
11. "Start with the young people" (Teacher)
12. "There is great benefit from peer group activity - children can teach each other" (Teacher)
13. "Realize what relationship with dentist has been for educators and children in the past" (Superintendent)
14. "package materials to help education system - We now have to pass out brushes and etc., to third grades and it is disruptive!" (Superintendent)
15. Teachers are becoming more and more litigation conscious" (Administration)
16. "Stress prevention rather than correction" (Administration)
17. "Be patient with the education system" (Administration)
18. "Teachers are hesitant to try to teach something they know little about" (Teachers)
19. "Teachers are the key to success of any program!" (School Administration)
20. "Teachers work with specific objectives and time requirements" (Teacher)
21. "Though supplementary exercises and materials are welcomed by teachers, most consider the teacher's manual crucial and appreciate clarity on what is essential in the curriculum" (Teacher)

22. Most principals agree that teachers initiate most requests for purchases of curriculum, teaching aids, and supplies. After teachers initiate the requests, principals might forward these to the district or make the final decisions themselves (Survey)
23. "Make the initial thrust school by school instead of bringing them all together. Work with the people who are willing to help and let them take the ball. Enthusiasm can be spread from school to school. Let principals get enthusiasm of teachers" (Administration)
24. "The thing that turned me on was a chance to help children, all children not just a few" (School Administration)
25. "I wish we could stay away from dentists wanting to satisfy their ego - we want people who want to roll up their sleeves" (School Administrator)
26. "Dental interests must work in perfect harmony with the teachers" (Teacher)
27. Teacher comments and suggestions about how to use a dental health curriculum.
  - a. multi-media approach with social studies (cultures, geography, history, social behavior, etc.)
  - b. things to teach science and make it interesting
  - c. new methods and approaches in Social Studies and Language Arts
  - d. teaching students how to solve problems and think for themselves.
  - e. different ways of motivating children
  - f. different activities for Reading, Art, Science, Social Studies
  - g. learning new ideas to make learning fun for kids
  - h. teaching students how to get along with others - human involvement
  - i. teaching students health and physical education
  - j. as a success practice for children
  - k. no approach to use with children to help them learn self importance and self worth

## TOOTHKEEPER dental care system GUIDELINES

### GOAL:

To reduce the high incidence of dental disease in young children.

### TARGET POPULATION:

Elementary school children (kindergarten through sixth grade, highest priority given to earliest age levels).

### OBJECTIVES:

1. Children will recognize the importance of plaque control.
2. Children will demonstrate skill in their use of plaque control techniques.
3. Children will recognize the interdependence of proper diet and dental health.
4. Children will demonstrate in a "success practice".
5. Children will participate in a "human involvement activity."

### CONCEPTS:

1. Oral health is best taught through information learning, attitude learning, and motor skill learning.
2. Dental health is best maintained through the development of positive habitual practices.
3. The elementary school classroom offers an atmosphere conducive to dental health education.
4. Elementary school classroom teachers can fulfill the role of dental health educator and, with proper understanding, will place stress on the following:
  - 1) Plaque control
  - 2) Proper Food Selection
  - 3) Use of fluorides
5. Elementary classroom teachers can daily exert positive influence on children and should place emphasis on the following:
  - 1) School's role in sound dietary practice
  - 2) An interdisciplinary approach as part of the general curriculum.

6. A success practice, planned and initiated by elementary school classroom teachers and directed toward building self-worth in students, is mutually rewarding.
7. A human involvement activity, where teachers and students participate together in an enjoyable activity, is mutually rewarding.
8. A dental health Advisory Team consisting of school community, outside community, and dental health profession will greatly enhance the opportunity for an on-going Toothkeeper dental care program.

#### MATERIALS AND RESOURCES:

1. Guides designed and designated for each member of the dental health team. (Parent, teacher, school administrator, dental consultant).
2. A curriculum package designed to give the greatest flexibility in the classroom that contains visual training aides such as flip chart, dental model, overhead transparencies, dental floss, toothbrushes, disclosing mints, and mirrors; with a storage container for classroom use.
3. Audo-visual aids - films and filmstrip.

#### IMPLEMENTATION:

1. Recognize the problem - an unnecessary, high incidence of dental disease in children.
2. Adopt Toothkeeper dental care system guidelines.
3. Form a dental health Advisory Team to work with the superintendent.
4. Be knowledgeable of the Toothkeeper dental care curriculum and its contents.
5. Present guidelines and curriculum to the appropriate school authority (i. e. superintendent, curriculum director, principal, teacher).
6. Standardize consultants.
7. Train teachers.
8. Train students

9. Follow-up

- a) Short Term
- b) Long Term

EVALUATION:

Toothkeeper dental care programs of necessity will be evaluated first as education programs and, later, as dental health programs.

TOOTHKEEPER  
ASHCO  
3487 AIRPORT WAY  
FAIRBANKS, ALASKA 99701

Dear Parent:

Today your child brought home the toothbrush used at school the past sixteen weeks during the Toothkeeper Program. Toothkeeper was outlined to you in a brochure sent home at the beginning of the program.

In this new and important program, your child is being taught the new techniques of proper brushing and flossing of teeth and disclosing of dental plaque. This part of the curriculum is primarily aimed toward creating a positive pattern which, with your help, will become a good life-long habit. Through promotion of this positive attitude about good health, a healthy mouth and reduction of dental repair costs will be seen.

We know you agree with these aims, and we hope that during the coming vacation period you will encourage your child to continue the use of the new Toothkeeper skills and restrict the use of disease-producing sugar foods. Please ask your child to demonstrate for you this new discipline. Your child might even suggest that you join in this activity at home.

Thank you for your cooperation.

Sincerely,

(School Principal)

## OUTLINE FOR CONDUCTING TEACHERS' WORKSHOP - 4 Hours

(There is a detailed outline in the Dental Consultant's Guide)

---

- I. Place - room large enough to show film. There should be tables and chairs or other seating arrangements that will offer some working surface. Ideally there would be no more than 8 to 10 teachers per table.
  
- II. Materials and Supplies
  - A. 16mm. sound projector (self-threading if available)
  - B. Carousel slide projector
  - C. Large screen
  - D. Extension cords if necessary
  - E. 1 water container (pitchers or milk cartons) for each table
  - F. Paper cups (one per teacher)
  - G. 1 mirror per every 5 teachers
  - H. 1 toothbrush per teacher
  - I. 1 container of floss per table
  - J. 1 paper towel per teacher
  - K. 1 box Kleenex per table
  - L. 2 disclosing tablets per teacher
  - M. 2 quizzes per teacher (one to be taken before the presentation and the other after)
  - N. Consultant slides from Toothkeeper
  - O. Classroom materials for demonstration
  - P. 1 quadrant model per every 10 teachers
  - Q. Rubber gloves for dental consultants
  - R. 1 Teacher's Guide per 10 teachers
  - S. Refreshments: coffee and juice (optional)
  
- III. Procedure
  - A. Arrange projectors and screen
  - B. Set up tables for lab session
  - C. Give quiz before beginning, and pick them up
  - D. Initial remarks can be given by the superintendent or other school official
  - E. Introduction of primary consultant

- F. Primary consultant welcome teachers and announce workshop sponsors
- G. Introduction of consultants
- H. Introduction of guests etc.
- I. Slide presentation (Toothkeeper consultant slides)
- J. "Toothkeeper" film (27 minutes)
- K. Comments and 10 minute break
- L. Assemble in groups no larger than 8 to 10
  - a. Pass out materials to consultants
  - b. Assign tables to consultants
  - c. Everybody stain, including consultant. Don't force reluctant teacher - she may have dentures. Ask teachers to dissolve disclosing mint and take two swallows of water.
  - d. Show brushing technique in mouth and on model
  - e. Show flossing technique in mouth and model (remind teachers they can brush and floss in classroom along with students)
  - f. Familiarize all with Teacher's Guide
  - g. Answer questions
  - h. Give quiz again on completion of workshop
  - i. Give teachers answers to questions
  - j. Closing remarks and discussions

#### IV. Other Teacher Considerations

- A. Some school systems will give teachers in-service credit points as inducement to participate in your workshop.
- B. Remember teachers are professionals, and we are only giving them information and training them in the new subject we are asking them to teach. Avoid moralizing or placing them in a parent-child relationship.
- C. Some teachers do not like others to come into their classrooms and usurp their authority; so, when offering them the necessary continuing support, be gentle and keep it "support".
- D. In dealing with teachers and administrators, remember there is a possible labor-management relationship here in which we should not get involved.



**Toothkeeper**  
dental care system

*"My teacher showed me..."*

# ...how to be a Toothkeeper."

Yes, elementary classroom teachers are showing children how to be Toothkeepers.

In the past many have considered it normal for children to have dental disease; therefore, little progress has been made in removing this disease from its position as the number one chronic disease in the nation.

Now, through education of young children in the elementary school classrooms, new horizons are being reached in dental disease control.

In 1969 a System was developed in the Alamo Heights School District of San Antonio, Texas for putting personal dental care into a basic elementary curriculum. This System is known as the Toothkeeper. Through a blending of efforts, educators and dental professionals are changing the lives of children who would otherwise be destined to face pain and the treatment of the unnecessary dental disease which is now costing parents and other taxpayers in excess of five billion dollars a year.

Many educators are now including the Toothkeeper System in their education programming (K-6). Possibly there is no other program available to educators today that will provide objective and accountability as quickly as does Toothkeeper.

Positive habitual pattern development is approached by beginning with the child during the early years of development, and then reinforcing this child development over long periods of time.

Some primary objectives for the Toothkeeper program will be to establish positive attitudes toward per-

sonal health care and teach children the specific skills required to prevent dental disease.

The Toothkeeper System gives to the elementary school teacher all necessary information, skill and teaching resources for conducting a personal dental care program for the kindergarten through sixth grade student.

The Toothkeeper System utilizes a multimedia learning center for teacher and pupil.

A 27 minute (16 mm.) film "The Toothkeeper", gives an overview of the problem and its solution. This film is an excellent tool for initial exposure of personal dental care to children, parents and teacher.

A short version of this film (10 minutes, "How to be a Toothkeeper") also gives an overview but then concentrates on instruction and techniques used in the personal dental care curriculum.

This film, "How to be a Toothkeeper", has been put into sound film strip form for easy use in the classroom, and is used for regular reinforcement along with the Toothkeeper flip chart and oversize dental model.

Other teaching resources, such as toothbrush, dental floss and disclosing mints, are conveniently packaged for classroom use and are part of the total Toothkeeper Learning Center.

The Toothkeeper Learning Center has been conveniently packaged in two parts. Part I contains the permanent items of the Center, such as dental model, sound film strip, mirrors and Teacher's Guide, while Part II contains the expendable items — toothbrushes, dental floss, disclosing mints and parents' guides.

**Ashco, Ltd., Health Education Division, 3487 Airport Way, Fairbanks, Alaska 99701**

**Please send me more information. Enclosed is \$5.00 (refundable on first order) to cover cost of postage and sample materials used in the program.**

Name \_\_\_\_\_

Title \_\_\_\_\_

School or Organization \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

**Ashco, Ltd., Health Education Division, 3487 Airport Way, Fairbanks, Alaska 99701**

# Dental Health Guide

FOR THE PARENTS OF: \_\_\_\_\_



## Dental Disease Facts . . .

- Eight of 10 children have dental disease by age nine.
- More than 95 per cent of adult Americans have dental disease.
- 20 million Americans have lost all their teeth.

BUT . . . dental disease can be prevented and your teeth last for a lifetime . . . if you learn and practice the skills of personal dental care.

by **Toothkeeper**

. . . the dental <sup>T.M.</sup> disease prevention  
program for the school curriculum

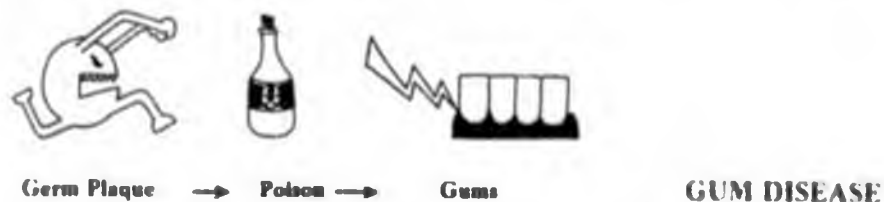
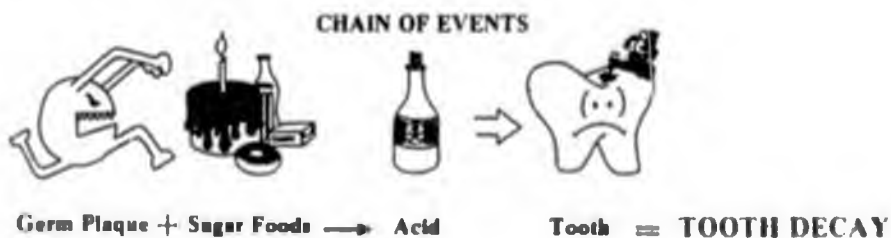
## DEAR PARENTS,

Your child is participating in the **TOOTHKEEPER** dental disease prevention program at school. He will be learning the skills of thorough tooth cleaning and a pattern of good food selection . . . . . both of which are necessary to control dental disease.

To be effective these skills must be practiced at home every day. This guide is prepared to assist you in continuing his training at home and to acquaint you with the latest information about the prevention of dental disease.

## What your child is learning about dental disease . . .

1. There are two major dental diseases: tooth decay (cavities) and gum disease (gingivitis or pyorrhea). Both occur because of **GERMS** that live on and around the teeth.
2. The most dangerous germs live in **PLAQUE**, a sticky hard-to-see film that forms on the teeth every day.
3. Both Tooth Decay and Gum Disease occur as a



. . . **BUT . . . .** this "chain" can be broken by using the **TOOTHKEEPER** system:

1. All **GERMS** must be removed from all **FIVE** sides of all teeth every day.
2. Avoid frequent eating of sugar-containing (trigger) foods which speed up the action of the germs.
3. When sweets are eaten clean the mouth thoroughly (brush & floss) immediately.
4. Good daily mouth care habits can help you keep your teeth for life.

(Please provide similar items for your child's use at home)



**1. Disclosing Tablets** . . . a food coloring that shows what needs to be cleaned off, where the germs cling to the teeth, how to clean and when the teeth are cleaned well. (The food color will not permanently stain clothing, linens or bathroom fixtures and will wash out with conventional laundry methods if accidental spills occur.)



**2. Toothbrush** . . . a soft brush with rounded-end bristles to safely remove the germ-filled PLAQUE that forms on the cheek side, tongueside and biting surfaces of the teeth.

Toothkeeper brushing is done this way . . . . .

On cheek & tongue side

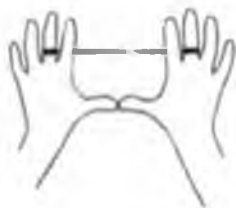


On biting surfaces

Point the bristles toward the gumline . . . .  
rock the brush gently back & forth.



. . . point the bristles into the grooves and scrub back & forth.



**3. Dental Floss** . . . to clean the spaces between the teeth. Learning to do this is most important because it is in these spaces that most serious tooth decay and gum disease starts.

Flossing must be done from the point where the teeth touch, down into the gumline space.

Here's one way to do it . . .

Pull out 18" or 20" of floss from the dispenser. Wrap one end around your MIDDLE finger on your left hand, and then around your middle finger on your right hand. This anchors the floss and makes it taut and easy to manipulate with your index fingers and thumbs. Move the floss up and down, and into the gumline space on each tooth several times.



Curve floss as shown to scrub the rounded "corners" of the tooth.



# Administrator's Guide



## Dental Disease Facts . . .

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- 20 million Americans have lost all their teeth.

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by **Toothkeeper**  
T.M.  
. . . the dental disease prevention  
program for the school curriculum

## ADMINISTRATOR'S GUIDE

The Toothkeeper personal dental care skill development program is a self-contained curriculum package designed to combat the chronic health problem of dental disease. Pilot projects have shown that important changes in the dental health of elementary school students can be obtained through the teaching of dental care skills and attitudes in the classroom. Through the implementation of this program, your community can experience an improvement in the dental health of its children.

### YOUR PRIMARY DUTIES:

- Encourage your teachers
- Help them find time
- Give moral support
- Inform your P.T.A. and enlist its support

### COORDINATION NEEDED:

- Teacher and Teacher
- Technique film and overhead cells will be shared between classrooms.
- Teacher and Nurse  
The School Nurse can be a resource and support for the teacher.
- School and Consultant  
The consultant will direct the initial Teacher Workshop. He can provide support and aid in the classroom programs in addition to his function as a Teacher Trainer. He can supply information relative to all dental questions and problems.

### MATERIALS:

#### Toothkeeper Provides:

1. Teacher Workshop materials
2. Orientation - Motivation - Educational film "The Toothkeeper."

3. Technique-Skill development film entitled "How To Be a Toothkeeper."
4. Informational Guides for Administrators, Dental Consultants, Teachers and Parents.
5. Teaching Aids:  
Large scale model of teeth and gums for each classroom.  
Set of overhead projector transparencies and flip charts.
6. Toothkeeper kit for each student:  
Soft bristled multi-tufted toothbrush  
Dental floss  
Mirrors (one for each two students)  
Disclosing materials

#### **School Provides:**

- Water in the classroom. For those classrooms without sinks, a container of water for rinsing will be required.
- Paper cups for rinsing.
- Paper napkins, facial tissue or towels in case of accidental spills, etc.
- Water, cups, towels and proper space for the teacher workshop.

The TOOTHKEEPER PROGRAM has been designed to serve the needs of the elementary-age child in a realistic and effective manner.

The rewards of the program will reach far beyond these years as the child should develop the good dental health habits and the necessary skills to help prevent dental disease throughout a lifetime.

#### **WHAT YOU CAN EXPECT FROM THIS PROGRAM:**

- An improvement in the dental health of students.
- A satisfying teaching experience for the teacher since she will be able to see a positive change in mouth health of students as a result of her efforts.
- A skill development that is relevant to all students.

## LONG RANGE BENEFITS OF THIS PROGRAM:

- The quality of living and learning is improved through a tangible improvement in dental health.
- Reduction in the time lost from school due to dental treatment.
- More retained family income in the community as the cost of repairing the ravages of Dental Disease is drastically reduced.
- More attention can be given to other community health programs and more funds freed to tackle these problems.

## PARENTS LETTER:

The following letter may be reproduced on your school stationery to accompany the Parents Guide so that the parents may be informed about the program initiation.



**"Let's Attack Plaque Professionally"**

**Toothkeeper** 1201 S. E. Diehl Avenue  
Des Moines, Iowa

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# Dental Consultant's Guide



## Dental Disease Facts . . .

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by **Toothkeeper**<sup>TM</sup>  
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# DENTAL CONSULTANT'S GUIDE

## THE ROLE OF THE DENTAL CONSULTANT IN A PERSONAL DENTAL CARE SKILL DEVELOPMENT PROGRAM

Many dental offices are now organized to help patients fight dental disease by systematic training in Personal Dental Care. These same proven educational principles can be used in community action programs to train large groups of people.

**THE SECRET** is to use a person who is in a position to influence a total population. This person is the elementary classroom teacher. During a generation, the teacher can help change the personal dental care habits of nearly all of our people. The **TOOTHKEEPER** Personal Dental Care Program is based upon the utilization of this professionally trained educator and the facilities of the elementary school.

**HOW DOES IT WORK?** First, dental personnel must train the teacher in the necessary knowledge and techniques that form the basis of a sound personal dental care program. She must then be provided with the teaching aids required to impart this message in the classroom, using her talents so that the young student can be trained.

**HOWEVER, THE PIVOTAL ROLE IN THE ENTIRE PROGRAM LIES IN THE HANDS OF THE SCHOOL'S DENTAL CONSULTANT WHO IS PRIMARILY RESPONSIBLE FOR SEEING THAT EFFECTIVE TEACHER TRAINING OCCURS.**

**WHEN DENTAL PERSONNEL TRAIN THE TEACHER AND THE TEACHER TRAINS THE CHILD, DENTAL DISEASE CAN BE DEFEATED.**

You, as the school's Dental Consultant, are indeed in the pivotal position. You must train the TEACHER, who, in turn, will train the students.

You will need help and will need to select other dentists and auxiliaries to assist you in the teacher training. Most of today's dental professionals are highly motivated toward prevention and you will need to choose your trainers from this group.

Where available, the School Nurse can be effective in program supervision and as a resource person to assist the classroom teacher.

As you know, creating motivation is perhaps the hardest of our jobs. It will be up to you to transfer your enthusiasm to the teacher to help her become a DENTAL HEALTH EDUCATOR.

The feasibility of using the classroom teacher as a Dental Health Educator has been tested in several study projects and has proved successful. One of the most influential of these pilot studies was a two year program conducted in the Alamo Heights Independent School District, San Antonio, Texas. (See Teacher's Guide for details.) During this program it became obvious that the teachers were curious about dental disease and anxious to learn about its prevention.

Where the school is fortunate enough to have a Dental Hygienist on the staff, she can serve to coordinate the activities of dentists and other auxiliaries from the community.

**Here are some questions asked by the teacher:**

### **HOW SEVERE IS THE DENTAL DISEASE PROBLEM?**

In spite of great technical advances during the last decade, more than 95% of the population still have dental disease.

### **WHAT IS THE PRIMARY CAUSE OF DENTAL DECAY AND PERIODONTAL DISEASE?**

Both of these diseases share a common etiology in the germ masses that live on the teeth and pollute the dental environment.

### **CAN'T THE DENTIST HELP TO PREVENT DENTAL DISEASE?**

The fact is that modern dental treatment, although more exacting than ever, is not an adequate substitute for consistent daily care by the individual. The strongest role of the dentist in prevention is to train people in personal dental care.

### **WHY HAS DENTAL HEALTH EDUCATION FAILED IN THE PAST?**

Most programs have provided only information about dental disease. Knowledge is helpful, but not as important as learning and performing the skills of personal dental care every day. Also, most educational efforts have been directed toward adults who often have long-established, but poor, dental care habits. Such habits are hard to change.

### **WHAT IS THE MOST EFFECTIVE WAY OF TRAINING PEOPLE IN PERSONAL DENTAL CARE?**

Most behavioral scientists agree that the best way to achieve lasting dental care habits is to start with young children, giving them specific training and frequent reinforcement.

### **WHERE IS THE BEST PLACE TO CONDUCT SUCH A PROGRAM?**

The elementary school environment with a trained, inspired classroom teacher can consistently produce good personal dental care habits in young students.

## **WHY IS THE ELEMENTARY SCHOOL THE PLACE TO TEACH PERSONAL DENTAL CARE?**

Meticulous cleaning of the teeth is a difficult skill to learn. However, if taught early in life and reinforced often, with the help of peer group activity, it becomes a facet of the child's life style. Adults struggle trying to adopt new habits because old ones are already present.

## **ARE TEACHING MATERIALS AND OUTLINES AVAILABLE FOR USE IN THE ELEMENTARY GRADES?**

**Yes.** The TOOTHKEEPER Program follows the fundamental principle of using the elementary school classroom teacher as a Dental Health Educator. The materials have been developed and designed especially for training the teacher and providing the teaching aids for the program in the classroom.

## **WHAT IS THE BEST WAY TO TRAIN TEACHERS TO BECOME DENTAL HEALTH EDUCATORS?**

The Dental Consultant and co-workers can use the TOOTHKEEPER materials to conduct training Workshops to develop the teacher's skills.

## **A WORD ABOUT THE TOOTHBRUSHING METHOD AND DENTAL FLOSS USE THAT HAS PROVEN THE MOST EFFECTIVE FOR CLASSROOM USE.**

### **Toothbrushing Technique**

It is recognized that several effective ways of tooth brushing exist. A modification of the Bass technique was selected for use in the classrooms because:

- 1) of its ease of teaching and learning at the elementary level
- 2) it is effective
- 3) it does not produce damage to the teeth or soft tissues when used with the proper brush

**CORRECTION**

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A suitable brush must have soft, multi-tuft, round-end bristles. The brushing head should be small enough for the child's mouth and the handle should be large enough to hold comfortably.

Either waxed or unwaxed floss may be used. There are certain advantages and disadvantages to the use of each.

#### **Waxed Floss**

- 1) is tougher and does not shred as easily
- 2) is probably easier to learn to use because it is easier to manipulate
- 3) is effective in removing plaque

#### **Unwaxed Floss**

- 1) may really clean more thoroughly because of the individual strands
- 2) aids in the detection of rough tooth surfaces or fillings
- 3) breaks easily and frays readily which sometimes makes its use difficult and discouraging and results in reduced patient enthusiasm

A "welded" form of unwaxed floss combines the advantages of waxed and unwaxed floss and may be the most effective type to use.

## **THE DENTAL CONSULTANT'S GREATEST RESPONSIBILITY IS THE CONDUCT OF THE TEACHER WORKSHOPS. OBJECTIVES WILL BE:**

- 1) To introduce the teacher to current knowledge about the nature of dental diseases and the fact that most DENTAL DISEASE CAN BE PREVENTED.
- 2) To help the teacher develop teaching skills by means of the training laboratory.
- 3) To reinforce skills and provide support by conducting follow-up workshops after the program initiation.

**THE FIRST TEACHER WORKSHOP MUST BE COMPLETED PRIOR TO THE INITIATION OF THE CLASSROOM PROGRAMS.**

## **PRE-WORKSHOP COORDINATION STEPS:**

### **1) TIME REQUIRED.**

A minimum of 3 hours for the initial Workshop. Most schools hold Workshops in the late summer in preparation for the school year. In-service (during the school year) workshops may be possible.

Once a time is determined, coordinate with the school administrators to be sure that all participating teachers are informed of the workshop and will be in attendance.

## 2) FACILITIES.

- a) Auditorium suitable for audio-visual presentations.
- b) Cafeteria or classrooms that can be used for the training laboratories. (Two groups can usually occupy one classroom.)

## 3) SUPPLIES.

- a) Audio-visual Equipment. A 16 mm sound movie projector, a 35 mm slide projector and a suitable screen.
- b) Special TOOTHKEEPER KITS for Trainer indoctrination and for Teacher Workshop conduction. Contains set of 35 mm slides for Dental Consultant's use and the necessary oral hygiene aids (toothbrushes, dental floss, disclosing tablets, extra-oral mirrors).
- c) Additional training laboratory supplies, water containers, paper cups, paper towels, to be provided by the school administration.

## 4) TRAINING ASSISTANTS.

Select other dentists and auxiliaries who will assist in the training of the teachers. Ideally there should be one trainer for each 8-10 anticipated teachers. Train these assistants BEFORE the Teacher Workshop.

These assistants should see the film, THE TOOTHKEEPER, in order to grasp the concept of the program and the mouth care methods recommended.

Each trainer must realize the importance of presenting a standardized method of mouth care to the attendees of the Teacher Workshop and the method presented must conform to the concepts of the TOOTHKEEPER PROGRAM.

The Primary Dental Consultant can use a format similar to that suggested for the Teacher Workshop in the training session for these assistants.

Sufficient supplies, including a Consultant's Guide for each trainer, for the conduction of this training session are included in the Teacher Workshop materials.

## TEACHER WORKSHOP FORMAT

- I As the Teachers arrive, distribute a dental knowledge determination questionnaire. (An example with suggested correct answers is included as the last page of this section of this guide.)

The same questionnaire can be used at the conclusion of the workshop to determine information retention.

The questionnaire serves several functions:

- 1) Breaks the ice with the participants
- 2) Delineates dental knowledge
- 3) Stimulates interest

- II A School Administrator should introduce the Dental Consultant with appropriate remarks relative to the school's participation in the TOOTHKEEPER PROGRAM.
- III The opening remarks by the Dental Consultant should reiterate the facts that **MOST DENTAL DISEASE CAN BE PREVENTED** and the **INDIVIDUAL** can do the most to prevent dental disease in his own mouth.

It is necessary to understand how dental diseases occur and what must be done by the individual. The necessary skills must be developed and performed on a daily basis. This means that each individual must develop an effective Personal Dental Care Program, that in conjunction with those professional services required, gives them the greatest opportunity to live free of serious dental disease.

For most people this requires a behavioral change and the establishment of a new habit pattern.

Behavioral scientists know that this can best be accomplished during the elementary years.

This places the elementary classroom teacher in the position of being potentially able to alter the prevalence of dental disease for the future.

Can the classroom teacher effectively assume the role of a Dental Health Educator?

Yes. Several study projects have confirmed this feasibility and dramatic improvements in dental health have been demonstrated.

- IV Use 35 mm slide series (provided for the Primary Dental Consultant as a part of the Workshop Package) to inform participants about dental disease and to motivate them in their roles as Dental Health Educators.

- V Introduce and show the film, **THE TOOTHKEEPER**. Preface with a statement similar to: "The movie that you will see is one that will help you teach your students about dental disease. It will assist in motivating them to learn the skills necessary to remove plaque from their teeth. Each of your students will see this movie prior to the beginning of your classroom programs."
- VI Dismiss group to the Training Lab session. Explain that each teacher will be shown the flossing and brushing methods they will use in the classrooms and will have the opportunity for a question and answer period.
- Your dental trainers should have set up their stations in the training lab during the showing of **THE TOOTHKEEPER**.
- Teachers should be divided into groups so that each trainer has relatively the same number of teachers. Groups should be designated by numbers corresponding to the training stations.

## OUTLINE FOR TRAINING LAB

During this session, the dental trainers must be alert to keep the participants concentrating on the specific techniques being discussed and avoid distracting or extraneous comments and actions.

It is suggested that throughout the technique sessions the methods of brushing and flossing be demonstrated carefully on models by both trainers and teachers prior to attempts at actual use in the mouth.

- 1) Each station should have for every participant:

Toothbrush  
Dental Floss  
Disclosing Tablets  
Extra-oral Mirror  
Paper Cups  
Paper Towels  
Water

Each station should be arranged so that the dental trainer is the center of attention; i.e. chairs arranged in a semi-circle around a table containing supplies.

- 2) Each dental trainer should use the following approach:

A. You, as a teacher, can influence the dental health of thousands of children. I am going to show you teaching techniques that will enable you to really help all those children develop better dental health habits.

B. Regardless of the way that you now floss and brush, please use these methods to teach your students. They are effective, easier to teach and learn and do not damage the teeth or gums.

C. Each tooth has 6 surfaces to be cleaned--CHEEKSIDE, TONGUESIDE, BITING SURFACE, FRONT and BACK. ALL these surfaces of ALL the teeth need to be thoroughly cleaned daily to prevent dental disease.

We need a simple system to insure that we do not miss areas in cleaning. Think of the mouth as a CIRCLE. Clean around the circle. . . . Starting on the upper right, then upper left, lower left and lower right. . . . 4 times. . . . with the toothbrush on the cheek side, tongue side and biting surfaces. . . . and then with dental floss to clean the in-between sides (front and back).

#### D. BRUSH POSITION

Demonstrate brush position on the model. BRISTLES DIRECTED TOWARD THE GUMLINE SPACE (at a 45 degree angle to the long axis of the tooth). . . . FIRM PRESSURE OF THE BRUSH ON THE TOOTH AND GUM. . . . BRUSH MOVED IN A SHORT ROCKING MOTION, BACK AND FORTH.

Ask each teacher to demonstrate the brush position on the model.

Reiterate the principle of brushing in the CIRCLE PATTERN to insure reaching all areas.

#### E. DISCLOSING TABLET USE

Explain the necessity for the use of a disclosing agent to identify and locate PLAQUE.

Ask each teacher to use a disclosing tablet and examine for retained dye in the mirror.

Do not force anyone who is reluctant. Many people with artificial dentures will not wish to participate.

Choose a volunteer and demonstrate brush position and movement so that each teacher can see the actual brush position and brushing motion.

#### F. BRUSHING

Ask each participating teacher to brush. Visually check each to be sure that the brush position and method is correct. Have each use mirror during brushing to check thoroughness.

## G. FLOSS HOLDING

Reiterate the necessity of floss use to clean the "in-between" tooth surfaces.

Demonstrate the two methods of holding the floss as described in the Teachers Guide; fingers as spools method, page 14, and circle method, page 15.

Ask each teacher to demonstrate both methods.

Using model, demonstrate the surfaces that need to be cleaned with floss and comment that these areas are where the most serious dental disease occurs. Show the curving of the floss to conform to the shape of the tooth by pulling both guiding fingers in the same direction.

Encourage each teacher to demonstrate floss use on the model to insure that the principle is understood.

Demonstrate correct floss use with your volunteer teacher. Reiterate the use of the slight sawing motion to pass the floss between the teeth, the movement of both fingers in the same direction to make the floss conform to the tooth shape, the placement of the floss into the gumline space and the movement to lift the floss over the papilla to move to the adjacent tooth.

## H. FLOSS USE

Ask teachers to practice floss use in pairs. One to hold the mirror while the other flosses. Circulate among the participants to offer encouragement and advice.

## I. DISCUSSION

Ask for questions. Some teachers will be concerned about the lack of a dentifrice. Others about the "germs" that students will be asked to swallow if they do not have water sources in the classrooms. Encourage as many questions and discussion as you have time for. Assure the teachers that their guides will answer most of their questions and provide them with step-by-step instructions in the conduction of the classroom programs.

## 3) REASSEMBLE ALL PARTICIPANTS IN THE AUDITORIUM FOR FINAL DISCUSSION AND POST-TESTING

## FOLLOW-UP WORKSHOPS

Just as reinforcement is necessary for the student to learn the skills of Personal Dental Care, reinforcement in the actual technique of teaching these skills is necessary for the teacher.

**TOOTH KEEPER** recommends that follow-up sessions be held with each teacher at the two-week and at the four-week level

of the program where possible. These follow-up sessions may be conducted by the Dental Consultant, the dental trainers, the school nurse, the school dental hygienist or a combination of these personnel.

The sessions may be for small groups of teacher or for individual classrooms if time demands make the larger workshop impossible.

## TEACHER CONDUCTION OF THE CLASSROOM PROGRAM

In most instances, the teacher will use her ingenuity to solve the problems of teaching mouth care techniques to her students. Occasionally she may desire consultation with the school nurse, school hygienist or the Dental Consultant. Instances may occur where children who already have advanced dental disease may require referral for professional care and she may seek your advice.

It may be possible to conduct, on test classrooms, mouth examinations to indicate the status of gingival health and mouth care effectiveness prior to and following completion of the TOOTHKEEPER PROGRAM.

Research protocol and forms for recording scores have been developed by TOOTHKEEPER and are available at no cost if such an evaluation system is proposed.

If facilities permit, a control group of similar age children who are not participating in the Program would provide a valuable comparison of the results obtainable through a supervised program of personal dental care.

Although a change in the status of tooth decay cannot logically be demonstrated in short term studies, positive effects upon gingival health and oral hygiene effectiveness can be shown in studies of several weeks duration.

When Personal Dental Care Skill Development Programs can be carried out over a period of several years, a marked improvement in the dental health of the entire community should result.

Not only will the individual teacher have gained an immediate reward from seeing a rapid change as a result of her teaching efforts, but as Dental Consultant, you should experience a gratifying participation in true community action dentistry.

# SAMPLE QUESTIONNAIRE

Suggested answers are shown in parentheses at left of each question.

(Enamel)  
(Dentin)  
(Tooth)

1. Tooth decay attacks the \_\_\_\_\_.

(Gums)  
(Gingiva)  
(Bone)

Periodontal disease attacks the \_\_\_\_\_.

(b and c)

2. The two main causes of dental caries are:  
a. Soft teeth    b. Germs    c. Sweets  
d. Malocclusion    e. Vitamin deficiency    f. Heredity

(c)

3. The primary cause of periodontal disease is  
a. Vitamin deficiency    b. Tartar    c. Germs  
d. Malocclusion    e. Trench mouth    f. Heredity

(a)

4. Advanced dental caries is the most active among the following age groups:  
a. 3-18    b. 19-30    c. 31-50    d. 51-80

(a)

5. Gingivitis (beginning periodontal disease) usually starts at the following age:  
a. 6-18    b. 19-30    c. 31-50    d. 51-80

(e)

6. The most important one thing you can do to keep your teeth free of dental disease is:  
a. See your dentist twice a year  
b. Brush your teeth twice a day  
c. Eat a balanced diet every day  
d. Use fluoride tooth paste every day  
e. Clean your teeth thoroughly every day  
f. Have your teeth straightened

(b)

7. How many living adult Americans have lost all their teeth?  
a. 12 million    b. 22 million  
c. 36 million    d. 66 million

- (c) 8. The disease which causes the most tooth loss during a lifetime is:
- a. dental caries                      b. trench mouth
  - c. periodontal disease                d. vitamin deficiency

- (d) 9. Among U.S. citizens dental disease occurs in:
- a. less than 25%    b. 25-50%    c. 50-75%    d. 75-90%

- (a and d) 10. The two most important aids which should be used daily in personal dental care are:
- a. tooth brush    b. tooth paste    c. stimudents
  - d. dental floss    e. tooth picks    f. water spray

- (Bacteria)  
(Germs)  
(Plaque) 11. When you clean your teeth what is the primary thing you are trying to remove?

.....

1. Since dental disease is so powerful, do you feel that in spite of personal and professional dental care, people who live to old age will probably lose their teeth?

Yes    No

2. As a teacher do you think you are in a position to do something which would markedly change the usual course of dental disease amount our youth?

Yes    No

3. How do you feel about being asked to become a dental health educator to assist in improving dental health?

# Toothkeeper<sup>TM</sup>

1201 S. E. Dichl Avenue  
Des Moines, Iowa 50315

**"Let's Attack Plaque Professionally"**

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# Teacher's Guide



## Dental Disease Facts . . .

- Eight of 10 children have dental disease by age nine.
- More than 95 per cent of adult Americans have dental disease.
- 20 million Americans have lost all their teeth.

**BUT . . .** dental disease can be prevented and your teeth last for a lifetime . . . if you learn and practice the skills of personal dental care.

# Toothkeeper

T.M.

Health education  
division of dental-02



dental care system

## PRELACE

There's a new and exciting experience ahead for you and the many other teachers who will be using the **TOOTHKEEPER** Personal Dental Care Program. The concept of the elementary classroom teacher becoming a Dental Health Educator may be the turning point for the future dental health of millions of children. Recently the Dental Advisory Committee to H.E.W., made a number of recommendations for the content of future dental programs to be sponsored by the Federal Government. One of the most important is as follows:

"In concert with all government programs of personal oral health care, there should be instituted community preventive oral health programs. These preventive programs should include:

A school based Curriculum or program (emphasizing the elementary grades) designed to train children in the skills and methods of personal dental care."

The **TOOTHKEEPER** Program was developed by elementary teachers trained as Dental Health Educators, dentists as consultants, school administrators, and behavioral scientists. You will notice that this highly innovative program will fit into the health curriculum with minimum nudging of your time budget. With the exception of a few incidentals, everything you need to conduct this training system is enclosed in the packaged program.

**Teeth are important to us in many ways:**

- they help us chew foods
- they aid in the production of speech
- they are important facets of our appearance
- they are used in signaling emotions, feeling and moods.

In spite of these important points, most of us take the health of our teeth for granted until a crisis occurs. Nearly all of our ancestors had dental disease but very few effectively dealt with its cause. Even today we spend far more effort in repairing disease effects than in preventing their occurrence. If this system prevails, our descendants will have overwhelming dental problems too. If the system is to change, someone has to make the first move!

## **DO YOU REALIZE?**

- over 95% of adult Americans have DENTAL DISEASE?
- 8 of 10 children have DENTAL DISEASE by the age of nine?
- 20 MILLION Americans have lost all their natural teeth?
- just filling a tooth does not stop tooth decay?
- a dental prophylaxis does not stop gum disease?
- TOOTH LOSS CAN BE PREVENTED—  
—TEETH CAN LAST FOR A LIFETIME!

# DENTAL DISEASE CAN BE PREVENTED THROUGH THE DAILY PRACTICE OF EFFECTIVE PERSONAL DENTAL CARE

This requires:

- 1) Acceptance of personal responsibility for mouth care.
- 2) Knowledge of what needs to be done
- 3) Development of the necessary skills
- 4) Establishment of effective daily dental health habits.

Behavioral scientists know that these things can best be taught during the elementary school years...most studies indicate that — **THE ELEMENTARY SCHOOL TEACHER IS IN THE STRONGEST POSITION TO ALTER THE COURSE OF DENTAL DISEASE.**

The teacher can be far more effective in changing dental health habits and in directing skill development than either dentist or parent. WHY? Very often the parent does not have the information to develop and supervise successful mouth care programs for themselves or their children.

Modern dentists know that prevention of dental disease can be accomplished by patients who have been trained in correct mouth care procedures. Unfortunately less than half of the population consult dentists for any reason other than emergency need. So when the dentist attempts to serve as therapist and educator in his office, he is effective for only a small segment of the population.

As a teacher you become the indispensable link between what is needed and what can be accomplished in the fight against dental disease:

- 1) You can teach the necessary skills and produce the necessary behavioral change during the critical years of the child's development.
- 2) You can transmit information about dental disease to a major portion of the population through contact with students.
- 3) You, as a professional educator, can effectively perform the required educative function with the help of the TOOTHKEEPER Program.

Dentists can't. . .

Parents can't. . .

Teachers Can!

# WHAT IS DENTAL DISEASE?

There are two major Dental Diseases:

**TOOTH DECAY** & **GUM DISEASE**  
(cavities) (gingivitis or pyorrhea)

**TOOTH DECAY** destroys (decalcifies) the enamel and dentin structure of the tooth and may eventually reach the pulp (nerves & blood vessels) inside the tooth to cause abscesses and severe pain.

**GUM DISEASE** attacks the gum tissue initially, and if allowed to continue, eventually destroys the ligaments and bone which support the tooth. Bleeding is common but pain is usually absent until the mouth is severely damaged.

## WHAT IS THE REAL CAUSE OF DENTAL DISEASE?

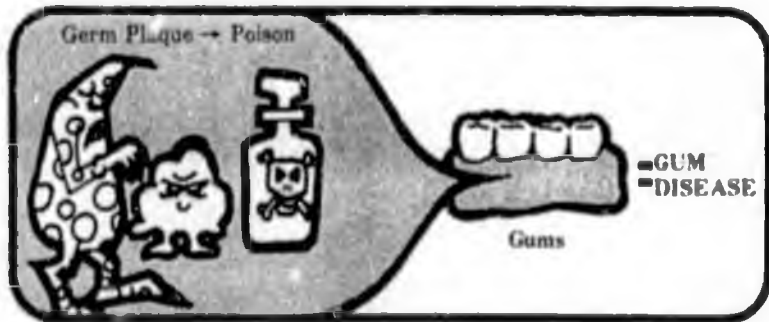
**BOTH** tooth decay and gum disease are caused primarily by the action of **GERMS** which live on and around the teeth. These germs can grow and become harmful in less than 24 hours.

The germs that cause tooth decay live in a transparent sticky mass called **PLAQUE**. Plaque clings to the teeth and reacts with foods that we eat to produce acids. The germs react more rapidly with foods containing refined sugars and flours. Within minutes after highly refined carbohydrates are eaten, acids, which decalcify the tooth, are formed.

When these acids damage the outer structure of the tooth, germs can enter the tooth itself and continue the destructive decay process.



Most of the germs that are dangerous to the gums and teeth grow in and around the gumline space where the tooth and the gum join. These germs not only form acids, but because of their location adjacent to the gum tissues, react with mouth cells and fluids from the gums to produce poisonous wastes. These poisons irritate the gums and start gum disease.



## WHAT WILL STOP DISEASE?

- Antibiotics or mouth washes won't
- Filling the same tooth over and over won't
- Fluoride won't take the place of good daily cleaning (but it will make the tooth more resistant to decay)
- Brushing by itself won't clean the teeth completely
- Professional cleaning by the dentist does not take the place of daily care by the **INDIVIDUAL**.

**But. . .**

**Dental Disease can be STOPPED by**

**BREAKING the Chain  
of the disease process**



**How?**



**DAILY GERM-PLAQUE  
REMOVAL  
by  
PERSONAL ORAL HYGIENE**

**GOOD DIET  
by  
CAREFUL  
FOOD SELECTION**

**This is what we call --**

## **PERSONAL DENTAL CARE**

**Sounds Simple--and it is-- After you Know What to do and have  
the Habits and Skills to do it.**

**EACH PERSON  
MUST DEVELOP THESE HABITS AND  
SKILLS FOR HIMSELF**

**This is where YOU and TOOTHKEEPER team up for an  
effective Personal Dental Care Program.**

**Remember!  
Dentists can't. . . Parents can't. . .  
Teachers Can!**

The TOOTHKEEPER Personal Dental Care Program was developed by educators, dentists and psychologists.

Experience gained in a two year pilot study (36 elementary teachers and 1100 students) in the Alamo Heights Independent School District in San Antonio, Texas, confirmed the feasibility of the classroom teacher functioning as a DENTAL HEALTH EDUCATOR.

The classroom teacher was provided with the necessary background information about dental disease and taught how to prevent it in her own mouth. Using her initiative and inventiveness she relayed this new information to her students. By stimulating individual and group participation in the classroom, she was able to help the students learn the necessary dental care skills.

The participating teachers said that the children enjoy learning the skill of mouth cleaning in the classroom because. . .

- They are naturally curious about their teeth and want to learn about their own body processes.
- They are developing in social awareness and are concerned about appearance and its effect upon others.
- They are highly manipulative and enjoy learning a physical skill.
- They enjoy sharing with classmates an activity that generates social interaction.

## GOALS OF THE TOOTHKEEPER PROGRAM:

- 1) To reduce dental disease in the child.
- 2) To make the child aware of the importance of his teeth and of their health.
- 3) To help him understand the nature of dental disease and its cause and effect.
- 4) To make him aware of his personal responsibility for the health of his mouth.
- 5) To help him develop the skills & daily habits necessary for effective mouth cleaning.
- 6) To reinforce learning by daily supervision to produce a true behavioral pattern.

## CONCEPTS:

- 1) The individual is responsible for his dental health.
- 2) The individual can prevent dental disease.
- 3) Primary prevention is accomplished by the daily removal of the PLAQUE germs and by restriction of "sugar foods" in the daily diet.

- 4) Germs. . .the most important factor in dental disease. . . can be removed by effective mouth cleaning methods if they are used each day.
- 5) Cleaning the mouth is MORE than just toothbrushing. It requires removal of the germs from all five sides of the tooth and from the gumline space.
- 6) Correct mouth cleaning requires correct tools--disclosing tablets, toothbrush and dental floss--and the skillful use of these tools.
- 7) Good food selection habits support healthy teeth and gums.

## A WORD ABOUT DIET AND FOOD SELECTION

Diets high in sugar foods affect us in at least two ways:

- 1) Local effect - sugar will react with germs in plaque, "triggering" the tooth decay process.
- 2) Systemically - sugar foods satisfy appetites, but not the need for nourishment of body cells because they are low in food value.

Most studies show that people are healthier when the diet is high in protein and low in refined carbohydrates.

In spite of this fact, our cultural eating patterns are based on these trigger foods. They are used to signal approval, provide rewards and symbolize celebration. In short, sugar means pleasure - a most powerful emotion to combat with weapons of logic. Trigger foods are so readily available that children are virtually surrounded by a "sugar envelope."

As a Dental Health Educator you should not be discouraged because the response to training in tooth cleaning skills overshadows the response to food selection habits. We can provide guidance in good diet habits by:

- 1) Making children and parents aware of the potential danger of trigger foods.
- 2) Recommending the elimination of trigger foods from school lunch rooms. (To do otherwise is rather hypocritical)
- 3) Recommending the dentist-approved "low exposure" system to children. This means only one period of sugar food intake per day followed immediately afterwards by tooth cleaning.

**Changing eating habits is difficult, but. . . .LETS TRY ANYWAY!**

## TOOTHPASTE

The use of toothpaste is eliminated during the classroom learning program because:

- 1) The brush functions more efficiently to remove plaque and debris from the mouth when the bristles are able to move freely without the interference of a dentifrice.
- 2) The dentifrice itself does not appreciably assist in the removal of plaque.
- 3) The foaming action of toothpaste interferes with the ability to study brush position and action and makes it difficult to see the areas where the disclosing dye is retained on the teeth.
- 4) It minimizes the problems of mouth rinsings and disposal.

Toothpaste does provide a polishing effect to the teeth and is a temporary mouth freshener. A fluoride containing dentifrice can be beneficial in protecting the tooth from the action of acids. Where the family desires, a fluoride dentifrice should be used for all the at home cleaning sessions.

Topical applications of fluorides may be performed by the family dentist when this treatment is desired by the parents.



### THE TOOTHKEEPER PROGRAM PACKAGE CURRICULUM:

1. **THE TOOTHKEEPER** - a 26 minute orientation and motivational color film. It is designed for use in the Teacher Workshop and for viewing by large numbers of

students to assist in initiating the school dental disease prevention program.

2. **HOW TO BE A TOOTHKEEPER** -- A 10 minute technique and skill development color film designed for classroom use by 5 teachers in rotation. (Where classrooms are physically close and where classroom scheduling is flexible, one film may serve more than 5 teachers.)
3. **TRANSPARENCIES AND FLIP CHARTS** -- Sets of overhead projector cells and flip charts which amplify brushing and flossing instructions and provide reinforcement information as to the cause of dental disease and its prevention.
4. **A large scale MODEL** of teeth and gum for each classroom -- to demonstrate the various techniques.
5. **A TOOTHKEEPER KIT** -- Contains sufficient disclosing tablets, dental floss and toothbrushes for 25, 30, or 35 students.
6. **A PARENTS GUIDE** -- information for the parents of each student is included.
7. **GUIDES** for Classroom Teachers, Dental Consultants and School Administrators.

## RECOMMENDED OUTLINE OF THE TOOTHKEEPER PROGRAM

From experience in previous programs, it appears that usually at least 16 weeks is required to produce the desired skill development and behavioral patterns. Obviously the program may be continued for a longer period if desired by the individual teacher or by the school system.

The program may be for a continuous 16 week period or it may be divided into two sessions, depending upon starting time, intervening holidays, etc. If the interruption is longer than a week, reinforcement using all systems is desirable. The following is a recommended format:

# TIMES USED DURING WEEK

WEEK	Disclosing Tablet	Brush	Floss	Film	Transpar- encies or Flip Charts
1st	2	5	5	2	2
2nd	1	5	5	1	2
Subsequent	1	3	3	R*	R*
<b>Interruptions (Holiday, Semester Break, etc.)</b>					
1st	1	5	5	1	1
Subsequent	1	3	3	R*	

R\* - As required for Reinforcement.

**Time Requirements:** When the students are first learning the concepts and skills (usually the first two weeks), one class period of from 30-60 minutes will be needed daily. After the basic skills are learned the time is reduced to an average of 15 to 20 minutes each day of participation (3 times a week). Some teachers may elect to continue the classroom participation more often if the need for more reinforcement is felt necessary. If the program is completed before Christmas, it is recommended that a reinforcing week or two be given before the end of the school year.

**ADDITIONAL DISPOSABLE SUPPLIES FOR THE CLASSROOM** (to be provided by the individual school):

1. Two paper cups for each student each day of participation; if plastic bags or other means of disposal of mouth rinsings are provided, only 1 cup would be required.
2. Water container, such as pitcher or bottle, or source of water in the classroom.
3. Paper napkins or facial tissue.

## MOUTH CARE PRINCIPLES

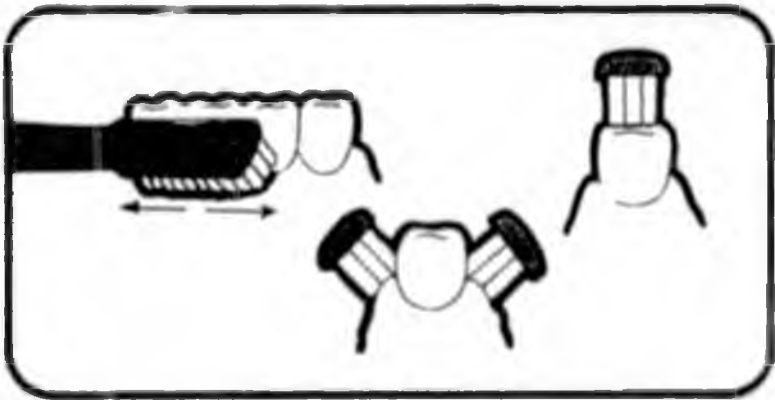
**GERM PLAQUE...**is found on five sides (surfaces) of a tooth... to control the germs, these 5 sides must be thoroughly cleaned every day.

- 1) **IDENTIFICATION...**use disclosing tablet to show --  
**WHAT** needs to be cleaned off  
**WHERE** germs cling to the teeth  
**HOW** to clean...get the red off  
**WHEN** the teeth are clean...the red is gone
- 2) **REMOVE GERMS** from the cheekside, tongue side and biting surfaces with a soft multi tuft **TOOTHBRUSH**.
- 3) **REMOVE GERMS** from the two "in-between" sides of the teeth with **DENTAL FLOSS**. The toothbrush cannot reach these "in-between" surfaces and this is where the most serious dental disease...both **TOOTH DECAY** and **GUM DISEASE...**starts.

## DISCLOSING TABLET

The tablets are individually packed in plastic packets. These packets will tear easily if they are torn from the side rather than from the top or bottom. If difficulty is encountered, scissors may be used to open the packets.

- 1) Each child should chew the tablet thoroughly, mixing it with the saliva and swishing it around the mouth to reach all the teeth. Retain in the mouth for at least one minute.
- 2) Rinse with water twice. The rinsing can be disposed of by swallowing, by expelling into a paper cup or plastic bag for later disposal or by emptying into a basin if available.
- 3) The red material that is still visible on the teeth after rinsing is the stained germ plaque that must be thoroughly removed.
- 4) The disclosing tablet is a flavored food coloring (F.D.C. red No. 3) that is approved by the Food and Drug Administration. Although it stains plaque well, it will not permanently stain clothing, linen or bathroom fixtures and can be removed with conventional laundering methods if accidental spills occur.



## TOOTHBRUSH

1. On cheekside and tongue side of the teeth, point the bristles toward the gumline space, press firmly against the tooth and gently rock the brush back and forth. Brush one tooth at a time and then move to the next area... gently back and forth.
2. On the biting surfaces point the bristles into the grooves and scrub back and forth...one tooth at a time.
3. **CAUTION!** Correct use of the brush is imperative if it is to be effective in cleaning. Simply brushing in any man-

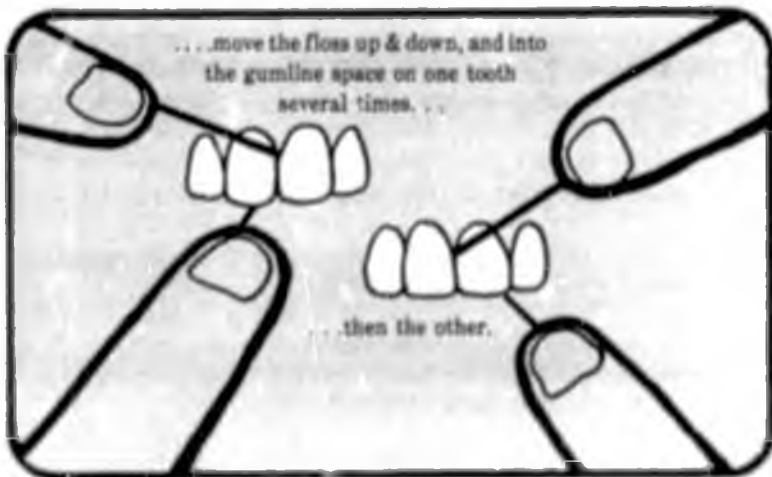
ner will not remove the germ containing plaque. The bristles must be directed toward the area where the tooth and gum join, pressed firmly against the tooth and gently moved back and forth.

(In many instances the student may have already developed a method of use of the brush that might be described as "brush-the-teeth-the-way-they-grow". This method is not effective in cleaning the critical gumline space. Incorrect use of any brush can cause mouth injury. The use of a soft multituft brush is necessary to effectively clean the gumline space and to avoid injury.)

To be sure that all sides of ALL teeth are cleaned, a pattern of cleaning must be established to avoid missing areas. One way is to think of the mouth as a circle. Start on the upper teeth and brush around the circle THREE times. Brush around on the cheek side first; then on the tongue side; and then the biting surfaces.

And then around the circle the FOURTH time with  
**DENTAL FLOSS**

To clean the "in-between" surfaces of the teeth, we must use dental floss. The brush cannot reach these areas and careful use of floss is necessary to clean them thoroughly.

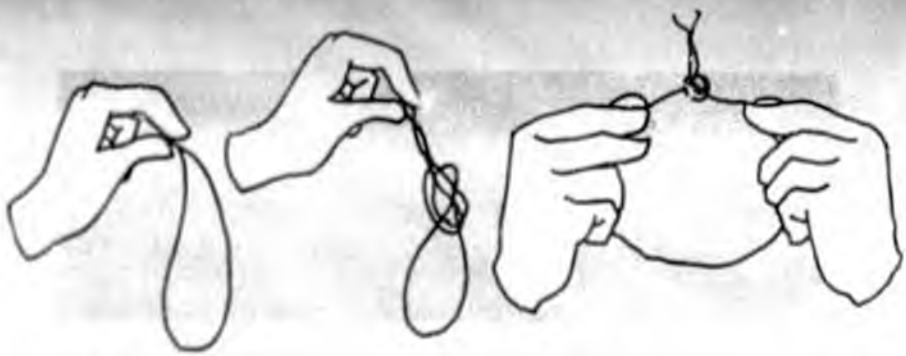


From the point where two teeth touch down into the gumline space is the critical area. This area has two tooth "walls" and each wall must be cleaned thoroughly.

Demonstrate the following two methods for holding the floss and let the students try to decide which is most comfortable for them.



- a. **Spool Method.** Use approximately 18-20 inches of floss. In this method the floss is "spooled" onto either the middle, ring or little fingers of each hand leaving the thumbs and the first fingers free to manipulate the floss in the mouth. The middle finger is probably the easiest for most people to use.
  1. Hold an end of the floss in one hand between the thumb and middle finger.
  2. Wrap or "spool" the floss around this finger for 6-7 turns.
  3. Wrap the floss around the middle finger of the other hand for 2-3 turns. Extend the thumb of this hand and continue to wrap until the two hands are the thumb's length apart.
  4. Slide the thumbs and first fingers along the floss until they are about 1 inch apart. Now these fingers can control the direction of the floss in the mouth and the "spooled" fingers control tension of the floss.
  5. The floss is worked between the teeth with a slight "sawing" back and forth motion.
  6. Hold the floss firmly against one tooth and move it up and down and into the gumline space several times.
  7. Then against the other tooth and move up and down and into the gumline space several times.
  8. Remove the floss from in-between these teeth with the same slight "sawing" motion that was used to enter and proceed to the next space and repeats Steps 5, 6, 7, 8.
  9. If the floss becomes frayed or "used," release one turn from the finger that has the most turns of floss and take up one turn on the other finger to provide a new section of floss.



**b. Loop Method.** Use approximately 12-14 inches of floss to form a circle about the size of an orange. This provides a handle for the middle, ring and little fingers to hold the floss and control the tension and the thumbs and first fingers are used to control the direction in the mouth.

1. Put the ends of the floss together and hold them between a thumb and first finger.
2. Now tie two knots as close to these fingers as possible. This will form the loop and keep it from slipping.
3. Hold the circle or loop with the last three fingers and use the thumbs and first fingers – about 1 inch apart – to work the floss in between the teeth and repeat Steps 5, 6, 7, 8 in the directions for the Spool Method. If the loop is too large, wrap the floss around the middle fingers to make it smaller.
4. Move around the loop to provide a new area of floss when desired.

### TIPS FOR EITHER FLOSSING METHOD:

1. Keep the palms of the hands pointed toward the jaw being flossed. Palms down for the lower jaw – palms up for the upper jaw.
2. Keep the elbows as close together and as close to the body as possible. This gives greater control over the floss and reduces fatigue during the learning period.



Flossing may be difficult for the 6 and 7 year old student. At this age, performance level is not as important as is learning the concept that flossing is necessary to thoroughly clean the teeth. Performance can come with time if the student knows it is the right thing to do.

When the GERMS are REMOVED from the FIVE sides of the tooth EACH DAY and SUGAR FOOD Intake is RESTRICTED, the chain of both TOOTH DECAY and GUM DISEASE IS BROKEN. . . .

. . . AND PREVENTION BEGINS.

#### **TOOTHBRUSH CARE:**

1. Following use, the toothbrush should be rinsed with water. It can be rinsed into the paper cup and wiped dry with a paper towel or if lavatory facilities are available can be rinsed there and tapped dry on the edge of the basin or flipped several times with the thumb.
2. The brushes should then be stored so that air can circulate freely around them and covered to prevent dust contamination.

The box in which the materials are shipped will serve as a storage box for the brushes after their use in the classroom. Instructions are provided with the box for its suggested use.

#### **MIRRORS & FLOSS CONTAINER STORAGE:**

1. Space is provided in the storage box or kit.
2. The mirrors may be washed and wiped dry with paper towels when indicated.

#### **Natural disposal System**

As we swallow saliva or drink fluids throughout the day germs and food debris are carried into the stomach. The stomach quickly neutralizes any potential toxicity from these substances, making this a natural disposal system. Rinings, including the disclosing tablet dye, swallowed in the classroom cleaning activities are also neutralized by this same system.

Sample quotes from other teachers using the TOOTH-KEEPER program:

- "No problems we couldn't handle."
- "The kids loved it; in fact they kept me encouraged."
- "The gums stopped bleeding when the kids learned to clean."
- "This is the most important course I'll teach all year."
- "I don't begrudge the time. In fact it acted like a pick-up during a lull period in the day."

#### **EXTRA HELP**

During the introductory phase of the program you may find it helpful to enlist assistance from the Room Mother, Helping Hand or Teacher's Aide. If so, she should be oriented by you and be present at the showing of the introductory film.

## RECOMMENDED PROCEDURE FOR CLASSROOM TRAINING PROGRAM

The students should begin the program by seeing the film, **THE TOOTHKEEPER**, either in a large group showing or in the classroom. This gives an overview and concept of dental disease, its dangers and what can be done to prevent it.

### First Classroom Session

1. Show the film, **HOW TO BE A TOOTHKEEPER**, followed by questions and answers about concepts.
2. The **TOOTHKEEPER KIT** is explained and rules set up for distributing and returning the supplies. Names and/or identifying numbers may be placed on the brushes and the corresponding slots in the kit.
3. Introduce the disclosing tablet along with the mirror.
4. The soft multituft brushes are distributed and the first brushing exercise is begun. Concentrate on the principle of the stroke and rhythm on a few teeth at first.

### Second Session

1. Repeat brushing instructions using overhead transparencies or flip charts and model for demonstration.
2. Mark one of the extra brushes as a demonstrator and have students brush the model to be sure they understand brush placement and stroke (small groups are best for this exercise.)
3. Concentrate on brushing stroke and moving in the recommended pattern (around the "circle" three times: cheek side, tongue side, biting surfaces).

### Third Session

1. Repeat second session activities concentrating on brush placement, rhythm, and pattern (around the "circle" three times: cheek side, tongue side, biting surfaces).
2. Check program in groups of approximately six students. If learning is satisfactory, plan to introduce floss at next period; if not, continue with brushing for another session or two.

### Fourth Session

1. Show film **HOW TO BE A TOOTHKEEPER**, concentrate on floss technique.
2. Repeat Brushing activity.
3. Use transparencies or flip charts to demonstrate holding the floss (either loop or spinal method or both.)
4. Distribute floss (14" for loop method and 27" for spinal method, see Details of Technique for further instructions.)

5. Demonstrate floss holding and use on model and, if you wish, in your own mouth.
6. Class participation in holding and using floss. (This is a good exercise for developing manual dexterity).

#### Fifth Session

1. Begin with use of disclosing tablet, then brush.
2. Review floss holding and movement techniques.
3. Class participation, checking progress in small groups, call attention to what brush failed to remove. (usually red on floss shows where plaque remained after brushing).
4. Discuss how daily mouth cleaning is now being practiced at home.

Subsequent Sessions (refer to sample program outline on page 11)

1. Use Technique film (HOW TO BE A TOOTHKEEPER) and transparencies or flip charts for reinforcement. Begin stronger emphasis on food selection and problem of sugar foods.
2. Continue all techniques each session concentrating on weaknesses.
3. Start students checking each other in small groups.
4. By the end of second week, technique should be smoothing out and total effectiveness of the program can be critiqued.
5. Use disclosing tablet after cleaning toward the end of the second week to demonstrate effectiveness level of technique.
6. After two weeks, participation may be changed to 3 times a week if desired.

### CAUTION!

Remember that more than 50% of the students may have early gum disease and they may experience bleeding following cleaning procedures during the first weeks of the program. In most cases this bleeding will disappear as the cause . . . . .

**THE GERM PLAQUE . . . . . is removed.**

In those instances where the gum disease is more advanced, the bleeding may not subside and the student should be referred for professional dental care.

Where cavities are advanced, professional examination and care is advisable.

Children wearing braces or other orthodontic appliances may require additional special cleaning methods as recommended by their dentist. In most instances they can still participate in the classroom program but perhaps with some modification.

# SUPPLEMENTAL CLASSROOM EXERCISES

## 1. BRUSHING EXERCISES

- a. **POSITIONING:** Use the model and brush to demonstrate the correct brush position. Students can practice on the model until they understand correct placement.
- b. **MOVEMENT:** Children can duplicate the rhythm and movement of brushing with their entire bodies...back and forth...then reduce movement to only the arm, then to the wrist and hand. This movement can be practiced on the model prior to actual mouth brushing.

## 2. FLOSS EXERCISES: Flossing is usually difficult for many students and requires acquiring manual dexterity.

- a. Use a large ball of twine for the student to practice tying the loop and spooling the floss. The fingers of one student may simulate two teeth and the twine can be used to "floss" between the fingers. Practicing at this larger scale may make it easier for the student to scale down to actual mouth procedures.
- b. Let the students practice on the model. The teeth are securely glued in position and should not be dislodged by flossing.

## 3. RELATED ACTIVITIES

- a. **ART:** Many students enjoy the non-verbal participation offered by art activities where learning can be manifested by images rather than by word. Making poster, drawing labeled sketches of a tooth or teeth, etc. can be satisfying to the student. Lower grade students might enjoy keeping a visual record or chart of the primary teeth that they are losing and the permanent teeth they have gained. Comparative drawings of the different permanent teeth help the student understand that some teeth are shaped different than others. Understanding this shape and relationship helps the student visualize what is necessary to clean the different surfaces of the teeth.
- b. **PANTOMIME AND ACTING:** Students can assume the roles of PLAQUE and a tooth and can enact the removal of PLAQUE from the teeth by pantomime techniques. Two students standing side by side may simulate teeth while other students can use a length of string (floss) to show the manipulation of floss. These acting exercises strengthen the process of visualization.

#### 4. SCIENTIFIC EXPERIMENTS

a. A PHASE-CONTRAST MICROSCOPE might be temporarily procured for classroom use. Perhaps the Dental Consultant could help arrange for the instrument and demonstrate its use. Students could then study germs removed from their own mouths.

b. ACID PRODUCTION: Use a 0.02% aqueous methyl red solution (from the high school chemistry department or from a local drug store) as an acid indicator dye. Show the students how the indicator dye works by placing a drop of the methyl red on a clean slab or tile that is free of acid or alkali. Add a little soap (alkaline) and the yellow color is intensified. To another drop of indicator, add a drop of vinegar (acid) and a deep red color is produced.

After the students see how the indicator dye works, scrape some plaque from the teeth of several students with a toothpick and arrange it in a donut shape about 1/16 inch in diameter on another clean slab. Place two or three drops of the methyl red on the plaque mass. Add a few crystals of sugar to the liquid in the center of the donut. Plaque that contains acid forming bacteria will turn the indicator dye red shortly after the addition of the sugar. The red color will first be seen as little dots that gradually spread from the germs throughout the indicator dye. The color intensity will increase with the passage of time. It may be necessary to stir the mass and add additional indicator to get a strong color.

c. EFFECT OF ACID ON TEETH: One way to demonstrate the softening effect of acid on the teeth is to use a whole hard boiled egg and a bottle with a neck slightly smaller than the egg. Obviously, the egg will not enter the bottle, but when the egg is allowed to soak in vinegar for approximately 12-24 hours, the shell is softened so that it can enter.

The same principle can be demonstrated with extracted teeth, obtained from the Dental Consultant. The stronger the vinegar and the longer the tooth remains in it, the greater the effect on the tooth. The enamel loses its translucency, first turns chalky, then opaque white and softens. As the acid continues to decalcify the tooth, cavities which can be seen with the naked eye occur. Eventually the tooth is so softened that it can be pierced with a needle. These changes are similar to those seen when a tooth in the mouth is subjected to the action of acid.

#### **d. MONITORING AND EVALUATION RESULTS**

If your school has a dental survey each year that gives statistics for each class in terms of tooth decay and gum disease, it would be possible to compare the figures, on a class basis, before and after institution of the TOOTHKEEPER Program.

#### **CLASSROOM QUESTIONS**

1. Why do we have teeth?
2. How do we use our teeth?
3. How are teeth constructed?
4. How do you know when teeth are healthy?
5. How do you know when teeth are unhealthy?
6. What can you do to keep your teeth healthy?
7. Do you think your permanent teeth will last all your lifetime?
8. Whose job is it to see that your teeth stay healthy?
9. What happens when you lose a permanent tooth?
10. What happens to an animal when it loses its teeth?
11. Where do your permanent teeth come from?
12. Why are teeth hard?
13. Why aren't all our teeth shaped alike?
14. Do insects have teeth?
15. Did cave men have teeth like ours?
16. How do you know when something is wrong with your teeth?

#### **REFERENCE MATERIAL:**

1. "How To Educate High School Students in Oral Hygiene." By S.S. Arnim & Perry J. Sandell; 25¢ a copy-discount on quantities. AAHPER-NEA, 1201 16th St., NW, Washington, D.C. 20036.
2. "How The Dentist Can Help People Learn To Prevent and Control Dental Disease." By S.S. Arnim. Free. Amurel Products Co., 1200 E. Chicago Ave., Naperville, Ill. 60540.
3. "What You Need To Know And Do To Prevent Dental Caries and Periodontal Disease." Single copy free. Division of Oral Hygiene, North Carolina State Board of Health, 235 N. McDowell St., Raleigh, N. C. 27602.
4. "SAVE YOUR TEETH" Pamphlet, plaque poster-Division of Dental Health, Bureau of Health Manpower Education, Nat'l Institutes of Health, Public Health Service, U. S. Department of Health, Education and Welfare, Bethesda, Maryland 20014.

# Toothkeeper<sup>TM</sup>

Health education  
division of den-tal-erz



dental care system

# Dental Health Education

# SUCCESS

# STRATEGIES

PAUL E. MOORE JR., D.D.S.; *author and lecturer on alternative approaches to positive oral health*

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In general, young children receive the greatest portion of their dental health education from parents and dental professionals. Dental professionals are generally restricted because they do not have the opportunity to see the children often enough to teach them effective dental health skills. Recent studies indicate 9 out of 10 parents are not free of dental problems and most are not prepared to teach effective dental health skills.

Now, an alternative approach in dental health education is catching the imagination and interest of parents, dental professionals, and educators. The main emphasis of this new approach is the inclusion of personal dental care in the basic curriculum programming at the primary and intermediate grade school levels, in order that good dental health will become a relevant part of children's lives. Parental involvement is encouraged to reinforce in the home the skills and concepts learned in the classroom. David E. Kaplan, elementary health coordinator in the Arlington Massachusetts school district comments:

"The classroom is the most logical place for dental health education, and it is here that children can effectively learn the necessary habits and skills."<sup>1</sup>

#### *8 out of 10 Children*

Since 1914, when A. C. Foss established a remedial care program for the school children of Bridgeport, Connecticut, dental health has been recognized as being important for school children.

Unfortunately, despite a growing awareness of the importance of dental health, a high incidence of tooth decay and gum disorders continues to prevail. Remedial

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Dr. Moore is the author of *Positive Oral Therapy*.

care and passive education programs have not proven to be totally effective in controlling dental problems, even though an estimated 5 billion dollars is spent annually in the United States for dental repair. Today, 8 out of 10 young people have dental problems by the time they reach the third grade.

Simply increasing children's knowledge has not appreciably changed their dental behavior. It would be unrealistic to expect a young child to be capable of writing a letter simply because he/she received a new pencil and paper, or because pamphlets were sent home to parents indicating the child's need to write; yet, we traditionally expect children to achieve oral health because they receive a new toothbrush or toothpaste (in effect, a new pencil and paper) and take pamphlets home to their parents.

The object of modern classroom programming is long-term repetition of the necessary dental practices — proper diet selection and plaque control. (Plaque is a clear, sticky bacteria-laden substance found in the mouth and widely accepted as being the major cause of tooth decay and gum disorders.) Studies indicate that a positive attitude concerning dental health is closely related to the practice of proper dental health habits and is a result of behavior, rather than being predecessor to it.<sup>2</sup>

Dental health education which involves children practicing the desired behavior is the most effective type of dental health education.

#### *Effective Dental Health Educators*

Over the past few years, studies have indicated effective dental health programming in the elementary school classroom can significantly reduce the incidence of dental problems (as evaluated by plaque scores and gingival indices.)

Encouraged by the ability of elementary classroom teachers to function as effective dental health educators, many dental professionals and school administrators are soliciting teacher support for the concept of personal

dental care in the basic classroom curriculum.<sup>3</sup> Mrs. Wallace Armstrong, school board member of the East Baton Rouge Parish School District, says:

"I talked to some of the teachers who were reluctant at first. One told me she resented the time it (personal dental care curriculum) was going to take away from reading, etc. After she had been in the program a very short time, she was one of our most enthusiastic teachers because she found it did benefit, that it was a good education program for the children."<sup>4</sup>

Says East Baton Rouge Parish Superintendent Robert J. Aertker:

"Our evaluation is that not only are we developing sound health habits and dental habits in these youngsters, but we find that in the carry-over value into the home and into the community area, this program has considerable merit."<sup>5</sup>

One school district dental hygienist stated: "Ideally, we would like for personal dental care programming to reach all teachers and be established in every elementary school. After developing skills and habits of effective oral hygiene, youngsters become more aware of the nature of dental problems and the importance of their teeth."<sup>6</sup>

Obviously, dental health skills will develop most efficiently and effectively when activities and options are shaped and organized to guarantee their development. Dental health education, consciously introduced and reinforced in concert with other activities in which school children engage (i.e., language arts, social studies, science classes, and skill development), enables teachers to satisfy time requirements and work with existing classroom objectives.

#### *Controversy*

Acceptance of an effective dental health curriculum for a school district can be greatly influenced by the presence or absence of a fair climate relationship between dental and educational community personnel. Said one school administrator,

... "When the subject of a dental health program was raised in our school district, controversy resulted. At times the controversy was generated because some dentists (and teachers) limited their definition of dental health education to dental projects, where the teacher's authority is usurped and the classroom disrupted."<sup>7</sup>

In traditional involvement with classroom teachers, some members of the dental community have felt it necessary for dental professionals to go into school classrooms to pass out supplies and teach children, without even realizing how some teachers felt about these disruptions. One teacher commented:

... "If dentists realized how irritating it would be if people interested in science went into the classroom, disrupted the classroom schedule, passed out supplies, usurped the teacher's authority, and began teaching science themselves, with people interested in math, art, history, etc., doing the same, I'm sure they would better understand how pressure groups can affect the classroom teacher."<sup>8</sup>

Teachers routinely attend training programs and receive continuing education, but generally consultants meet with teachers during scheduled in-service, or other

training periods, outside the classroom.

Often controversy is aroused by an erroneous assumption that dental health education must be a program separate and apart from existing curriculum objectives. Here false dichotomies develop between teachers and dental professionals, and needless polarities of opinion result.

#### *Classroom Objectives*

Teacher spokesmen point out that teachers work with specific objectives and deal in time compression. A proliferation of curriculum programs at the primary and intermediate grade levels has frequently posed serious problems for even the most experienced teachers. The school day has not grown longer, yet the demand for an effective basic skills program has increased, and accountability for new programs is now standard operational procedure. At the same time, the attention span and performance capabilities of students have not suddenly, or magically, increased.

How, then, are teachers to cope with an increased demand on available classroom time and personal energies that will be imposed by the introduction of an effective dental health curriculum, dependent for its success on increased preparation and (for some) the development of a new classroom management strategy?

Kyle Conway, education and behavioral consultant, says:

... "Dental health education will gain more support from educators if the primary classroom objective remains 'education,' rather than 'oral hygiene.' Unless teachers have the freedom to use their creativity and imagination to correlate dental health education with existing curriculum programs, without being made responsible for an oral hygiene program, many will resist."<sup>9</sup>

A small percentage of teachers will allot time for a toothbrushing program out of response to moralistic pressures, but the greater majority will consider tooth cleaning to be disruptive and not a classroom objective. "Tooth cleaning should be done at home," they say.

Initially, teachers can be encouraged to correlate the dry toothbrushing exercise with a health or skill development period; nutrition with health, science, social studies, or language arts period; plaque disclosing with a "human involvement" exercise, flowing with a success-practice and general use of dental health practices as effective activities for increasing young people's feelings of self-importance and well being.

"They seemingly are happier children as they learn to care for their teeth," says an elementary school principal.<sup>10</sup> "Children like the dental program," says a third grade teacher. "They never let me forget when it's time for the program."<sup>11</sup> When children begin to control their destiny in this area of their lives, many for the first time, they proudly say, "Look at me! I'm a Toothkeeper!"<sup>12</sup>

Teachers are oft concerned with the value of the time they spend with children in the classroom. "Are we teaching children skills of significant value to their lives?" they ask.

Considering all the activities centered around the mouth which are vital to personal well being (such as, speaking, kissing, singing, laughing, smiling, sucking, chewing, etc.), plus the basic support and appearance teeth give to the lower face, there is considerable reason

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<sup>2</sup>Jeannette Rayner, "Socioeconomic Status and Factors Influencing the Dental Health Practices of Mothers," *American Journal of Public Health*, Vol. 60, No. 7, July 1970.

<sup>3</sup>D. H. Martens, "The Classroom Teacher . . . Effective Dental Health Educator," *Journal of School Health*, Vol. XLII (5), 257-261.

<sup>4</sup>Interview with author.

<sup>5</sup>Interview with author.

<sup>6</sup>Interview with author.

<sup>7</sup>Interview with author.

<sup>8</sup>Interview with author.

<sup>9</sup>Interview with author.

<sup>10</sup>Interview with author.

<sup>11</sup>Interview with author.

<sup>12</sup>Toothkeeper (ASPD/Toothkeeper) designates a child who is a member of a classroom using the American Society for Preventive Dentistry's Toothkeeper dental care curriculum.

<sup>13</sup>Interview with author.

<sup>14</sup>Interview with author.

<sup>15</sup>Interview with author.

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to believe guidance in personal dental care is one of the most important things teachers can do for children.

"How much time is required to effectively teach personal dental care?" asks one school board member.<sup>13</sup> Initially, 20-30 minutes of classroom time a day, but teachers say after a two or three-week familiarization period, only 10-15 minutes, two or three times a week is needed. A system like the ASPD/Toothkeeper uses a 16-week basic curriculum which can easily be extended to the entire year. Children enjoy this program and some teachers prefer to use it the year round.

#### *A Systems Approach*

A systems approach to dental health programming has improved standardization and convenience for the classroom. "We find this approach to dental health education refreshing, exciting, and very effective," reports Robert B. Morris, director of health education, Helena, Montana, School District.<sup>14</sup> "It has definitely made implementation easier for us," says the health coordinator of another large school district.<sup>15</sup>

An effective dental care system provides the teacher with a subject guide, filmstrip, flip chart, dental model, and film to assist in classroom instruction. A complete classroom learning center must provide supplies and storage facilities for extended class participation.

As part of the systems approach, a dental consultant team is formed. Workshops are scheduled where elementary school teachers become acquainted with preventive dentistry concepts, and specific information and techniques for teaching young children preventive skills.

During an in-service workshop with dental professionals, teachers are shown an introductory film explaining the program and emphasizing the importance of teaching skills needed to prevent dental problems. When possible, this workshop is scheduled so teachers attend on district time and receive "Board" credit. At the workshop, teachers are instructed in techniques for removing dental plaque and recognizing children's dental health needs. Dental professionals answer the teachers' questions and later help in the classroom if needed.

The system should include a parent's guide to inform parents of the classroom program and enlist their support for daily home care.

Schools can mention the dental health curriculum in school newsletters and deviate meetings of the parent-teacher organizations to demonstrations and discussions of these new health concepts.

#### *Community Interest*

Community interest can play an important role in changing and/or upgrading school district health curriculum content. Preliminary meetings of local advisory teams can establish community interest.

With the decision-making process for the school district in mind, plans are made for systematically initiating a dental health curriculum change in the schools. Teachers are the most important ingredient of any educational program, but administrative support is absolutely essential to the success of a new concept. Once a program is in effect, the principal's support is of special importance.

Small core groups of teachers, dental professionals, school administrators and parents gather to consider possibilities of an improved dental care curriculum for

one or more schools in their district. Curriculum information and learning center materials are gathered for "team" preview.

Where school budgets do not include sufficient support for an effective dental health curriculum, alternate sources of funding are arranged by the advisory team. Recently, members of the American Society for Preventive Dentistry established the Preventive Dentistry Research and Education Foundation. One of the purposes of this Foundation is to accept tax-free donations for use in school curriculum programming. Funds donated by individuals, organizations or businesses are received by the Preventive Dentistry Research and Education Foundation, and returned to schools as one to three-year grants where long-term school participation is encouraged.

#### *Ways to Evaluate*

There are many ways to evaluate a dental health program. The most frequently used dental scoring methods are the papillary marginal gingival index, plaque score, bleeding index and D.M.F. studies.

In initial stages of subject area correlation, numerous variables can exist within a district - quality and quantity of teacher presentations, frequency of classroom participation, support of administrators, etc. With these variables, initial phase programs can offer a poor stage for the study of the effectiveness of plaque control.

In the first year of a program, the most important factor of an evaluation is the teachers' acceptance of the subject area, and how the program maintains itself in the school. Primary evaluation thus becomes an assessment of teacher instruction, professional development needs, and identification of teacher problems.

#### *Conclusion*

Many teachers feel they benefit not only from the training experiences of the teacher dental health orientation workshop, but by being directly responsible for the success of student dental health practices.

During classroom participation, teachers notice a marked change in the habits and attitudes of children toward dental health.

The six-year curriculum cost of an effective dental health program can be less per pupil than the expense of having one of the child's teeth filled.

Studies now indicate students, teachers, parents, dental professionals, and school administrators are in agreement - personal dental care in the curriculum at the primary and intermediate grade levels is a worthwhile endeavor, scholastically, behaviorally, and financially.

use these same principles in community action programs to help train large groups of people.

The "secret" is to use a person who is in a position to influence a total population. This person is the elementary classroom teacher. During a generation the teacher can help change the personal dental care habits of most of our young citizens. A dental disease prevention program which is based upon the utilization of this professionally trained person as a dental health educator has the best potential for future results.

#### **A Cadre System**

First, the dentist must train the teacher in the necessary knowledge and techniques which form the basis of a sound personal dental care program. Second, the teacher must then be provided with the aids and materials required to take the training program to the students in the classroom. Then the professional educator's talents can be used to train the young student in effective personal dental care behavior. The pivotal role in the entire program lies in the hands of the school dental consultant who is primarily responsible to see that effective teacher training occurs. When the dentist trains the teacher and the teacher trains the child, dental disease can be defeated.

This appeal to the prospective school dental consultant (dentists, auxiliaries, health educators and public health officers) was presented recently in a historic conference, supported by the U.S. Public Health Service, Region VI, titled "Modern Techniques for the Utilization of Existing Dental Manpower in Dental Health Education." At this San Antonio workshop, 86 participants heard members of the faculty\* declare that dentists using only customary dental therapy cannot solve the problem of dental disease for the future. Most often the parent is not sufficiently informed to develop and supervise successful dental care programs for themselves or for their children. The teacher, however, can become the indispensable link between what is needed and what is offered in weapons against dental disease.

Various faculty members at the conference answered common questions which have been asked by teachers about dental health education:

#### **1. What causes dental disease?**

Tooth decay and gum diseases are caused by the action of multiple factors, but they do share one common denominator—dental plaque. The microbes which grow and thrive in the plaque on the tooth and in the gum line space form the principal initiating cause of both diseases (Ref. 3). Plaque can be controlled by thorough removal every day by the individual.

#### **2. How serious is the dental disease problem?**

In spite of great technical advances during the last decade more than 95% of the population will have dental disease. Both tooth decay and gum disease start early in life. In fact, 8 out of 10

children have dental disease by the age of 9, and over 20 million Americans have lost all of their natural teeth, many by the time they are 50 years of age (Ref. 4). There are 5 times as many cavities and periodontal pockets forming as there are dentists to correct them. Even if we had 5 times as many dentists, this would not stop tooth decay and gum disease from forming.

#### **3. Can't the dentist help to prevent dental disease?**

- A. Modern dental treatment, although more exacting than ever, is not an adequate substitute for consistent daily care by the individual.
- B. The strongest role for the dentist in prevention is to train people in personal dental care.
- C. Only 40% of the population are ever dental patients.
- D. The only opportunity for the dentist to furnish a total service to a total population is sharply limited.

#### **4. Why has most dental health education failed in the past?**

Reasons for the marginal successes or outright failures seem to revolve around a few deficiencies:

- A. Most programs have provided only information about dental disease and have not required active involvement in the skill development of personal dental care.
- B. Classroom teachers have not been thoroughly trained as dental health educators.
- C. The available teaching materials were drab, confusing or even inaccurate.
- D. Training aids have not been supplied as an integral part of the dental health curriculum.
- E. Programs have been too short-lived and insufficient repetition provided to help develop the necessary skills and habits of personal care.
- F. Mass media programs have been directed primarily at adults who often have long established but poor dental care habits. Such habits are hard to change, even with the use of high fear arousal techniques.

#### **5. What is the most effective way to train people in personal dental care?**

Most behavioral scientists agree that the best way to achieve good lasting dental care habits is to start with young children (preferably before age 13) giving them specific training and frequent reinforcement (Ref. 5). The best place to conduct such a program is in the elementary school environment with a trained and inspired classroom teacher who can consistently produce good dental care habits in young students (Ref. 6). Meticulous cleaning of the teeth is a difficult skill to learn. However, if taught early in life and reinforced often with the help of peer group activity, it becomes a facet of the

dental disease by systematic training in personal dental care (plaque and diet control) (Fig. 1, 2). Realizing what can be accomplished in a one-to-one basis in the dental office, the dentist can now

The dentist of today is in a unique position to help fight dental disease rather than just provide dental care and services. Many dental offices are now organized to help patients treat the cause of

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By



# THE ROLE OF THE SCHOOL DENTAL CONSULTANT IN A DENTAL DISEASE PREVENTION PROGRAM



child's life style. Adults struggle trying to adopt these new habits because of the old ones which are already present.

#### Testing the Concept of the Classroom Teacher as a Dental Health Educator

The workshop participants were told about pilot programs (Ref. 7, 8) which have tested the thesis of the classroom teacher becoming a dental health educator (with varying degrees of success). One of the most influential of these pilot studies was a 2 year program conducted in the Alamo Heights Independent School District, San Antonio, Texas. The results of this pilot project, which involved 36 elementary teachers and 1100 students, indicated two important facts:

1. School teachers can become qualified as dental health educators if instructed by informed dentists.
2. School children can be trained in the skills of effective tooth cleaning in the classroom by an inspired and trained teacher.

In the two year study, out of a total of 36 teachers who began the courses in dental health education, 36 of them completed the teaching units and could be considered dental health educators. In several small test groups 88% of the children on the program showed an improvement in their dental health measured by (1) reduction in gum tissue inflammation and (2) improvement in dental hygiene. The teachers turned dental health educators reported marked improvement in the health of their own mouths after practicing these new methods of personal dental care. Behavioral scientists and epidemiologists are mapping out ways to study the various effects of this system after short and long term use.



#### The evolution of new materials for dental health education.

Since this system seemed to hold promise, the task force dentists began working on transportable materials which could make the program adaptable to other school districts as well. The task force was helped by feedback from the teachers on the Alamo Heights project and by other dentists, psychologists, educators and media people. After a year of intensive work the ECCO Dental Disease Prevention Program was completed.\*\* This packaged curriculum was enthusiastically received by the participants at the School Dental Consultant's Workshop. It consists of the following:

1. The Toothkeeper—a 25 minute color film, produced to be informational, entertaining and motivational primarily for the student.
2. How to Be a Toothkeeper—a 10 minute color film that reviews the actual mouth care practices to be used in the classroom.
  1. Teaching Aids—overhead projector sets and dental model.
  4. Teachers Guide
  5. Administrators Guide
  6. Parents Guide
  7. Dental Consultant's Guide
3. Toothkeeper kit—implements and supplies needed for student use in the classroom (toothbrush, floss, disclosing wafers and mirrors).

Since the development of the ECCO Dental Disease Prevention Program, many cities and dental groups over the country have taken an interest in this rather sophisticated approach to dental health education. Schools in Texarkana, Texas, recently placed 4000 elementary students on the program.



Fig. 1—Dentists responsible for inaugurating the ECCO program in Texarkana. Standing left to right—J. J. Maniatis, Robert Lewis, San Antonio; Charles Bruce, Texarkana and Harold Yeary, Laredo. Seated—Sam W. Hoskins, D. H. Masters, San Antonio and John Nix, Texarkana. Fig. 2—following the cadre system the dentist is trained first as a dental consultant who will in turn train teachers in the skills and procedures of the new curriculum. Dr. Robert Lewis is demonstrating dental care procedures to a group of 5 new consultants. Watching intently is Dr. Denzer Burke, Texarkana. Fig. 3—The dental consultant trains the teachers as shown in this massive workshop in Texarkana, attended by over 200 teachers. Fig. 4—Mr. John Walker, a 6th grade science teacher in Alamo Heights Independent School District, San Antonio, has been a practicing dental health educator for almost 3 years. He has averaged training 150 students a year in the skills and habits of personal dental care.

with approximately 200 teachers acting as dental health educators (Figs. 1, 2). These teachers were trained in a massive workshop which involved some 20 dentists and auxiliaries (Fig. 3). Baton Rouge, Louisiana has begun the system in one parish with 4000 children and 150 dental health educators. Indications are that several states are actually considering utilization of this kind of program throughout their entire elementary school systems.

#### How much time does it take out of the classroom day?

In the beginning, when students are first learning the concepts and skills (usually the first two weeks), one class period of from 30 to 60 minutes will be needed each day (Fig. 4). After the basic skills are learned, time is reduced to an average of 15 to 20 minutes each day of participation (2 or 3 times a week). Some teachers wish to participate every day for better reinforcement. To obtain maximum benefit, the program should be continuous for a 16 week period or divided into two segments, depending upon starting time and intervening holidays.

#### Conclusions and Summary

1. With proper materials, encouragement and training elementary school teachers can become the answer to personal dental care habit formation to help reduce the tremendous dental disease problem.

2. Such a program gives dentists and dental auxiliaries an opportunity to participate in community action, taking their talents and knowledge from the dental office into mass education. When one dental consultant can be responsible for shaping the future dental health of hundreds of young citizens, it is certainly worth the effort.

3. The entire system and its accompanying materials are transportable and can be adapted to almost any style of institutional learning situation.

4. This transportability is enhanced by the fact that it can be handled by free enterprise\*\*\* and does not depend entirely on governmental resources and current public health preventive concepts.

#### REMEMBER: Dentists can't; Parents can't; but Teachers can!

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\*\*\* (ECCO)—Educational Communications Co., P.O. Box 15010, San Antonio, Texas.

\*\*\* Program materials are currently distributed by: Toothkeeper, Health Education Division, Centalizer Mfg. Co., 201 S.E. Fifth Ave., Des Moines, Iowa 50315.

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FAIRBANKS, ALASKA 99701

September 18, 1980

The following is the statement received from the manufacturer of the disclosing mints used in the "TOOTHKEEPER" dental care system.

"Disclosing tablets, as manufactured by Copely Pharmaceutical, Inc. contain no materials other than what is currently approved by the Food and Drug Administration."

"All tablet components conform to U.S.P. or N.F. grade classifications. The only exception is the cherry flavor and oil of peppermint which are food grade because they are artificial flavors."

"All in-coming raw materials and resulting products are rigidly tested by our Quality Control Department. The Quality Control Department maintains constant in-process contact, from the production phase through the final Quality and Control release, and shipment."

"Copely Pharmaceutical, Inc. is registered with, and has been inspected by, the Food and Drug Administration; we comply with all provision set forth in Good Manufacturing Practices. All our products carry NDC numbers as assigned by the federal government."

If you should have any further information which you would like regarding these tablets, please do not hesitate to write to us.

Sincerely,



Arthur S. Hansen, D.D.S.

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED  
AS A UNIT IN THE ORIGINAL DOCUMENT.

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COMMITTEE REPORT

HOUSE

3/26/81

FURTHER: FINANCE

(5)

Date: April 20, 1981

Mr. Speaker: HEALTH, EDUCATION & SOCIAL SERVICES

The Committee on \_\_\_\_\_ has had HB 414

"An Act making a special appropriation to the Department of Education, Alaska State Council on the Arts, for grants for Alaskan culture and arts programs and projects; and providing for an effective date."

under consideration and reports it back as follows:

- do pass  do not pass
- do pass with attached amendments(s)
- replace with CS for \_\_\_\_\_  same title  
 new title
- and recommends \_\_\_\_\_
- AND attaches a "Letter of Intent"  New Fiscal Note
- reports it back without recommendation
- referred to the \_\_\_\_\_ Committee

MEMBERS SIGNING DO PASS

Burt Cuth  
Don Clocher  
Alvin  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
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MEMBERS HAVING OTHER RECOMMENDATIONS:

Walter 10.5.20.81  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Don Clocher  
 CHAIRMAN